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BEFORE OUR VERY EYES

Miura Baien and the Ten Thousand Things

"The volumes of *Gengo* give an account of just what I see."

Gengo Preface, 1775

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ABSTRACT

The first aim of this project is to explore the *jōri* system of the Japanese scholar, Miura Baien (1723-1789) and to understand it better. Baien himself wished to explore the universe and to understand the universe better. As work on this essay progressed, two features of Baien's project became its focus:

Baien is a "realist" in the sense that for him, the vast intricacies of heaven and earth are already there before us. They are there for all to discover, regardless of what anyone has said or thought.

Baien found that in order to comprehend anything of the complexity of the manifold before his eyes, he needed to design a technical language, ruled by what he discovered there.

A study of these features in the development of Baien's system gives rise to the interesting hypothesis that two theses, which at first glance we often take to be incompatible, might be profitably combined:

- i The distinction between the real and the merely conceptual is clear-cut, already determined and beyond our power to alter.
- ii The distinction between the real and the merely conceptual depends on language.

Because Baien's interest in language as a study is confined to what we should nowadays see as a very narrow segment of the field of linguistic phenomena, the hypothesis that these two theses are compatible is not one he would have put forward. But the use to which he puts language in our broader sense of "language" is strong evidence for that compatibility.

In a late chapter of this thesis I have put forward the hypothesis that the distinction between the real and the merely conceptual is both out of our hands, and dependent on language. From this I have drawn the further consequence that reality is not constrained by, nor reducible to, a single set of criteria that distinguishes it from the merely conceptual.

These different sets of criteria are not governed by some master principle behind the distinction. There are "plural realities". Baien's system, too, points this way. His terminological method gives us not a single structure, but constantly shifting views of reality, in such a way that if we take him seriously it is difficult to resist the conclusion that reality itself is kaleidoscopic.

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PREAMBLE

It is difficult to say which is the worse fate that could befall a philosopher, for his or her works to be neglected, or for them to be misunderstood. The works of Miura Baien have suffered both fates. Fortunately the neglect was not permanent, and the misunderstandings need not be perpetuated. The lack of Western interest in the philosophical system that Baien sets out in his *Gengo*, "Deep Words", is directly attributable to its long neglect in Japan. The high proportion of misinformation among the few Western references to it is likewise largely due to an unfortunate choice of Japanese commentaries, there having been so few to choose from.

It is time that Miura Baien was added to the list of Edo thinkers whose works have been written about and translated for English speaking readers. Much has now been written on the history of Japanese thought, especially the Edo period, and the pioneering days are over. But no one person can make a detailed study of the thought of every scholar in a broad survey, let alone when translation is required.

The English translations of *Genkiron*, the *Core Text* of *Gengo*, and *Reply to Taga*, which form the main body of my book *Deep Words*, were written with the simple purpose of making the texts more readily accessible. Comments in that book are secondary to the translation and very tentative. Many have been modified here, some even refuted. With one or two exceptions, the English version of Baien's lexicon in that translation will be preserved here. Most of the less happy choices of terms were default ones. When there seems to be a more apt English word, more often than not it turns out to have been needed even more elsewhere, or to carry a misleading nuance.

When it comes to the illumination of *Gengo's* darkest passages, the fact remains and needs no argument, that no words serve so well or speak with such authority as Baien's own explanations elsewhere. The *Preface* to *Gengo* is a rich source of such light, and a full English translation of this is given here in the *Appendix*. The translations of letters to Yumisaki Yoshitada, Kō Takaoki and Asada Gōryū are added for the same purpose.

The general purpose of this essay is to give an account and critique of the system of "*jōri*" as it is set out in Baien's *Gengo* ("Deep Words"). As an account, the discussion involves both isolating the ideas on which the system rests, and inferring the philosophical objectives of the system. As a critique, the issues are the soundness of those underlying notions, and the extent to which Baien succeeds or fails in his objectives. Interpretation, analysis and critique are interwoven in this essay. Comments with wider implications for philosophical questions, interpretive procedures, and historical themes are made wherever they seem relevant.

Writers may study past philosophers with any of three purposes in mind. The first is the promotion of the work of the thought of some thinker whom they consider important. This requires mainly exegesis. The second is to consider the thinker in historical context, as an example of a trend, an "ism", or a general school. The third is a critical study of the work of one thinker, or of a particular work, for any reason. This requires both exegesis and critical evaluation, to which historical context is relevant but subsidiary.

In Japanese tradition there has been a heavy emphasis on the first, exegesis of a "master". In the present century a more reflective history of philosophy has been popular, with the second purpose of illustrating some philosophical, historical, political or sociological theme. Maruyama Masao's Studies in the Intellectual History of Tokugawa Japan and Saegusa Hiroto's Nihon no yuibutsuron-sha ("Japanese Materialists") are two twentieth century works in this style. (The latter discusses Miura Baien in detail, the former virtually ignores him.) The third purpose, critical evaluation by detailed study of texts, has been rarer in Japan than in the West. In the case of the thought of Miura Baien, an exception is Yamada Keiji's Kuroi kotoba no kūkan ("Patches of Light in Dark Words"), a recent example of exegesis which seeks to evaluate rather than promote Baien's system.

There is a place for theorising about intellectual trends, but trends supervene upon cases, and in Western circles there is still a pressing need for more English translations and studies of actual texts. These texts are not well known in the case of many Japanese writers. Japanese series such as Nihon Shisō Taikei, Nihon no Meicho ("Great Books of Japan"), Jinbutsu sōsho, Iwanami Bunko, all of which include Miura Baien, are a great boon to the foreigner, but too often one finds the work in which one is particularly interested to be missing or disappointingly abridged.

The dense composition of Gengo may be one reason for its neglect by later scholars, but explanations of a historical or social kind could be equally, or even more telling. Until recently, the prevailing convention in the history of Tokugawa intellectual thought (*shisō*) has been to select only thinkers, schools and factions connected with the ruling establishment, using the name "Tokugawa" with more than chronological significance. I prefer the term "Edo", which to me summons up a more geographical and social picture.

There are times when one is given the impression that only thinkers of that establishment are worthy of attention. Writing in 1953, Leon Hurvitz would seem to be justifying his otherwise scholarly translation of Baien's Samidareshō, "Musings During the Early Summer Rain", by saying that Baien was one "whose thinking was typical of the ruling class of Tokugawa Japan".

Baien might be described as a feudal landlord, a very benevolent one, but his connections with the ruling establishment were remote. He declined more than once to take office at the Kitsuki fief, preferring to remain in the village of Tominaga where he kept a school at his home on the hillside above. He made only three long journeys away, two to Nagasaki and one to Ise. The second visit to Nagasaki in 1778 was of considerable significance to his studies, but the encyclopaedic entry "(Baien) crossed Kyushu to Nagasaki for study of Neo-Confucian and Western thought" [Miner et al. 199 1985] is misleading. His stays in Nagasaki were a matter of just a month or two on each occasion and the important second visit was after the completion of Gengo. Like his father before him, as a landlord Baien showed considerable concern for the struggles of the farmers in his village. Among his works there is an account of a charitable scheme called Jihi mujin, "Mutual Charity", describing the scheme that he set up to help the villagers over bad years. Baien also wrote a treatise on economics, Kagen, "Origin of Price", which is highly regarded. [Smith, N.S. 1934; Fodella and Mouer 1970]

The above mentioned *Samidareshō*, an account of Christianity, is a very minor work, and Baien was ill informed on the subject. Nevertheless, Hurvitz's translation must be of considerable value to historians of the Japanese perception of Christianity. Writing at a time when so little study of any value had been done of Baien's major works, (Hurvitz says that Baien's main field is economics), one can hardly blame Hurvitz for his strange slant. The final paragraph of his translation is actually at odds with his own comments. Baien says that "the Way of the Sage" is to be preferred to Christianity for the reason that the Way of the Sage "comprises the principles of benevolence and righteousness. If it is not in keeping with righteousness, one may disobey the command of one's lord. If one cannot help oneself, one rebukes one's lord and dies a martyr...", whereas Christianity, Baien would say, demands blind obedience. This may be false of Christian doctrine at its roots, but not necessarily of the form in which it had been presented in Japan. However, Baien's reference to "righteousness" and "benevolence" does not sit well with Hurvitz's charge that Baien supported "ruthless religious suppression".

Nowadays, anyone familiar with the corpus of Baien's works will agree that the issue of Christianity is barely touched on outside *Samidareshō*. Baien's curiosity about the West arose from his profound interest in science. Scientists and writers on science were numerous during the Edo period, witness the advanced work in astronomy, medicine, biological taxonomy, geography, and so on. Many writers on these topics were polymaths, and their scientific writings have been neglected or ignored in favour of their discussions of the nature of virtue, the rules of government, and such topics. The neglect of Edo science will be discussed further in Chapter 6.1.

During the Edo period, Japan was one of the most literate countries in the world, if not the most literate. In 1700 Edo was the largest city in the world, Kyoto and Osaka ranked with London and Paris, and Nagoya and Kanazawa with Rome and Amsterdam [Nosco 1990 (a) 19]. Studies such as Rubinger's *Private Academies in Tokugawa Japan* show that education was much more available than earlier Western writers had appreciated. Given the factors of urbanisation, literacy, a variety of educational institutions, a flourishing publishing industry, and three hundred years without war, it would be surprising if there were not such a wealth of scholarship. But a focus on texts that relate to the political establishment has meant that this wealth has been undervalued by the West until recently.

One stimulus to the revival of Baien studies in the present century has been the amenability of his system to the description "dialectical materialism", and the popularity in Japan of German philosophy such as Hegel's. Saegusa Hiroto seems to have encouraged the trend to see Baien in this light. Piovesana's article on Baien and "His Dialectic and Political Ideas" and translation of *Reply to Taga*, in successive issues of *Monumenta Nipponica*, 1965, appears to be heavily under Saegusa's influence. More recently, some Japanese writers in the *Baien Gakkai-hō* (Journal of the Baien Society) have taken much from this resemblance, but others are aware of the significant differences [see Chapter 5.3]. One cannot deny that there are points of similarity through Baien's use of the phrase "unity in opposition". And the term "materialism", conveniently vague, is easily tied to the school of thought loosely described as "philosophy of *ki*", which is one of the streams flowing into the Baienian pool [see Chapter 8].

There can be no historical link between Baien and those Europeans. So to claim substantial agreement between them is to suggest either that it was much to Baien's credit that he "discovered" the same truths, or, that their independent "discovery" in 18th century Japan commends them as universal truths. Be that as it may, it would be very easy too to suggest a link between Baien and the pre-Socratic Greek philosophers, or indeed Baien and any of several ancient or mediaeval Chinese schools. In the latter case of course, history dictates that it would be surprising if some of these links were not genuine.

In studying a philosophical text such as Baien's, one faces many of the problems that beset scholars of Chinese thought as well. In discussing the interpretation of Chinese philosophy, David Hall has remarked that the attempt to spell out basic assumptions leads to increasing incommensurability, thus it is necessary to preserve a corresponding degree of vagueness. Certainly we must admit that sometimes when a word or phrase resists precise translation the best resort is to use a correspondingly vague or ambiguous word or phrase in our language. We cannot argue either with Hall's emphasis on the "otherness" of Chinese ideas, it may well be right to describe some of our ideas as incommensurable with them. But does this justify vagueness, is the incommensurability irremediable? When a philosophy of language or a theory of hermeneutics makes it come out that we can never understand one another, or that it is a miracle that we do, there is good reason to believe that something has gone sadly wrong.

Modern evidence on the structure of natural language tells against incommensurability. We must agree that there are obvious practical difficulties in working in an alien language and cultural context, especially when some of that context is irrevocably lost with remoteness of time, as in the case of ancient Chinese Classics. But these severe limitations should not be confused with fundamental incommensurability. Spelling out basic assumptions, even those of an 18th century Japanese writer, is never easy. We know the difficulty of spelling out basic assumptions even of thinkers within our own language and culture, and that does not deter us. It is as Thomas Kasulis says: "The assumption that people in different cultures actually think differently in some inherent way is untenable. If true, all translation would be impossible, not merely difficult." [1982 404] We should not settle for vagueness until it can be established that in the case in question no further precision is possible.

I hope that this essay will offer a more thorough examination of the key *Gengo* texts than the tentative comments accompanying the translations in *Deep Words*. It may nevertheless be described as an early step in a proper enquiry. Without ignoring the valuable contributions towards this end that have been made from time to time by Japanese commentators, more work is needed to bring together a close examination of Baien's thought, and close examinations of the thought of scholars with whom he was familiar. This essay merely prepares the ground for that task.

Rules of Method

Baien's major philosophical work, Gengo, has been neglected on the excuse that it is too difficult to follow, and even worse, it has sometimes been revered for that reason. As a piece of prose it is of course very difficult. This is partly because it is a philosophical text, and as such, requires readers to think hard. But it was written by an intelligent and educated man for people to read. That suffices to ensure that comprehension should be possible, especially as it was constantly rewritten and revised over a period of twenty-three years.

The policies I have adopted for deciding between alternative interpretations of Baien's texts might be crystallised into three interdependent rules, in the following order of priority:

- 1) Context Rule: Choose the interpretation best supported by the immediate context of the passage.
- 2) Best Sense Rule: Choose the interpretation that makes the best philosophical sense.
- 3) Historical Likelihood Rule:
Choose the interpretation that relies on those assumptions that Baien most likely would have shared.

1) The first rule is so obvious that it may seem hardly worth stating, but it is frequently broken. A difficult text, especially one with a unique lexicon, invites exploitation by closet cabbalists. Baien's published works run to over two thousand pages, not to mention other papers that have been preserved in manuscript and microfilm, including numerous earlier versions of Gengo. Given any doctrine for which one might hope to find Baien's support, it would not be difficult to find confirmatory utterances somewhere in his writings, especially if we were to ignore the Context Rule.

In this essay the broad context is the final version of Gengo, and with it the Preface and Reply to Taga, both of which were written explicitly to elucidate the final version of Gengo. Genkiron ("On Primal *ki*") is an early version of Gengo, and as such is not part of the Gengo system, although comparisons are often very useful. Other works, such as his Zeigo ("Superfluous Words"), and some of Baien's letters, such as the four translated in the Appendix here, are often relevant. I have already translated Genkiron, Core Text and Reply to Taga in Deep Words [1991].

Although I regard the Context Rule as the most important of the three, it is the one that I am in most danger of infringing when working on Gengo. I have not translated the entire texts of Volume of Heaven, Volume of Earth and Volume of the Small, but I have translated and quoted numerous passages from them. Baien's text is very obscure in places, so that when I quote him there is a chance that something I have missed in the surrounding passages might have made a difference to the point I am making with the quotation. I have done my best to avoid depending upon quotations that might be vulnerable in this way.

2) The Best Sense Rule is less efficient since there are several ways in which it can fail. For instance, there may be a better sense one has not thought of. Writers do not always make the best sense themselves. One's own idea of the best sense may depend on faulty reasoning, or on faulty assumptions. Misconstruals of Baien by application of Western notions, especially unexamined Western notions, are not uncommon among Japanese commentators. This observation is quite chilling - how much more difficult it is to overcome a completely Western education! Nevertheless, the fact is that history of philosophy does progress, even if with one step back for every two steps forward. For example, the English translations of ancient Chinese texts by James Legge are admired and valued even though they now read as quaint and dated. He made the best sense under the circumstances, and in doing so opened paths for others.

3) The third rule, Historical Likelihood, is the most difficult to apply. Similarities with historically or geographically distant writers are frequently misleading. Two apparently identical philosophical conclusions are usually different conclusions if they are drawn from different premises. The rule operates best when it is applied negatively, by eliminating assumptions that obviously originate elsewhere, especially in Western philosophy. Interpreters find it harder to eliminate unnoticed assumptions that have slipped in in the effort to obey the Best Sense Rule. And we find it hardest of all to eliminate assumptions that we always carry with us. This last difficulty does not mean that standards of interpretation are impossible. On the contrary, bringing these assumptions to light is the first task of philosophy.

Conventions

The phrase "heaven and earth" is frequently treated as a singular noun.

Names: Japanese and Chinese names are given with family name first. Where only one name is used, that is either the family name or a pen-name. For example, "Baien" is a pen-name.

Italics: Except where stated, or in verbatim quotation, italics is reserved for Japanese language words only. Chinese words, book titles, emphasis, etc. are all alike indicated by underlining.

References: The abbreviation "NST" stands for Shimada and Taguchi, *Nihon Shisō Taikei* No 41, *Miura Baien*. All references to *Gengo* passages are to page and line in Taguchi's version in that volume. Lines (columns) are numbered from the right, 1-20 across the upper half of the page, and 21-40 across the lower half of the page. All pages are treated uniformly; the two leftmost lines are always 20 and 40. This means that the text does not always begin at line 1, which may be blank. My convention is "NST page,line", e.g: the first line of Core Text is at NST 389,13.

References to the works translated in the Appendix of this thesis are indicated by Section number for the Preface, and otherwise the page number here, as "p.#".

References to other Baien works are to page only of *Baien Zenshū*, Volumes I or II.

Continuous passages in any work are referred to by the number of the page (or line) at which the passage begins.

PART I: JŌRI

Chapter 1: WHAT IS JŌRI?

The key term in Baien's system is the two-character word "jōri", 条理. The jōri system is set out in *Gengo*. The distinctive form of *Gengo* has a significant bearing on his philosophical method. The formal aspects of jōri as a theory are not easy to describe, but an attempt must be made if *Gengo*'s rational pattern is to be appreciated. This chapter is a preliminary discussion of, firstly, the term "jōri"; secondly, the design of *Gengo*; and thirdly, jōri as a theory.

Introduction

Jōri signifies that one possesses two, and two open one. When there are two, their distinctness reveals jōri, when there is one, the two merge and no seams are visible. [*Zenshū* II 89]

These lines from *Reply to Taga* elaborate the *Gengo* aphorism "One is one and one". In the opening lines of the first *Gengo* version, *Genron* ("Deep Discussion"), of 1753: Baien says "There is nothing which does not have a contrast". This premise persists through all the versions of *Gengo*, though not under the name of "jōri" in the earlier versions, and in the final version it is almost unrecognisable in its sophisticated form. In the developed jōri system, "one is one and one" is skeletal, but it always means in part that contrasting pairs are "one and one", and "one" is their union.

Baien's grounds for that premise are simply that anyone who looks at nature carefully enough will see that it is so. The objective of *Gengo* is not to argue for the premise, but to lead us to viewing places from which we may see the patterns more readily ourselves. *Gengo* is ultimately "superfluous", "because heaven and earth is there already". [*Preface* 12]

The quotation above from *Reply to Taga* is one of Baien's short answers to the question "What is jōri?" Most of this essay should be seen as an attempt to provide a full answer. But from the beginning the following three salient points may be stated with confidence:

1. *Jōri* is a relationship of contrast, by which two contrasting "opposites" are balanced parts of one whole.
2. Everything that exists, (except the inexpressible "ultimate one"), is a member of a contrasting pair.
3. *Jōri* is a discovery, not an invention.

When originality is claimed for Baien's *jōri*, it is because it is not derivative, it has no direct ancestor. The intricate *jōri* system emerged from his reflections on numerous streams of thought. Throughout the Gengo drafts and beyond into Reply to Taga, Baien is constantly humble, but not when it comes to his conviction that the *jōri* system was a great discovery:

Nevertheless, although investigation of signs illuminates *jōri*, no-one has expounded it before, so I have written this. [Preface 12]

"There are all these arbitrary notions and theories, but none of them show an understanding of *jōri*." [Reply to Taga, Zenshū II 97]

At twenty-nine years of age I first recognised *ki*, and finally understood that heaven-and-earth possesses *jōri*. [Reply to Kō Takaoki p.340]

(In passing, it is worth remarking that the much quoted words of the last passage do not express a moment of sudden enlightenment. There was no such moment, and the first phrase quite likely reflects a Confucian style, e.g. "At fifteen, I had my mind bent on learning; at thirty, I stood firm, at forty... etc. [Analects II,4])

1.1 the term "jōri"

Despite Baien's claim to have "discovered *jōri*" at the age of 29, the term does not appear in the drafts of *Gengo* until four years later. It appears occasionally in Chinese Neo-Confucian writing. For example, Wang Fu-chih (1619-1692) uses it in a passage which, out of context, might be an extract from Baien's cosmology. McMorran [1975] translates the term as "organization": "They (forms and images) accept what is similar and oppose what is different, and thus all things flourish in profusion and form their various categories. Each of these categories has its own organization (*t'iao-li*). So it is that dew, thunder, frost, and snow all occur at their proper times, and animals, plants, birds, and fish all keep to their own species..." Wang was a friend of Fang I-chih whose *Wu-li hsiao-chih* ("Notes on the Principles of Things") was one of the influences on Baien's thought.

The role of the term "*jōri*" in *Gengo* is unique. To make this clear, Baien writes the character for "*jō*" without the left-hand radical, 条 (條).

The other component, the character "*ri*", was already a well-worn term in Sino-Japanese writing, notably in the persistent Neo-Confucian debate about which is primary, "*ri*" or "*ki*", terms often translated as "principle" and "material force". As we shall see in Chapter 8, *ki* is the very stuff of Baien's universe; line and circle are a cardinal pair of the cosmos, and lines are "straight *ri*", so "*ri*" too lies pretty near the heart of things. But Baien's "*ri*" is nothing like the basic principle it was in the disputes of the Sung Neo-Confucians, and it is only a part of the transcendent *jōri*.

Although the "*ri*" of "*jōri*" bears some relation to that word as it was used by the ancients, our usage here is as different from theirs as the living are from the dead. The arteries and veins of the human body are these *ri* and nothing else. [Reply to Taga Zenshū II 90]

In *Gengo*, *jōri* orders the cosmos, and within it "*ri*" is the "opposite" of "shape", a pair manifested as "line (a radius) and circle". In fact "*ri*" is often best rendered as a plural noun, like "lines". In Letter to Yumisaki Yoshitada he says:

"*Jōri*" is derived from the "*ri*" of plants and trees. "*Jō*" runs through from beginning to end. "*Ri*" divide left from right as opposites. [p.349]

In Reply to Taga *ri* are the lines that convey *ki*:

"*jō*" originally meant a branch of a tree, and "*ri*" referred to the grain of the wood.

Take the example of a tree. A tree-trunk has roots below and branches above. The roots gradually divide into more roots, and the branches into more branches. If you look closely at the points where they divide you will find lines, the grain of the wood.

What is the purpose of these lines? They are there for the *ki* that is conveyed along them, and the grain determines the pattern in which the *ki* is conveyed.

Water is another example. Channels must be made to convey water through the fields. These channels are the *ri* of the water. [*Zenshū* II 89-90]

(Baiken was a country man. Concerning water channels dividing the land into rectangular fields, we cannot be sure there is no connection with the homonym "*jōri*", 条里, a system of land division of the 7th and 8th centuries: "Counting from north to south, these units were designated *jō* 1, *jō* 2, etc; from east to west the same units were called *ri* 1, *ri* 2, etc." [Ochiai 1983, 75; Palmer 1991 72])

Jōri has vital elements that the term "*ri*" does not express at all. These are opposition, a binary relation; and the unity of opposition, the interdependence of opposites. All things are organised according to *jōri*, it is the basis for the branching of *ri* and the unity of their source.

Shortly before the first appearance of the term in *Gengo*, Baiken records having read Dazai Shundai's *Bunron* ("Discussion of Literature") in which Shundai uses "*jōri*" in his criticism of the methods of current scholars of the Japanese classics. The term "*ri*", and a sustained simile of a woven brocade robe appear in the same passages of *Bunron*. Shundai uses these for the different purpose of analysing literary prose, but there is every likelihood that Baiken did not merely snatch one or two useful terms from Shundai's text, but studied it carefully. [See Chapter 2.5]

Fukuzawa Yukichi uses "*jōri*" in *Bunmeiron no gairiyaku*, "Outline of a Theory of Civilisation", written in 1874. He says:

Simply because the geocentric theory seems to have *jōri*, we cannot insist on it and reject the heliocentric theory. Such *jōri* is not really true *jōri*. In the end it is a theory contrived by looking only at the connections between things, without investigating their *ri*. [Fukuzawa 1986 58]

David Dilworth and Cameron Hurst translate "*jōri*" as "logic", (and "*ri*" as "principle") [1973 40]. "*Jōri*" is found in the dictionary with this meaning, but the word is used rarely. In view of the context of Fukuzawa's use of the term it is quite possible that there is an indirect reference to Baiken's slowness to adopt the heliocentric theory, or at least to discussions that derive from Baiken. (See Chapter 6 for Fukuzawa's dismissal of Tokugawa science.)

1.2 the design of Gengo

If Baien had stopped writing Gengo after the early drafts with the title Genkiron ("On Primal *ki*"), the work would have remained merely an historical curiosity. Not only does the term "*jōri*" not appear in Genkiron, much of the *jōri* theory is absent, or only incipient there. If we are to understand his *jōri* system, we must study his formulation of it in the final version of Gengo.

The marked difference in structure between Gengo and Genkiron is significant. The early work is discursive, written in *wabun* (Japanese), and only a tenth of the size of the final Gengo, which is tightly systematic and written in *kanbun* (Chinese style). By stated policy neither draft contains quotations or references to other works, but in contrast to the final Gengo, Genkiron resounds with echoes of his predecessors. Genkiron begins in an obvious place:

There is something that is not easy to name, we shall call it "the One primal *ki*".

The One primal *ki* fills the universe, the tip of the finest hair does not escape it. Dividing and combining, it generates and destroys without cease. The enfolding heaven is outermost, and the earth rests within it.

All things in nature must have their opposites, from their origin in which nothing is distinguishable, to their clear distinction in the manifold. [Zenshū I 741]

Nothing in that opening prepares the reader for the opening lines of the final version of Gengo:

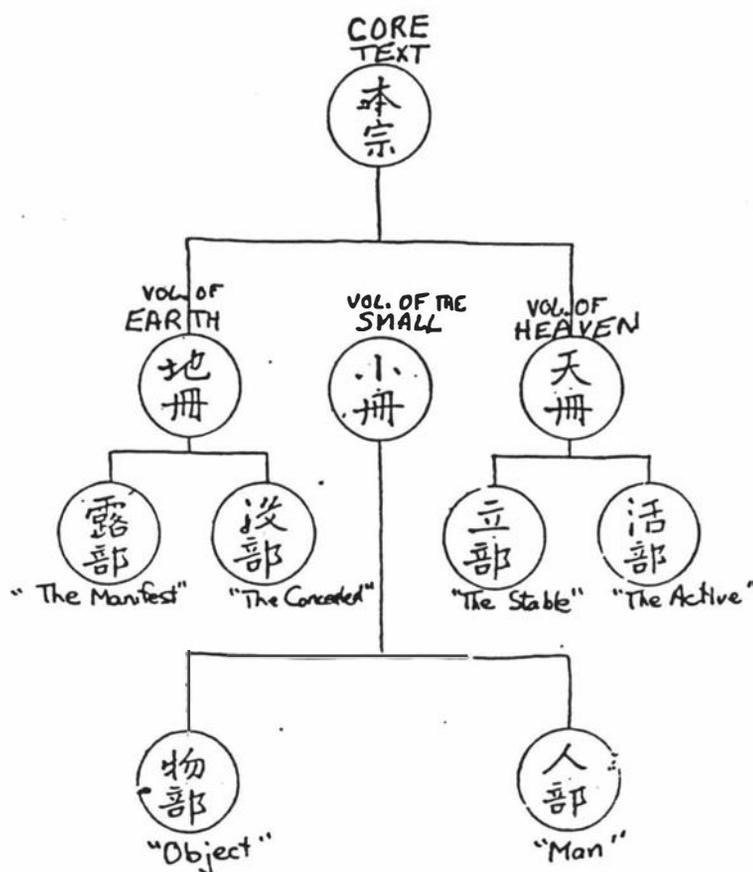
Object has nature and nature is endowed with object. Nature and object merge without seams. Thus they are one whole. Nature pairs with body, object pairs with *ki*. Nature and object stand distinct, this is *jōri*. Thus they are two sides. Nature is nature alongside object, object is object alongside nature. Therefore, one is one and one, and one and one is one.

Ki is heaven, object is earth. Nature is endowed by one, and bodies are divested from one. This endowment by one and divestment as two, corresponds to the warp from the aspect of division, and to the woof from the aspect of the contrast of one *ki* and one object. [NST 389]

The abruptness of this opening is deliberate. By design, Gengo has no conventional beginning:

Those who desire to read this book can read freely, upstream against the current, following the current downwards, taking something from the left, something from the right, pulling this from the centre, or that from the margin. It is just as one can turn a wheel from any point the hand touches it. [Preface 2]

These words from the Preface to Gengo indicate that the following diagram, (placed at the beginning of Core Text in Baien Zenshū, and on the reverse side of the last page in the manuscript of the Core Text [Shimada and Taguchi 1982 623]), should be regarded as a map:



A map does not tell us where to begin or which direction to take. Of course a traveller must have reached a certain point before he or she can begin, Baien himself says "Anyone who deliberately seeks simplicity does not begin in simplicity." [Reply to Kō p.345] But the fundamental reason why the Gengo schema has no starting point is that the structure of the universe has no starting-point. In view of this, the diagram as a whole cannot be taken to have an especially deep significance. It is just that Baien uses methods based on *jōri* where he can, and the twofold divisions (henceforth indicated by angle brackets), <heaven and earth>, <concealed and manifest>, <active and stable> and <man and object>, are all *jōri* pairs.

1.3 *jōri* as a theory

Baien has been described both as a rationalist and as an empiricist. However, it is unwise to classify Baien's project as either "empiricist" or "rationalist". For one thing, to do so requires a clear definition of the distinction, not a simple matter. For another, the distinction has been drawn with certain Western theories in mind, and even there the fit is sometimes less than ideal.

I refer to *jōri* as a theory because the term "theory" is conveniently vague. To describe *jōri* as a principle suggests that it is simple, and simply stateable, when in fact it is extremely complicated to state. The superficial simplicity of "one is one and one" (*itsu soku itsu-itsu*), requiring only two different characters to express, is deceptive. This may even be one of the reasons that *Gengo* has been found so difficult, (in addition to the more obvious factors of its unique lexicon and relativity of terms, both of which will be discussed in Chapter 3). Even Takahashi Masayasu, with his intimate knowledge of the complexities of *Gengo*, asks "In the whole history of Japanese tradition, is there anyone else who has systematised all existents and phenomena by a single principle?" [1981 119] In a letter to Asada Gōryū, Baien himself refers to *jōri* as a principle or rule. He quotes from the *Book of Odes*: "Where there is a thing there is a rule" [Ode 260], saying "The rule is *jōri*." [1763 p.333]

Nevertheless, the phrase "single principle" is misleading in that it suggests that "one is one and one" is all we need to run the whole *jōri* system. Baien found he needed a complex of working notions. To settle for "one is one and one" as the single principle would be to settle for mysticism.

"One is one and one" functions sometimes as a slogan and sometimes as a canonical model for the *jōri* system. Sueki Takeshi characterises "*jōri*" as a general name for the different logical concepts involved as the system develops. These "logical concepts" are more properly "principles" than is "one is one and one". Baien himself says:

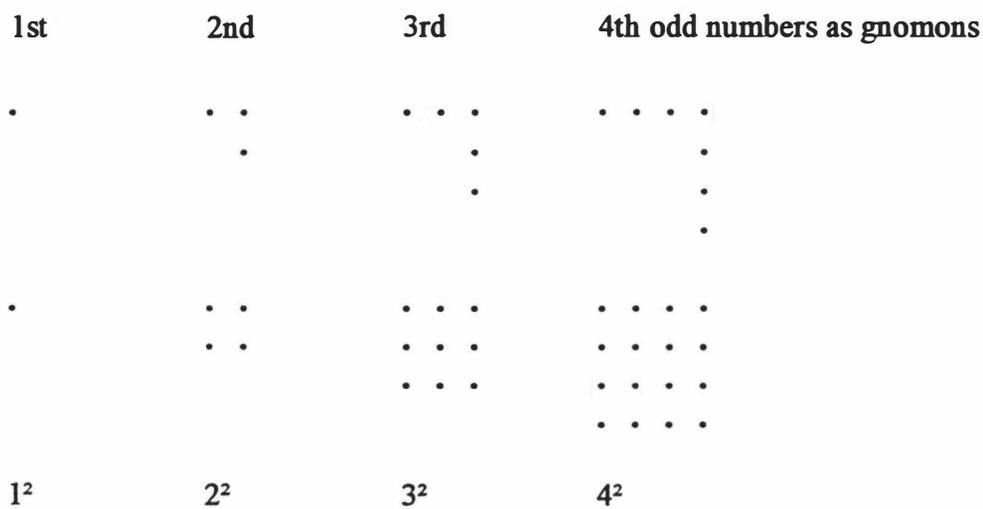
Contrast may involve opposition, comparison, interdependence, generalisation, and cases in which one thing confirms another. If we do not distinguish these cases thoroughly we shall surely fall into error. This is the structure of the text of *Gengo*.
[Preface 3]

In his article "The Logic of *Gengo*" ("*Gengo no ronri* ") [1982], Sueki gives a detailed logical analysis of the system, uncovering numerous principles, some expressible in terms of formal logic. Sueki is surely right that *jōri* is best described as a complex of principles. I would add that this complexity is a great merit of the system. We distinguish the real from other possibilities by a complex of criteria.

Baien refers to *jōri* as a discovery, and states that he is the first to make that discovery. In my last discussion with the late Kozai Yoshishige, he said that to understand Baien, we must look at what Baien looked at. (Kozai used the verb "*miru*" for "look at". "*Miru*" also means "see", but his emphatic gestures and their context indicated to me that "look at" was what he meant).

At first I gave this remark an over-simple interpretation and puzzled over what it was that Baien did look at, but familiarity with the texts led me to realise that Professor Kozai was referring to the whole *Gengo* project. If his system had been discovered by looking at the world, then we could discover it too by looking at the world. To illustrate this, we might compare Baien's great "discovery" with the following brief and homely example of an intellectual discovery.

Suppose a schoolgirl, playing with numbers, notices not only that the sum of the first 7 odd numbers is 49, but that for any number n that she takes, the sum of the first n odd numbers = n^2 . She guesses there are no exceptions to this, but however hard she thinks she cannot see why. Later, studying ancient Greek thinkers, she sees a sketch of how they represented square numbers with pebbles. The squares of the successive cardinal numbers are constructed by adding gnomons made from the successive odd numbers.



For the first time she sees clearly that the formula she "discovered" must always hold. She would find it difficult to state what it is she now sees, but because her own curiosity is completely satisfied, and she can show others by drawing arrangements of pebbles, she doesn't even try to express or prove it verbally.

Baien speaks as though he noticed instances of *jōri*, then saw clearly that reality must always accord with it. He saw it in nature as the girl saw it in the pebble squares, but he does not find it easy to share it with us (and never succeeds completely). He does however make an extraordinary effort to describe it in words, namely *Gengo*, which would correspond to the girl's description of the pebble squares in words when she has neither stones nor pencil handy.

The difference is that the *jōri* system cannot be drawn, and is as difficult to describe as the pebble squares are simple to draw. And even more importantly, unlike the mathematical case, there is no suggestion in Baien's texts that a logical proof of *jōri* is possible. That is, it is not deduced by a chain of inference from given premises.

Provided we do not attribute to Baien some Western notion of what a theory is, no harm is done if we say that *jōri* is a theory that Baien put forward, and that he was completely

convinced of its general truth. The human fallibility to which he often refers concerns the details of spelling out the theory, and not to the basic conviction that impels the enterprise.

Rather like a demonstration by pebbles, *Gengo* does not proceed by linear argument, it is as though he is saying "read this, and you will see *jōri* for yourself". In his own words:

Those who read *Gengo* well do not need to read *Zeigo* ("Superfluous Words"). Heaven and earth are there already. Because it is nothing but written words, *Gengo* itself is superfluous. [Preface 12]

Nevertheless "showing" his discovery is only part of Baien's objective. He is asking us to use our understanding of *jōri* to examine the universe, as he himself is struggling to do throughout the volumes of *Gengo*. Eager as he may be to convince his readers of the truth of his theory, his project in *Gengo* is to uncover features of reality.

"therefore"

Because inferential argument is subsidiary in *Gengo*, it would be inappropriate to scan the text for careless leaps of inference, or non-sequiturs. To evaluate the system we must first see the system, and then work out what lies behind it. In simplistic terms, reading the text is like building a picture from the pieces of a jigsaw puzzle, small sections at random begin to cohere, then gain more significance when connected to other sections, until it is clear what the picture is about.

Nevertheless, argument is as natural to Baien as it is to any other rational being. For instance:

Although we say that earth is formed by binding, and heaven is formed by dispersing, if earth were to continue merely to bind it would become larger and larger until heaven disappeared, if heaven were to continue merely to disperse, it would become smaller and smaller until heaven would disappear. It cannot be a matter of dispersing or binding alone, there could not be continuous dispersing, nor any room below for the binding things to be. [Core Text, NST 390,26]

The conclusion here is that one cannot say that earth is the result of a continuous process of binding, nor heaven of a continuous process of dispersing, for the reasons that are stated. So, given that binding and dispersing are involved, we must look for a more complex explanation. Baien appears to be arguing against the old yin-yang theory of Huai-nan Tzu which stops at the point of simply correlating binding with yin and dispersing with yang. [See Chapter 7.2]

Occasionally Baien supports his statements with paragraphs of linear argument, in *Gengo*, and especially in *Genkiron*, the *Gengo Preface*, and *Reply to Taga*. It is interesting that argument is more obvious when he is implicitly or explicitly criticising the doctrines of other people. In other words, he was quite prepared to use linear argument to argue against received opinions, but does not intend to present the main outline of his theory by this method.

Here and there, he uses a Confucian style inference chain: "If A, then B, if B, then C, if C then D; (therefore) if A then D." With both Baien and the Confucians this usually points a moral, as does our "For the want of a nail... the kingdom was lost". In *Genkiron* he says:

Because I am I and he is he, each person has his own field, and because each has his own field there is no time to listen to the criticism of others. If people have no time to listen to the criticism of others, they cannot tell what is in the minds of others, they listen to disputes and cannot gauge people's feelings....

He has his part and I have mine. And if people each have their own parts they cannot avoid specialising. When they specialise they become too confined. If their fields are too confined they cannot avoid disputes, and if they dispute they will see the others' faults only, they will not profit from their merits. And because they do not profit they become all the more confined. Then, if he criticises me his criticism misses the point, we fight, but victory is impossible. If I criticise him my criticism misses the point, I cannot defeat him. So no-one who specialises in the three doctrines... ["Water and Fire" *Zenshū* I 751.]

One example from the *Analects* of Confucius is the following:

If names are incorrect, speech is out of accord. If speech is out of accord tasks are not fulfilled. If tasks are not fulfilled... Therefore what the man of virtue names is sure to be sayable, and what he says is sure to be performable. [XIII, 3]

"Therefore" is understood before the conclusion in all these cases, but in this last quotation "therefore" is a translation of Chinese "*ku*", Japanese "*ko*" or "*yue ni*", 故. The tight structure of the *Gengo* text may easily give a false impression that linear reasoning is more prominent than it is in fact, so that the connectives "*yue ni*" and "*kore o motte*" (Chinese "*suo yi*" 是以), which are elsewhere frequently translated as "therefore", misleadingly suggest strict implication.

In *Yin and Yang and Correlative Thinking*, Angus Graham comments on these connectives as they are used in *Huai-nan Tzu*. Graham translates the character for "*yue ni*" as "therefore", and that for "*kore o motte*" as "which is why". But Graham is describing the reasoning that he calls correlative thinking, which Baien criticises in the *Preface* as "mere classification" [10]. Classification will be discussed in Chapter 7.3.

Shimada's modern Japanese translation of *Gengo* treats "*kore o motte*" as weaker than "*yue ni*", and amounting to "that is to say". For example:

As an illustration, take a piece of brocade. The raw side consists of warp threads and woof threads, scarlet threads and green threads, but on the finished side are flowers, grass, and fabulous birds. The spirit of these comes from the imagination of a clever woman.

That is to say, although the brocade is essentially warp threads and woof threads, when a spirit works on them to form objects, each warp thread is separate from the woof threads, yet each warp thread combines with a woof thread. [Core Text NST 389,20]

Not only "*kore o motte*", but also "*yue ni*", literally "for this reason", is also weaker than "therefore" in the Baien text. The "Best Sense Rule" precludes "therefore" in some passages, and even seems better translated as "because" in others. It is interesting how often the converse terms "because" and "therefore" both make good sense, such as in the following passage from Volume of the Small:

Although we have both ears and eyes, or arms and legs, they function in pairs as one. This is because/therefore when the left leg runs, the right leg is carried with it. [NST 494,13]

The Best Sense Rule suggests "this is because", which provides an explanation of what goes before. "Therefore" suggests a vague causal connection. In Development of the Logical Method in Ancient China, Hu Shih says that in Neo-Mohist logic "the same word ("ku", "*yue ni*") is used for both "cause" and "because"". [1963 94]

"*Yue ni*" means at least that the clause before it relates somehow to the clause following it. But if it means more than that, the most reasonable interpretation of Baien's usage would seem to be "that is what I mean by saying".

Nature and object stand distinct, this is *jōri*. That is what I mean by saying they are two sides. Nature is nature alongside object, object is object alongside nature. That is what I mean by saying one is one and one, and one and one are one. [Core Text NST 389,14]

Much has been written about forms of argument in classical Chinese. The use of the words "ku" ("*yue ni*") and "suo yi" ("*kore o motte*") in the Chinese texts that formed a substantial part of Baien's education must have some relevance to his own usage, but the interpretation of their ancient usages is often problematic. A detailed account of Baien's attitude to philosophical or logical argument in general would require also an examination of argument forms and logical expressions in the works of his Japanese contemporaries and immediate predecessors. Above all, interpretations of those terms should be settled by their immediate contexts in Baien's works.

Summary of Chapter 1

1. Baien was not the first to use a compound of the two characters "jō" and "ri" as a technical term, but he gave it a special meaning as the key term of his philosophical system. "Jōri" refers to the distinctness and union of interdependent opposites in the universe.

Apart from the essentially indescribable "one", everything that exists is a member of a contrasting pair.

2. Baien says the reader may begin the book from any point. This is consistent with the fact that Gengo does not proceed by linear argument.

3. Jōri is a "theory", rather than a "principle", in that it is a vastly more complicated system than the skeletal "one is one and one" suggests.

Baien describes *jōri* as a discovery. One purpose of Gengo is to show his readers where to look so that they might see what he saw. (Another purpose is to examine features of the universe in *jōri* terms, which is the only way that reality might be revealed.)

Care is required in translating connectives such as "yue ni", which is often translated as "therefore". The question of translation is to be resolved by examination of their immediate contexts rather than by reference to precedents. Often it is better to translate "yue ni" as "that is what I mean by saying", than as implication.

It follows from the second and third sections above, that the exposition of the *jōri* system in this essay must be to some extent piecemeal too. Insofar as some sort of order has been achieved in the presentation of Baien's ideas, this only vaguely reflects the structure of the Gengo text. Rather, it is the result of examining the whole, which Baien admits to being unavoidably incomplete and rough, and finding an order of presentation that will make it intelligible to the reader.

Chapter 2: MODELS OF *JŌRI*

Spirit is necessarily active, and objects are necessarily stable, the warp necessarily passes through, and the woof necessarily fills up. When a clever woman weaves a brocade garment with her moving shuttle, a brilliant pattern appears, dragons dance and phoenixes fly. [Core Text, NST 393,23]

In this chapter, the *jōri* system is introduced in the way that Baien introduces it in the "Yin and Yang" chapter of Core Text, that is, with examples and metaphor, here referred to as "models". But Baien's imagery is one thing, and the imagery of interpreters and commentators is another. The dominant model is that of a brocade robe. We shall examine three models: the woven brocade; the drawing of a brush stroke; and two people gazing at one another from opposite sides of a river. Next we shall look at the feasibility of interpreting Baien's text with sketches and diagrams that are not his. Lastly we shall look historically at the origins of the brocade model. This may help to place Baien's project in a historical setting.

Introduction

Baien expresses *jōri* as "seeing unity in opposites", and "one is one and one", but these come nowhere near defining *jōri*. On the contrary, we can understand what he means by them only after we have made considerable progress in interpreting his *jōri* system. We are given no foundation of axiomatic propositions, Gengo is not so much a construction as an unfolding, an "opening" akin to the sense of "open" in his pair, <closed and open>. One may choose not only where to begin the unfolding, but where and when to fold again for another perspective.

To help us tackle the complexity of *jōri*, Baien gives us models. To understand the models of *jōri*, their immediate context is vital, not to mention the wider context of Gengo as a whole. This is so with most philosophical examples: Locke's porphyry paperweight, Hume's billiard balls or McTaggart's fire poker may convey that philosophy was a cosy indoor activity in northern Europe, but removed from their philosophical contexts these models tell us nothing of philosophical interest.

In philosophy of nature, instances may evolve into metaphors, Hume's billiard balls afford both an instance and a metaphor for causation theory. Metaphors originating from instances never cease to be instances too. Baien attaches some importance to distinguishing a metaphor ("*hiyu*") from an instance (*rei*):

Metaphor is the art of borrowing one thing to clarify another. Now, taking one thing as an example of ten thousand is showing one corner, and is not a metaphor. Thus I may say either "I speak of that by means of this", or I may say "I shall move from this to that". [Preface 3]

It is important to his theory of naming to recognise that one cannot always point out an instance of *jōri* in a simple direct way. Unfortunately it is not always clear whether Baien's

examples are to be taken as instances, or merely as metaphors or analogies. On page VII of his index to the *Nihon Shiso Taikai* volume, Miura Baien, Ogata Sumio gives a list of 123 *Gengo* metaphors ("*hiyu*"), but these do not readily divide into two groups as the above quotation suggests. Some are pure examples, such as the old Chinese one of the man who mistakes a box of rat meat for a gift of unpolished jade, because in his dialect the words are homonyms [Graham 1989 177; Volume of the Small, NST 492,17]. This is cited as an extreme case of "same word different subject". Others are purely metaphorical such as the image of a branching river: "When we follow the current downwards one yang becomes two yin, but when we watch from the bank one yang relates to one yin." In other cases it is more difficult to make this distinction.

Are the chestnut, a natural object, and the well-sweep, an artefact, metaphors for the cosmic pair <straight line and circle>, or are they also instances of *jōri*? The spherical shape of the chestnut is formed by its burrs which radiate in straight lines from the centre; the straight arm of the well-sweep describes a circle as it turns on its pivot. If we had found it difficult to grasp <line and circle>, the chestnut and the well-sweep would certainly help, but when it comes to working out how to apply *jōri* to the perceived world before us, it makes some real difference to our understanding to take them as instances also. Nevertheless, we can leave the question open by referring to them simply as "models", with the expectation that the extent to which each is an instance should become clear as it is examined.

2.1 the woven brocade

Baien's technical language consists of pairs of terms, related specifically and exactly by a logic that reflects *jōri*. The pairs of Chinese characters that express them are physically indistinguishable from single compound words. Because there are no spaces between "words" in Chinese and Japanese, some decision is required on how to represent these special pairs in English. The convention adopted in this essay is to join them with "and" and enclose them in angle brackets.

The opening lines of *Gengo* quoted in Chapter 1.2 throw the reader immediately into a dense block of such bracketed pairs. *Jōri* is explained by showing how it applies in the case of the pairs <object and nature>, <nature and body>, <object and *ki*>, <parting and combining>, <endowment and divestment>, and <standing distinct and merging>.

The pair <warp and woof> is introduced: "Division is the warp, contrast is the woof. Warp and woof are parted spontaneously by *jōri*". Relief comes soon with the example of a piece of woven brocade, in which "warp and woof" is used literally:

As an illustration, take a piece of brocade. The raw side consists of warp threads and woof threads, scarlet threads and green threads, but on the finished side are flowers, grass, and fabulous birds. The spirit of these comes from the imagination of a clever woman.

Although the brocade is essentially warp threads and woof threads, when a spirit works on them to form objects, each warp thread is separate from the woof threads, yet each warp thread combines with a woof thread. Their combination yields leaping dragons and dancing phoenixes. They may leap and dance, but if the threads are separated, warp spontaneously aligns with warp and woof aligns with woof. And so one piece of brocade has a nature that is endowed with two bodies, the raw side and the finished side, the weaver's skill brings spirit to it, objects are fixed to it by silk threads, and an incomprehensible human art attains the mystery of heaven's creation. [NST 389,20]

It emerges from the *Gengo* text, and especially from "Heaven and Earth", the other chapter of *Core Text*, that warp and woof represent the preconditions of time and space. With this in mind, the brocade model becomes dynamic, the weaving of the brocade is the correct imagery.

The brocade is ordered by *jōri*. Without overlooking a single scale or feather, the clever woman weaves dragons and phoenixes. When leaping dragons and dancing phoenixes are traced out with warp and woof, how lifelike they are! [NST 389,31]

If we take Baien at his word about there being no definite starting-point to *Gengo*, we should not attach too much significance to the placing of the brocade model so early in the text. But considering that its context is the introduction of several of the most basic *jōri* pairs, it is reasonable to take the brocade as a model of the *jōri* structure of the universe. This interpretation is assumed, and as far as possible supported, in the discussion that follows.

part and side

Above all, the brocade model is used to explain the aphorism at the end of the first paragraph, "one is one and one". The finished side of the brocade with its dragons and birds is quite distinct from the raw side with its interwoven warp and woof threads, yet together they constitute one and the same piece of brocade. To be what it is, the brocade requires both the raw side and the finished side, but it is not one thing divided cleanly down the middle. Baien describes the union of the sides as "seamless". The raw side and the finished side each occupy one and the same slab of space-time as the brocade itself, but the brocade alone is the whole thing.

Yamada Keiji suggests that we might take "whole and side" as "whole and part" [1982 185], and he conflates the terms "side" and "part" in his idiomatic Japanese translation of the passage. But the two sides of the brocade are "parts" only in an extended and unconventional sense, which is precisely what Baien is telling us with his use of "side" in the model, and elsewhere in this chapter. In *Gengo*, <whole and side> are a *jōri* pair, and the usual word for a part ("bun", 分) is used for the state of "separation", as opposed to "combination", as in the *jōri* pair, <separation and combination>, or for the English verb "to part".

The whole is a single piece of brocade, but it has two sides, front and back. So we discover what division is. Thus, the piece of brocade is originally one, and therefore a whole, but the front and back as two, are two sides. Being a whole entails that front and back merge and the seams between them are concealed. Being two sides entails that front and back stand distinct and reveal *jōri*. [NST 389 29]

The difference between the two sides is not just their different relations to the body of the wearer. To borrow his model, it might be said that it is because of the intrinsic difference between the raw side and the finished side that an empress would not wear the brocade inside out. (Baien would have no inclination to introduce here the phrase "under the description", used in modern philosophy, so that there were three descriptions of the brocade: from the right side, from the wrong side, and taken as a whole.)

Outside *Gengo*, where Baien has not contracted with his readers to adhere to a set lexicon, Baien does use "bun", "part", in this sense. One model is a bamboo pipe:

Both ends form the one pipe in the way that yin and yang are the one *ki*. The parts are beginning and end We cannot hold on to the beginning and throw away the end, we cannot hold on to the end and throw away the beginning. [*Zeigo* "Yin and Yang" *Zenshū* I 344 U8]

If one end ("tan") is designated as the mouthpiece, or the beginning, then the other is the tailpiece, or end, and however much bamboo is cut off there will always be these two ends, two parts of the whole pipe. The passage from which these lines come has more than one purpose, but one of these is to reiterate the necessary interdependence of natural *jōri* pairs.

2.2 the brush stroke

After presenting the brocade robe model in the opening pages of *Gengo*, Baien elaborates on it with more pairs from his lexicon. Next he asks the reader to take a brush and draw a stroke. Baien sees not only the cosmos as a whole, but also individual objects as dynamic. It is not immediately obvious to the reader that the brocade model requires this dynamic interpretation, the continuous interweaving of warp and woof, but the brief passage on the brush stroke does not make sense any other way.

When one takes a brush and draws a stroke, up and down are already established as soon as a mark appears. When up is manifest, so is down. Forwards is accompanied by backwards.... Upwards, downwards, forwards and backwards merge, but the stroke stands out from within them. [Core Text NST 390,11]

In Japanese and Chinese calligraphy the meaning of a character is understood not so much by looking at its static shape, such as a word processor might provide, but by tracing the dynamic path of the brush on paper. In handwriting several strokes are joined so that the reader subconsciously follows the path of the writer's hand, otherwise the connecting lines could not be distinguished from the strokes. This example depends on temporal sequence, a virtually two-dimensional brush stroke would be such an inadequate example of an object that the model would be barely intelligible. Baien goes on to say "This is because the dwelling is the same but the paths are different". The word "path" in *Gengo* clearly conveys a dynamic view of things, which he expresses also as "action" in <action and being>. We are not to take the stroke as it appears on paper at a particular moment, but its whole life from the moment the tip of the brush first touches the paper.

Outside *Gengo* an explicitly four-dimensional dynamic model is found in Reply to Kō Takaoki. Here *jōri* opposition is seen in the temporal dimension, that is, in <coming and going>:

*

Watch children in the garden spinning a top. ~~Nothing of its figure remains.~~ While it turns, the movement of the top dwells in the same place. Its path divides as coming and going. It is neither going rather than coming, nor coming rather than going. But when the top finally falls, it ceases both coming and going. There is *jōri* in their division as coming and going, but they combine without any seams between them. [p.341] X

The dynamic view of the brush-stroke, and to a lesser extent the temporal *jōri* of the children's top, warn us to think of the brocade robe too, not as a finished product, as we are inclined to do when we consider the relation of sides to whole, but as warp and woof in the hands of the weaver.

* You can see the whole figures through it

2.3 the river bank gazers

The next model, the river bank gazers, is extremely difficult to interpret:

When two people who stand on opposite banks look across at one another, the fact that they are near to or far from, or visible or invisible to one another is the same in each case, but the person who is far, near, visible or invisible is different in each case.

Thus although the concealment or manifestation of objects, and the invisibility or visibility of *ki* take different paths, they dwell in the same place. So, when what is concealed is object, what is visible is *ki*, and when *ki* is what is invisible, object is what is manifest. [Core Text NST 390,15]

Interpretation is complicated by the fact that here Baian is not only explaining the fundamental pair <*ki* and object>, he is also speaking of the relationship of the pairs <concealed and manifest> and <invisible and visible>. When the gazers stand on the bank they resemble <*ki* and object>, but in so doing they do not resemble either <concealed and manifest> or <invisible and visible>, because in the model, when *ki* is visible, object is concealed, not invisible; when object is manifest, *ki* is invisible, not concealed. This passage makes it clear that the two pairs are quite distinct.

Now, there is a symmetrical relation between the gazers, such that when we describe their relation in terms of <concealed and manifest> and <invisible and visible>, what we say of one, we can say of the other. For instance, B is visible when A is concealed and A is visible when B is concealed.

But the gazers are not a pair themselves. More than symmetry is involved in the model of the river bank gazers. It is very important to the model that A and B themselves are quite different from one another, not a pair of any kind but for their chance encounter across the river banks. As people they are not a pair like <heat and cold>, for example, or even <man and woman>. Looking at someone is not at all like being looked at. We might say that the opposite situation to B's being visible to A, in terms of visibility, would be exemplified by a third person, C, standing behind A and invisible to A.

Two points that emerge from the model are:

- a) <*ki* and object> are interdependent, but they are two very different things. The relation applies to A and B just so long as they gaze across at each other. Their interdependence there is a necessary feature of that relation, the same interdependence of the pair <*ki* and object>, which are not "opposites" apart from that relation (this kind of opposition will be discussed further in Chapter 5.1).
- b) <Concealed and manifest> is not at all the same as <invisible and visible> (I hope to show in Chapter 11 that <concealed and manifest> is a vital pair in Baian's whole system).

Furthermore, there is a general point that emerges from this passage, which would be a good reason for placing it near the beginning of a chapter entitled "Yin and Yang":

c) *Jōri* pairs are not the kind that might be listed in two columns, like the tables of opposites we can make from ancient Chinese accounts of yin and yang. For example, with them we may list "hot", "fire", "sun" etc. under "yang", and "cold", "water", "moon" etc. under "yin". The river banks model instructs us not to fix "invisible" and "concealed" to "*ki*", and "visible" and "manifest" to "object", or to make any such lists of *jōri* pairs at all (apart from some very short ones in specific cases). This departure from traditional yin and yang theories is discussed in detail in Chapter 7.2.

The difficulties are, in the case of a), that ironically, it is easier for us to understand <*ki* and object> than it is to understand the model of the river bank gazers, in fact we seem to need a grasp of <*ki* and object> before we can interpret the model; and in the case of b), that the pair <invisible and visible> is itself difficult to interpret [see Chapter 11.2].

Summary of the three models:

It is the curse of analogies that they are sworn to silence about the extent of their application, and Baien's models are no exception. Nevertheless, careful consideration of their specific contexts, and the broader context of the system presented in *Gengo*, support the following conclusions:

1. The brocade is a model of the structure of the whole system.

It shows the fundamental distinctions and relationships within the manifold of the universe that are outlined in the "Yin and Yang" chapter of *Core Text*, and which involve notions such as <whole and side> and <division and contrast>. It also illustrates the more physical structures of the universe outlined in the other chapter, "Heaven and Earth", involving space and time as warp and woof.

2. The brush stroke model, in the absence of a more plausible interpretation, is a specific reminder to see "object" as extended in time, and certainly not as static. The static object has been common in Western thought, but we cannot assume this was a common conception among Baien's intended readers. The difficulty of determining the situation in their case is aggravated by the fact that they were probably not given to thinking philosophically about the individuation of objects at all. Baien was forced to coin the entire set of terms.

3. The model of two people gazing across opposite banks can be interpreted as illustrating the points that: although <*ki* and object> are not opposites in a conventional sense (as the two gazers are not), they stand in a relation of interdependence; that the important pair <concealed and manifest> is quite distinct from the pair <invisible and visible>; and that the three pairs, <*ki* and object>, <concealed and manifest> and <invisible and visible> cannot be mapped on to each other one to one.

2.4 interpreters' imagery

Firstly, we must ask the obvious question, if another diagram is needed, why did Baien not include such a diagram among his two hundred? Secondly, Baien is clear about the inadequacy of diagrams, and for good reason, his view of the universe was dynamic, four dimensional and very complex [see Chapter 7.2]. Baien's own diagrams cannot be ignored, but their explanatory value can be overrated. Thirdly, if we make diagrams for him, there is not only the near certainty that something will be left out, but also the greater danger that something will be added.

sketching the river banks

Commentaries on the model of two people looking across from opposite banks of a river provide a good example both of what cannot be shown in diagrams, and of what might be added when others make them on Baien's behalf. There is an understandable inclination to sketch the situation on paper or on the blackboard. Whether drawn, or simply envisaged, simple diagrams of this model may be misleading.

When the model of the river bank gazers is seen as a simplistic expression of symmetry, it says little more than one might find in ancient Chinese cosmogony or perhaps in the pre-Socratic philosophers. Interpreted in this way the model is as primitive as "The way up is the way down", but without the poetry of the Heraclitean fragments. The model should not be taken as showing that two different states, A's being west of B, and B's being east of A, for example, are one state, and that this illustrates "one is one and one". Put like this, the only differences are in the strings of words, a case of simple identity that does not parallel the necessary coexistence of the two sides of a brocade.

If we were to say that the purpose of the model is to show that two descriptions of one thing is an example of *jōri*, not only should we be reducing *jōri* to a triviality, but we should also charge Baien with a foolish oversight, since the number of possible descriptions of a situation is not limited to two.

The visual imagery does not take us far. Among other things, the model relates <concealed and manifest> to <invisible and visible>, and drawings of the concealed and the invisible are impossible. If we understood <concealed and manifest> well enough to draw a comprehensive diagram, we should not need the diagram, the reader would have already needed to study the text thoroughly before understanding it.

In a discussion of Baien's "dialectic", Ogawa Haruhisa [1983] carefully avoids an oversimple interpretation in his sketch. He symbolises the two people standing on opposite sides of the river by distinct shapes, a circle and a triangle, emphasising that A and B must be intrinsically different for a correct interpretation. In his sketch the oneness is indicated by a dotted line drawn between them, but then Ogawa adds: "If we are to take A and B as placed on the left and right, this is an example of comprehending the unity of left and right." But left and right are not discussed in this passage. A page on which a diagram has been drawn of the river bank gazers will have left and right, and so the "A" is left of the "B", and the two gazers also would

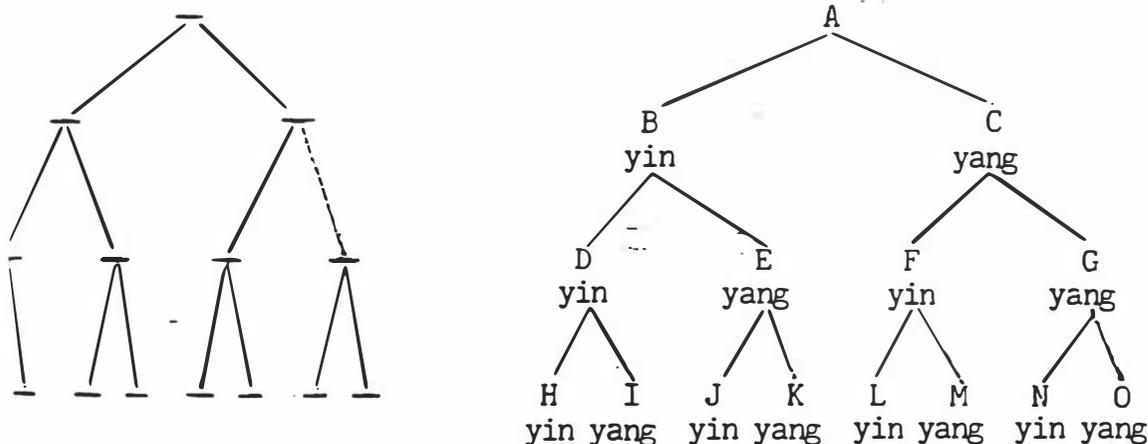
be to the left and right of an observer standing on the centre of an imaginary bridge across the river. It is not left and right that are united in terms of visibility or distance, but the two intrinsically different things that we might see, one on our left, and one on our right, as we observe the scene from a bridge. Neither the printed page nor the bridge are mentioned in Baien's text.

tree diagrams

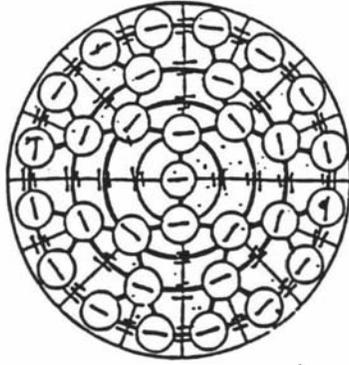
In the most thoughtful and scholarly accounts of *jōri* the temptation for the authors to draw downwards branching tree diagrams, or at least to think in terms of them, seems to be irresistible. Admittedly, a branching river and a "family tree" occur as verbal images in Baien's account of *jōri*. He uses them to illustrate division, contrast, and common source.

The following is an example of a tree diagram translated from Shimada Kenji:

(one-prim~~al~~-ki)



Shimada is not alone in sketching tree diagrams, Takahashi Masayasu, Yamada and others too present us with them. Miura Baien himself does not. Shimada takes his tree diagram specifically from the following diagram, entitled "Warp, woof, division and contrast", which has the binary branching structure that Shimada's diagram portrays [NST 551]:



The only terms in Baien's diagram are "one", (in the circles), and "two", (straddling the lines), which name the separate state of the one on either side. (Baien's doubts about whether to refer to these as the number two will be discussed in Chapter 5.2.) The ones are to be paired, by their relation to the "two" between them, and by their common derivation from a single "one" in the next circle inward. But Shimada's diagram conveys more than this. In Baien's diagram there is no question of the left-hand members being consistently of one kind, and the right-hand members being consistently the opposite of that kind. Indeed, none of Baien's diagrams are of that form. The characters for "yin" and "yang" are not in Baien's diagram. Shimada's addition of them might suggest that yins have something in common with each other, distinct from something the yangs have in common. However, it is important to Baien that "yin" and "yang" in their basic sense should be interchangeable. [See Chapter 7.2]

Both the tree diagram and Baien's circular diagram show binary branching, and the reiteration of binary division is an essential feature of *jōri*. Given that if there is anything at all, it involves contrast, and contrast involves two things, then for each of these two to be "things" they too must involve contrast. Nevertheless, the tree cannot be substituted for the circle without significant change, or at least change that should have significance for an analysis as fine-grained as Baien's. By substituting tree diagrams for circles, embellishments to Baien's theory are suggested which lead to unlicensed interpretations.

Three of these embellishments are: 1) the substitution of triples for pairs; 2) a hierarchy of being; and, resulting from this hierarchy, 3), the ultimate One, physically at the top of the diagram, is exalted, so that the logically indescribable becomes the mystical.

1) triples for pairs: A circle does not have an apex. Literally and symbolically, apex and centre are quite different. Yamada draws a similar tree diagram to illustrate division and contrast, and says:

If we take the branching of a river, or two people gazing across opposite banks as representations of the pyramid structure of existence (concepts), they are immediately intelligible. These two metaphors are Baien's favourites. [Yamada 1982 185]

Overlooking the insertion in parenthesis of the term "concept" (*gainen*), one of Yamada's favourites, we should ask why, when a pyramid structure is so easy to draw, Baien did not seize the chance to draw "the pyramid structure of existence". The brief answer here is that a pyramid is nothing like the structure of existence portrayed in *Gengo*. Pyramids require triangles.

Baien elaborates on his aphorism "One is one-and-one" with the simile of a piece of paper cut or torn in two: "One piece is concave, one is convex, but when joined they combine without a gap". [Preface 6] Two real opposites are united by the real one, but the one cannot be counted as a third feature of nature, it is the two, just as the two are one, so there can be no overlap. Exclusion of the number three from the *jōri* system will be discussed further in Chapter 5.2.

2) **hierarchies of being**: As Yamada's phrase "pyramid structure" shows, philosophical tree diagrams of this kind convert too easily into ontological hierarchies. Originating from some such visual imagery, the term "level" is one of the most treacherous in accounts of Baien's philosophy. Iwami Teruhiko, Ogata Sumio, Ogawa Haruhisa, Shimada Kenji, Taguchi Masaharu, Takahashi Masayasu and Yamada Keiji, seven taken alphabetically among a very short list of leading Baien scholars, are all very different from one another in their approach to Baien. But all alike are prone to talk in terms of "hierarchies" or "levels". We might modify Baien's "I do not bend my knee to the ancients because I understand how to seek *jōri*" with a less bold stand, and refuse to bow to any hierarchical model of Baien's system that does not help us to understand *jōri*. Baien is emphatic that the "ones" of "one and one" have the same status as the "one" in which they combine. He says in *Genkiron*:

It is not that first there was the One primal *ki* and afterwards all the ten thousand things of heaven and earth. The One primal *ki*, like all the things of heaven and earth, has no beginning and no end... ["*Ki* and Object" *Zenshū* I 751]

These scholars cannot have missed that point, so we must conclude that they have not noticed the implications of their imagery and terminology in this case. Division of one into two is not enough to put the one metaphorically above the two. The metaphor of "higher and lower" for "better and worse" is certainly entrenched in the languages and cultures of Europe, China and Japan. (Its universality would need to be determined by an anthropological study, refuted if an exception were found, supported if good reasons could be given for it, such as that physically higher positions are strategically more powerful, improving survival chances.)

So far in this discussion I have referred to "trees" that branch downwards, but the term "tree" would be more apt for a diagram that fans upwards from a base. The metaphor of "deep and shallow" may well be as culturally widespread as that of "above and below", and in this lower and higher are reversed in value, "deep" is better than "shallow". Likewise, if we were to use words like "basis", "foundation" or "ground" for the "one" that is divided, we should not mean by this that it is "inferior" in any but the literal sense of the word. A tree standing upright is rather less likely to suggest a hierarchy than a downward branching sketch.

3. incomprehensibility and mysticism: There is a further hazard with the downward branching tree model, that it might lead to taking the hierarchy too seriously, especially for those who seek a mystic message as the reward for their study of a philosophical text. Yamada himself is certainly not such a person, but he sees Baien as seeking to provide a mystic message: "When we reach the highest one, fundamental existence, that is, the One *ki*, the process of understanding is complete." [Yamada 1982 187] This is a misleading way of representing Baien's objective.

The essential incomprehensibility of the ultimate "One primal *ki*" is a basic assumption surviving from the early Genkiron to the final version of Gengo. However, although Genkiron begins with it, "There is something that is not easy to name", the following comments are relegated to an "Appendix" to the Preface of the final version of Gengo. The "*gen*" is the "*gen*" of "Gengo", "deep" 玄, but here it means "unfathomable", referring to something so deep that it is inexpressible by language. In "Appendix X" Baien says:

Some-one asked me, "If it is already unfathomable, then why do you talk about it?"

I replied, "So I can show it by speaking."

Then I was asked "Then why do you call it unfathomable? If the unfathomable is unfathomable, what is the use of talking about it? And if the unfathomable is not unfathomable, is not all this a waste of your effort?"

I replied, "That is why I call it "*gen*"".

I take this to mean that there comes a point where it is futile to ask further questions, because there is nothing further to say. Saying that nothing can be said about "*gen*" is indeed saying something about it. In this sense, "nothing can be said about *gen*" is necessarily false. Wittgenstein's "Whereof one cannot speak, thereof one must be silent" has become a cliché, but Baien's reasons for saying a similar thing are quite different: ontologically, everything that is real is a member of a *jōri* pair; epistemologically, we can only apprehend reality by seeing *jōri* pairs. The *gen* is the ultimate "one" that is differentiated by the *jōri* system, but it cannot otherwise be grasped.

Baien is much more interested in what can be grasped, he does not encourage mysticism. Without judging the success of the enterprise, there can be no doubt that the goal of the difficult intellectual task that resulted in the final version of Gengo was to seek the principles of differentiation at work in the universe, and not the oneness in which differentiation dissolves. Little more can be said about these principles of differentiation until we have examined the role of language in the theory of *jōri*.

2.5 the brocade robe model in Dōgen, Shundai and Baien

In *Bunron*, written in 1748, by the Japanese Confucian Dazai Shundai, there is an account of the making of Buddhist rag robes and woven brocade ones. In *Shōbōgenzō* ("The Eye Storehouse of the True Law", completed 1253), the Zen Buddhist Dōgen gives a fuller account. The contrast of Shundai's description of rag robes and woven robes with Dōgen's texts brings out Shundai's very different focus. In turn, the contrast between Baien's use of the brocade robe model ~~with~~^{and} Shundai's brings out Baien's very different focus.

A chapter in *Shōbōgenzō* called "*Kesa kudoku*", ("The Value of Robes"), gives very detailed directions for the making of Buddhist rag robes. The following are a few short extracts from this chapter:

According to the traditional teachings of the Buddhas a kasaya made of discarded cloth, that is, a pamsula, is the best. --- The four types of cloth are those that have been burned by fire, munched by oxen, gnawed by mice, or worn by the dead. Indians throw this cloth away in the streets and in the fields just as they do their excreta. The name pamsula comes from this. Monks pick up such cloth and wear it having washed and sewn the various pieces together. Although some of this cloth is cotton and some silk, no discrimination should be made between the two. We should deeply reflect on the meaning of a pamsula....

When we believe that a pamsula is made not of silk, cotton, gold, silver, pearls, or jewels, we can realize what a true pamsula is....

Continue washing the kasaya until all the dirt and grease has been removed. When this has been done, rinse the kasaya in cold water containing incense of aloes or beadwood, and so on. After having dried it thoroughly on a clean rod, fold it and put it in an elevated place. Then, burning incense and scattering flower petals, walk clockwise around it several times, prostrating yourself before it three, six, or nine times. Finally, kneeling before it in *gassho*, pick it up and, after having recited the kasaya gatha, stand up and put it on in the prescribed manner....

People throw these ten types of cloth away when they have finished using them. After having been picked up, however, they become the cleanest material for making a kasaya. All the Buddhas in the three stages of time have praised and used such cloth....

Materials obtained in this way are not silk, cotton, gold, silver, pearls, jewels, twilled silk, light silk, brocade, or embroidery. They are simply discarded cloth. A kasaya made of such cloth is not called a pamsula because of its appearance, whether ragged or beautiful. Rather it has been given this name simply because it is in accordance with the Law, having correctly transmitted the essence of all the Buddhas in the three stages of time, the Eye Storehouse of the True Law. [Yuhō 1976 94f.]

Dazai Shundai's attitude to the pamsula in *Bunron* is as different from all this as it could be. Passages from Chapter 2 and Chapter 4 of *Bunron* are translated here:

Bunron, Chapter 2:

Scholars who write in the ancient style themselves take sentences and characters one by one from the ancients.... They take set phrases of the ancients and just tie them together, with no *bunri*, and no sense. The words sound like voices in a crowded hall with people everywhere....

I have heard of certain Buddhists priests in India whose custom it is to practice asceticism. They pick up foul clothes from the dead, the sick, and women in labour, clothes retrieved from fire, clothes filthy with dirt and blood, or smeared with dirt and manure.

These priests do not wear woven robes. They take the vile soiled ones that people have thrown away, shake off the dirt, and wash them in soapbeans and water until they are as pure and clean as possible. Then they sew the pieces together to make robes. They are called "pamsula", "rag robes", or "dung robes" ("*funzatsue*")....

So a single robe may contain brocade, floral work, embroidery, silk, gauze, damask, frayed silk, paint, white silk, thin silk and calico. Naturally the bright effect of the patches is pleasing, but the robes have no specific *bunri*, no unity of texture or quality.

The Buddhist take other people's rejects, so they might take several hundred pieces and sew them together to make a robe... Where they were sewn up the seams could not be obliterated.

Compare one of these with a single piece of brocade before it is cut up. Its quality is more like a continuous discussion. Who would discard a brocade robe and take a patched one?

Moreover, take the Six Classics...they are all remarkable for their style and grammar, and all these ancient texts are equally outstanding. They are like several robes of woven brocade. Their patterns and are each exceptional, yet each emerges from loom and shuttle. The beauty of these brocades lies in their texture. The patterns are varied, but they are all woven according to rule.

A beautiful brocade is the product of a skilful weaver. Because of the rules, texture is even and design and colours match, embroidered patterns alternate from place to place, nothing is impossible. Here loom and shuttle may be worked at will, patterns are in place because *jōri* is not disturbed....

Bunri runs throughout because there is order and pointfulness. Compositions have *ri*, just as the human body has veins. If we did not have veins we could not use our arms and legs, we should be called withered or deformed, we could not be called human. If a literary pattern has no *ri*, how could it form a pattern and be understood?

It is said: words have style and meaning. I say further, there is *ri* in prose. Good writing is the craft of the weaver. It employs ancient rules to create with shuttle and

loom. Bad writing is sewing that anyone can do by patching together. If one were to try to make a single brocade robe by patching together hundreds of pieces of brocade, however skilfully they are sewn together, could it equal a piece newly woven from the shuttle? It could not, because it would have no *ri*....

We live in the present time and cannot go back to ancient times...The only way to reach the ancients is through study....If people should make literary works as those rag robes were made, how could we be content to call it literature? [Chapter 2]

Bunron Chapter 4, p.10:

Sentences are put together to make chapters. Chapters may be long or short, but a single meaning must run through; with no gaps in the discourse and no surplus words....

Chapters are put together to make books. Their import lies in the way they are connected together. We must take care to do this properly. No matter how many folds and turns there are, *jōri* is not disturbed. A single meaning runs through, and there are no gaps.

This is like a human body. No matter that there are joints, bends and folds, the veins are not disturbed. A single *ki* runs through, and there are no obstructions. This is the rule of books. The writings of the ancients are all so.

Whether or not Shundai's application of the robe model to literary prose was his own idea, the example of the manufacture and materials of Buddhist kasaya was not. Shundai has not selected any artefact at hand for his simile, but one that was already a part of the scholastic pool. No doubt Dōgen was not the last Buddhist writer to use the symbolism, but the more commonly it is found the more reason there would be to suppose that Shundai's appropriation of the robe model was deliberate. To Shundai's rhetorical question, "Who would discard a woven brocade robe to take a patched one?", Dōgen's answer would have been that the patches of a pamsula, being thoroughly cleansed of foulness by specified methods, are the finest and cleanest materials for making a robe, because they symbolise the purity of the ascetic life, the pure life according to the Law. The medley of materials in a pamsula is also symbolic, the robe is not to be describable as made of silk, cotton, or any other fabric; the range of possible materials, even more numerous in Shundai's list, conveys the wide compass of the Law.

(It should be noted that in Dōgen's and Shundai's texts, the character "*hō*", 法, here properly translated as "Law", is elsewhere in the passage better translated as "method" (of making robes and washing cloth etc.), and as "rules" (for written composition, grammar, etc), so that the use of "*hō*", "law-method-rule" ties the texts together in a way which is lost in English translation.)

Shundai tells us here that a good literary work must be structured, by "*jōri*", as though linked by a continuous thread, as in the ancient classical texts. Baien refers to Shundai, among others,

when he discusses reading methods in *Baien Dokuhō* [*Zenshū* II 327]. Iwami Teruhiko [1984] has pointed out the significance of the fact that *Bunron* is included in Baien's reading notes for 1755 when he was writing the last of the versions under the title "*Suirinji*" ("the Angler"). Soon after, in the twelfth version of *Gengo* and under that final title, both the word "*jōri*" and the brocade model appear for the first time. The word "*jōri*" is also used by Shundai in what seems to be an original way. There can be no doubt that Baien read the passages from *Bunron*, and thought about them.

Surely Shundai knew very well the symbolic meaning of the *pamsula*, but with his commitment to the Classics and Confucianism we could not expect him to be sympathetic to Buddhism. Shundai does not think that his readers should revere or bow to Buddhist symbols, instead they are urged to turn their attention to following the way of the ancient Chinese classics. His failure to acknowledge the symbolism of the patched robes is rejection by non-mention, as when people make very definite comments by the way they say "No comment".

Baien's use of Shundai's model of the brocade robe, and of the term "*jōri*", might also be seen as a kind of rejection by non-mention. Neither the term nor the model are found in the corpus of ancient Chinese learning that Baien shared with his contemporary readers and pupils. Although it was Baien's explicit policy not to refer to other writers in *Gengo* (excluding the *Preface* and other expositions), there is every reason to believe that many of his readers, including the person who quite recently had recommended, given or lent him a copy of *Bunron*, would know that Baien had borrowed the model and the term from there. Shundai was a writer whose views Baien believed to be contrary to his own, and the unmentioned contrast in Baien's case would be between taking heaven and earth as the teacher and taking the ancient sages as the ultimate authority. Baien's brocade tells us not how to imitate the ancient style, but how to look at heaven and earth. It emphasises Baien's claim that *Gengo*, a philosophical text whose design reflects the *jōri* system of nature that it outlines, is not structured according to ancient classical tradition, but in a quite radically different way, by the *jōri* system of heaven and earth itself. We should not revere or bow to the ancient classics:

When it comes to seeing heaven and earth with insight, some people have been called "sages" or "buddhas", but because they were nothing other than human beings, their place is in the long line of companions in our continuing discussion. Heaven and earth is the teacher....

Because heaven-and-earth is immeasurably vast, there is nothing that it does not contain, and because there is nothing that it does not contain, seeing heaven-and-earth with insight is not confined to any school.

Once someone came to me and said "I have already absorbed heaven-and-earth". I replied "Heaven and earth is so vast that if you have absorbed it, how many millions of people who have also absorbed heaven-and-earth you must have inside you!", and he laughed... However exceptional or superior a person may be, he still stands and moves within heaven and earth. [*Reply to Taga Zenshū* II 88,89]

It is plausible that by echoing Shundai's model, Baien is urging his readers to turn their attention away from the ancient classics to the natural universe of which mankind is a very small part.

A credo attributed to the Confucian movement to which Shundai belonged, and which Baien insistently disowned, could not be more succinctly expressed than the following quotations that Herman Ooms has selected from two of its most celebrated exponents [1985 194]:

The books written by the Sages are complete: they have nothing left unsaid.
(Yamazaki Ansai, 1618-1682)

The teachings of the Sages are complete. That which the Sages did not express does not need expressing. (Ōgyū Sorai, 1666-1728)

Mencius says: "The ten thousand things are complete within us", but this occurs in a passage on human virtues rather than natural phenomena. [Mencius VII A, 4] It is certainly not clear what either Mencius, or Sorai meant by the statements quoted above. The interpretation of Sorai's attitude will be touched on again in Chapter 9.1.

The comments on Baien's and Shundai's "rejection by non-mention" should be qualified with the observation that it was a practice in Sino-Japanese tradition to draw on a common pool of literary references, imagery and tales to exemplify one's own ideas. Therefore we should not take every case of diverting an image or tale from its original purpose as implying criticism by contrast. Running imagery within a text is a common literary device, as is imagery that runs through different works of the same writer. The interesting phenomenon here is imagery that runs purposefully through works of different writers. This too may well be found in the literatures of other languages and peoples. In the Sino-Japanese case it is facilitated by the corpus of classical texts that persisted at the core of the education system.

The rag robes have no role in *Gengo*, but the features of woven brocade, so clearly delineated by Shundai's comparison of weaving with sewing up patches, are a gift to Baien as a model of the universe with: the seamlessness of the woven piece; its unity; its intricate composition; warp and woof as metaphors for time and space; and its two sides, which are parts but not pieces of the whole, one side a strange world of interlaced coloured threads whose *ri* are concealed, the other side the vivid and lively world we know, mythical creatures notwithstanding, in which the natural order stands out distinctly.

"ri" 理

Shundai uses the character "ri" alone, and also in the compounds "jōri" and "bunri". For him *jōri* is that elusive but essential single line of thought, like the trunk of a tree, that unites the chapters into one book, no matter how much they branch from it. Nothing is to be countenanced that does not stem from the trunk, or essence of the book, or nothing that is extraneous to the pattern of a skilfully woven robe of brocade.

Books and robes are human artefacts. A main part of Baien's thesis is that the universe is ordered by *jōri*, but without human intervention. Again his departure from the ancient classics is emphasised by the deliberate appropriation of terminology from *Bunron*. In Chapter IV Shundai says that the structure of books is like the structure of the human body, in that all else depends on the veins and arteries in which *ki* (in blood, air, etc) circulates. Baien, however, does not say *ri* are like the veins and arteries, but rather that the veins and arteries are these *ri*, whether we apprehend them or not. (As mentioned earlier, *ri* as an all embracing principle or complex of principles has been replaced in Baien's system by *jōri*, and *ri* are merely straight lines, important, but just one aspect of the physical world [see Chapter 1.1]).

Even Shimada seems to have overlooked a difference between "like" and "are like" when he interprets "strangers are also parents" as "strangers are also like parents" [NST 68,7 and 400,1]. Baien means that we cannot begin to understand *jōri* if we take a self-oriented perspective. Strangers may be some~~e~~one's parents even though they are not our parents. The difference between "are" and "are like" here would not matter in many contexts, but it is important for Baien who works hard to persuade us that he is talking about real features of the universe.

"bun (mon)" 文 : pattern

On the topic of the relation between *Bunron* and *Gengo*, it is worth mentioning another semantic nuance that is lost in English translation and which lends itself to metaphors for the structure of the universe. The "bun" of Shundai's "bunri", which he uses to mean order in prose, is the character, "bun", "literature", alternatively read as "mon", "pattern". Baien does not use "bunri", but in the 12th version of *Gengo*, the topic under which the brocade model and the word "jōri" make their first appearance is "bunshō", most commonly used as "sentences" or "prose" [Iwami 1984]. (Something of the meaning of "bunri", "patterned prose" is retained if it is translated as "composition", narrower in meaning, but similarly extended.)

The following observation from Angus Graham is particularly pertinent to the translation of "bun":

Certainly no serious reader of Chinese philosophy can forget that his capacity to clarify in English never catches up with his understanding of the original, and that in analysing he always has to uncover metaphorical roots not only of the Chinese terms but of the English that he uses to explain them. [1989 323]

To make a similar point, Hall and Ames quote J.L. Austin on this same topic "a word never - well, hardly ever - shakes off its etymology and formation. In spite of all changes in and extensions of and additions to its meaning, and indeed pervading and governing these, there will persist the old idea. (Phil. Papers, p.149)" [1987 41]. Michael Martin takes issue with the suggestion that this "old idea" is accessible, especially accessible to the Western interpreter of Chinese words, "and clear and rich enough to use in an interpretation" [1990 496]. Many a

translator will empathise with Graham's remarks, but not if we take "roots" in the above quotation as referring to the result of etymological research into the distant past of a word.

"Roots", itself a metaphor, needs to refer to something more like the roots of a branching tree of meanings, which is only incidentally of historical significance. In the translation of words like "*hō*" (law), "*ri*" (principle) and "*bun*" (literature), whereas a Chinese term and an English term might coincide in one branch of their meanings, they frequently stem from different trees, trees whose branches have sometimes, but not always, grown out from the base by metaphor. In this sense the need to uncover "metaphorical roots" is keenly felt when it comes to reading the Chinese and Japanese texts that form an essential background to Baien's work. Nevertheless it must be noted that in the case of the *Gengo* text, with its unique lexicon, the particular difficulties to which Graham refers are less severe than usual, and a search for roots outside the context may sometimes mislead rather than enlighten. The difficulties of providing historical notes for *Gengo* terms are discussed briefly in the Introduction to Chapter 9.

His unique lexicon notwithstanding, Baien's prose was not immune from the influence of traditional metaphors. "*Bunri*" as composition in the general sense, or more precisely, patterned composition, occurs in the Chinese Neo-Confucian texts that are said to have had the most direct influence on Baien's cosmology. Joseph Needham quotes a passage from Cheng Ssu-hsiao (d.1332), which could be passed off as an excerpt from *Genkiron*, in which "*bunri*" is used in the sense of "organisation". The following are a few typical lines from that passage:

Ordinary people, not being able to see the veins and vessels which are disposed in order within the body of man, think that it is no more than a lump of solid flesh. Likewise, not being able to see the veins and vessels which are disposed in order under the ground, they think that the earth is just a (homogeneous) mass. They do not realise that heaven, earth, human beings, and natural things, all have their dispositions and organisations [*bunri*]. [Needham III 25 650]

The image of the veins of the human body used by both Shundai and Baien is, like the patterned robe, another conventional image. Four hundred years after Cheng, not long after in comparison with the antiquity of the Chinese classics, Baien too claims that the pattern is there in nature to be discovered.

Incidentally, we might see Cheng Ssu-hsiao as part of the stream of "philosophy of *ki*". Shimada sees Baien as of this stream, and describes his system as the "culmination of late Confucian style natural philosophy." [NST 671] The role of *ki* in Baien's system, and his transformation of previous ideas of *ki* will be discussed further in Chapter 8. Although I believe that Baien's philosophical material is more eclectic than Shimada suggests, there is no doubt that some such stream flows vigorously into it.

Summary of Chapter 2

1. To understand what Baien wants us to learn from his models we must look carefully at the surrounding text. The model of the woven brocade has a much more general application to the *jōri* of the universe than the models of drawing a brush stroke, or of two people gazing at one another from opposite banks of a river. An intelligible interpretation of the brush-stroke example tells us to take objects in Baien's system as dynamic. Hence the brocade robe too is to be seen as dynamic, constantly being woven, rather than only as a static finished product. The model of the river bank gazers is difficult to interpret, but repays a closer examination.

2. By drawing diagrams that Baien did not draw, or even by imposing our own mental imagery, we run the danger of adding ideas to Baien's. The model of the river bank gazers is sometimes interpreted too widely by commentators. The message from it is not the simple one that the pattern of nature is symmetrical.

Downward branching tree diagrams may mislead in several ways, especially when they suggest a hierarchy of being. Baien does not put forward the idea of levels of existence, in his theory all real things are equally real.

3. Baien took both the model of the brocade and the term "*jōri*" from Dazai Shundai's *Bunron*. Shundai's use of the robe model derives either from Dōgen or from some source connecting with Dōgen. All three use the model to make completely different points, and in so doing Baien and Shundai convey an implicit rejection of the previous use. Neither Dōgen nor Shundai use the brocade model as a model of the natural universe. Shundai's message is that scholars should copy the ancient sages, but Baien repeatedly insists that the sages were only men, and that we should follow no-one, but look at what we find before our eyes and reflect on it ourselves.

The term "*bun/mon*" has a significant network of meanings that are not easy to convey in English translation.

In their use of "*ri*", both Shundai and Baien refer to the structure of the human body.

Chapter 3: THE *JŌRI* LEXICON

By turning and folding voice and sound, objects and events are formed into shape by that which is without shape. This is called language. [Volume of the Small, NST 533,31]

In 1962, Taguchi Masaharu, one of the leading "rediscoverers" of Baien's system of nature, wrote an article with the express purpose of answering the general complaint that *Gengo* is too difficult to understand because of its terminology. As Taguchi says, if the two-character compounds are extracted from their surrounding text one at a time they are virtually meaningless. This is because their meaning differs according to the part of the text in which they are used. Taguchi stresses the importance of the *Gengo Preface*, and his brief explanation in that paper consists largely of one or two quotations from it. [1962 55] A translation of the *Preface* is given here in the *Appendix*, but the methods by which Baien coins his terminology repay further examination.

In this chapter I shall describe how Baien constructs his lexicon, with the particular purpose of measuring the extent to which he uses features of natural language. We shall look firstly at his coming of two-character compounds. Next, we shall look at how each of the two characters may move independently to pair with other terms ("the *jōri* shift"). Then we shall examine shifts in the application of these compounds as whole pairs, which involves the notion of "realms". Lastly we shall consider the relation of pairs of relative terms in ordinary language to "the *jōri* shift" and the "whole pair shift", by an analysis of a passage towards the beginning of the *Gengo Preface*.

Introduction

Jōri is not a theory of language. In Chapter 2 I have said that *jōri* is better described as a complex system of nature rather than as a simple single principle. In terms of his own model, Baien is working to discover what the brocade robe is like when it is folded and unfolded, turned inside out, what it would be like unraveled, how the threads are woven, to investigate the colours and shapes of the birds and creatures on it, and the background from which they stand out. As the discussion continues, the *jōri* system will be more appropriately described as a complex of systems, which share only the features that they are all equally real, and all accessible through a manipulation of language.

Jōri is the way of nature, in other words, the theory of *jōri* is a theory of how the world is, independently of language. Although the theory of *jōri* is not a theory of language, some theory of language is required to express it. Once *jōri* was properly under way, hundreds of *jōri* pairs were teased out of the fabric of the universe, and each member of every pair required a name, a demand that could not be met by ordinary language, nor even by traditional philosophical terminology. Baien creates a lexicon on the basis of *jōri* opposition. In this process, he uses a device which I have called the "*jōri* shift", and another less well defined device, "the whole pair shift", to generate terminology.

3.1 pairs of *jōri* terms

Baien makes use of mechanisms of natural language, but because *jōri* language is contrived, we should expect to find few, if any, exact parallels in natural language. The following are some of the relevant features of Japanese (and Chinese) natural language that Baien borrows to create *jōri* pairs. Some English analogues are given, but these are at best approximate, surface differences in the languages prevent one-to-one correspondence.

1. The Japanese (and Chinese) correlates of most English nouns, and many verbs and adjectives, are compounds of two characters, each of which already has lexical significance.

Japanese "*tabi*", (foot-bag [Japanese sock]), "*kamikaze*" (god-wind), "*karate*" (empty-hand), "*ikebana*" (living-flowers), and "*kimono*" (wearing-thing) are all such compounds. Although it is not nearly such a dominant feature, there are similar examples in English: "breadboard", "stairwell", "lampshade", "newspaper", "lifebelt", "lighthouse", "nextdoor", "sundial", "earthquake", "railway", "motorcar".

2. In many cases, knowing the sense of the individual characters would enable one to guess the sense of the compound.

Two examples are "*origami*" (folding paper) and "*jishin*" (earthquake [earth shake]). The four characters, "*ka*" (fire), "*san*" (mountain), "*fun*" (gush) and "*sui*" (water), yield "*kazan*" (volcano), "*funka*" (eruption), "*fun sui*" (fountain), and "*sansui*" (landscape [paintings]), not to mention "*suika*" (fire and water [water fire]). The meanings of "lighthouse", "stairwell", "lampshade" might also be guessed in this way.

3. Conversely, from meeting the same character in different compounds it would sometimes be possible to learn the sense of that character in isolation.

"Railway" and "motorway" might well be a child's introduction to "rail", "motor" or "way". "Breadboard", "blackboard" and "skateboard" might lead a foreign English learner to the meaning of "board". Examples of this in English are common with prefixes derived from Greek or Latin. It would be possible to catch on to the meaning of "tele" and "mega" by considering together "television", "telephone", "megaphone" and "megastar".

4. The Japanese compounds that most resemble *jōri* compounds are a small sub-group which are balanced, as opposites or complements of one kind or another. Such compounds are very rare in English, but we might highlight those balanced compounds by first contrasting them with other Japanese compounds that are unbalanced, such as: "*daikon*" (large-root, [radish]), "*shosetsu*" (small-story [novel]), "*koimu*" (little-dog [puppy]) and "*taiyō*" (great-yang [sun]). These compounds are weighted towards the second member. A similar imbalance in English enables us to refer to a breadboard, stairwell or lampshade as "the board", "the well" or "the

shade", but not as "the bread", "the stair" or "the lamp". In other cases the weighting may be towards the first member: "*kuchu*" (void-midst [space]), "*kiiro*" (yellow-colour [yellow]), "*mokuzai*" (tree-material [timber]), "*kinzoku*" (metal-kind [metal]), "*kimono*" (wearing-thing), "*kaji*" (fire-happening [a fire, conflagration]). The English "warfare" "marshland" and "gorsebush" are similar, and context will often allow "raindrops" and "rainfall" to be replaced by "rain". Insofar as the English examples are analogous at all, we should expect them to be far fewer than the Japanese cases, because predominance of two-character words in Japanese favours the addition of a second element for stylistic consistency or euphony, even when a single character might have sufficed to convey the meaning.

Although the balanced pairs are a small sub-group, they are a very distinctive feature of Japanese or Chinese. Examples such as "*oyako*" (parent-child [chicken and egg dish]), "*danjo*" (men [and] women) and "*deiri*" (going out-coming in [entrance or exit, access], might all occur in the same restaurant. Some whose meaning is less immediately obvious are: "shadow-echo" (*eikyō*) for effect; "spearhead-shield" (*mujun*), for contradiction: east-west (*tōzai*) for miscellany. "Pianoforte" (soft-loud) is a rare European example, and a conjectural derivation of "see-saw" could also make another example, with the contrast lying in the tense of the elements (what you see when you are up is what you saw when you are down). The title of the television series "Upstairs Downstairs", meaning the servants and their employing family, has the makings of another such compound. But we usually use "and" instead of compounds: "black and white movie", "jumping up and down", "searching high and low", "toing and froing".

Among the Japanese and Chinese compounds there are many composed of the two extremes of a scale: "high-low" for height, "difficult-easy" for degree of difficulty, or "large-small" for size, and these may be coined at will. Translators know this last device as a frequent source of frustration in that although the meaning of the word is often crystal clear, it may require several English words to convey.

The meaning of a *jōri* term may depart considerably from the established meaning of a word or character. In one kind of case this departure is very noticeable. In natural Japanese there are many compounds whose separate members are more or less synonymous, or in which one does not add anything to the fuller meaning of the other: "*remma*" (disciplined exercise, training), where both "*ren*" and "*ma*" have the same meanings, "*hōgō*" (protect [preserve-protect]), "*kūki*" (air [sky-air]) and "*fukin*" (neighbourhood [adjacent-near]). This sort of pairing is most likely for stylistic, rather than semantic reasons. On the other hand, when Baien uses pairs which are virtually synonymous in ordinary language, he compels us to see them as opposites or complements of some kind. In "*ten-un*", "*hon-kon*", and "*hantai*" which I translate, under duress, as "turning and revolving", "trunk and root" and "opposition and contrast", there is no significant difference between the ordinary meanings of "*ten*" and "*un*", or "*hon*" and "*kon*" or "*han*" and "*tai*"; but as *jōri* pairs they are explicit contrasts.

Baien uses balanced compounds, like those loosely described in the 4th group. However, as we shall see in 3.2, a distinctive feature of Baien's terminology is that the members of the

complementary pairs are also used separately, their meanings stipulated precisely by their role in the union.

To illustrate my account so far, we could take the supposed history of English "motorcar" as loosely analogous. To find a new word for a new thing, a compound was formed from the two different words "motor" and "car". Once "motorcar" became familiar as a unit, a separation of "motor" and "car" occurred in which their meanings were not the old ones from before the age of motorcars, but meanings derived from their union, namely, the verb "to motor", and the noun "car" whose most common usages nowadays did not exist before the motorcar was invented.

Like *jōri* terms, the separate meanings of "motor" and "car" are derived from the compound. But unlike *jōri* terms, whose reference is precisely stipulated by the opposition or complementarity of some pair, "motor" and "car" have each gone their own ways: "motor", often superseded by "drive", is already old-fashioned, and "car" usually replaces "motorcar" itself.

3.2 the *jōri* shift

Once *jōri* terms are thus defined, the "*jōri* shift" comes in to play. One or both^{of} the terms of a pair may be paired with other terms. In this case the meaning of a term will necessarily shift to the reference derived from its relation to the new partner.

In her study of Shao Yung, Ann Birdwhistell has coined a term "hemilog" for the compounds that Shao had coined. But they differ radically from Baien's compounds on just the point that Baien's terms may be used in other compounds. She says:

A hemilog has certain characteristics. It is a two-part concept, and the meaning of each part is determined by their mutual relationship.... Each hemilog forms a whole, and one of the parts cannot form a pair with a member from another hemilog. [1989 60]

The parts of Baien's compounds can and often do pair with members of other compounds. The result of this is that when a term is used separately, one cannot determine its reference without knowing which other term it is paired with in that particular context.

A similar case in English would be the sentence "The smugglers motored over to the headland", which is not understood until one is told whether "motor" derives from "motorboat" or "motorcar". Likewise, the sentence "Mother sat in the car drinking champagne" requires us to know whether "car" refers to "motorcar" or "dining-car".

"Body" is a *Gengo* example. Two of its several uses are "body" of the pair <body and nature>, and "body" of the pair <body and shape>.

i) In <body and nature>, "body" conveys that which a nature is the nature of. The pair, <body and nature>, is a difficult pair to grasp. Out of context, lines such as the following convey little except that <body and nature> is a *jōri* pair:

In "heaven and earth" ... nature is invisible and body is visible. In "heaven and spirit" ... body is invisible and nature is visible. [Volume of Heaven, NST 406,37]

ii) But Baien spells out <body and shape> very clearly:

If it is round and hollow one can boil water in it, if it is solid and sharp it can be used as a spear. It may be the same lump of iron, but its use differs according to its shape. On the other hand, even though a thing should be round and hollow, if it is made of wood it may hold water, but it cannot be put on the fire, and even though a thing should be solid and sharp, if it is made of clay it may be used as a target, but not as a weapon. The shapes are the same as before, but their use differs with the bodies. [Volume of Earth, NST 447,9]

A lump of iron is a body, whose shape, and hence employment, differs according to whether it is made into a kettle or into a spear. These would be useless artefacts if the body were a lump of wood instead, even should they retain those same shapes.

The meaning of "body" shifts in the two cases. In one, "body" is that which a nature is the nature of, and that which must have a nature. In the other, "body" is that which a shape is the shape of, and which must have a shape.

"Body" occurs in other pairs, for example:

iii) <body and function>

All things divest from heaven and earth, which endows them with body and function. [Volume of the Small NST 490 2]

Phantoms and spirits are the function of objects, they are not the bodies of objects. Heaven and earth are the bodies of objects, they are not *ki*. [Volume of the Small, NST 495,30]

The realm of body consists of the bodies of heaven and earth, light and humidity. The realm of nature consists of the functions colour and *ki*, nature and capacity. [Preface App. VI]

"Body and function" is an old pair from the Neo-Confucian tradition. But whatever meaning it has there, for Baien it conveys contrasting aspects of objects, how they function in time, and how they occupy space.

iv) <body and *ki*> contrasts the spatial relations of bodies with the temporal relations of events, which are the operations of dynamic *ki*.

Touch is the coming and going of body, change is the coming and going of *ki*. [Volume of Heaven, NST 404,31]

v) <body and motive power>

If one looks at this from the point of view of division, motive power is moving and still, body is hollow or substantial. [Volume of Earth NST 452,39]

vi) <body and position>

Up and down determine position, hollow and substantial distinguish bodies. [Volume of Earth, NST 455,37]

It is crucial to understand that there is no parent term from which all these uses of "body" derive. However, it should not be overlooked that there is some semantic connection between them. The connection is elusive but by no means arbitrary, a "shift" in meaning, not a fresh start.

"Turning", the "ten" of the virtually synonymous terms "ten-un" mentioned earlier, is another term which shifts:

Turning is contrasted with holding within the realm of the manifest, "turning westwards" and "turning eastwards" are both "turning"; when "turning" is contrasted with "revolving", "revolving" is applied to images, and "turning" to *ki*. Within the realm of the concealed, day, night, winter and summer, "turn"; past, present, beginning and end "revolve". [Preface 8]

(Although the terms "ten" and "un" appear as synonyms for "turn", "un" may also be translated as "convey". It is possible that in his elaborate astronomical theory the contrast was between turning and being turned. I do not understand that theory.)

Of "spirit" he says:

When I use "spirit" there are heaven and spirit, essence and spirit, spirit and object, soul and spirit, phantom and spirit, spirit and man, sagacity and spirit, and so on. [Preface 8]

"Object" is paired with *ki*, nature, spirit, event, or man. (Insofar as the two are carefully distinguished, we can say more tentatively that "object" is paired with "body".)

The word "*ki*" is the old Chinese "ch'i", that has ranged in meaning from air or ether to "material force". In *Genkiron*, which was written before the introduction of the term "*jōri*" and the systematic style of the final version, Baien comments on the different uses that the word "*ki*" has had, and adds, "and it does not have the same meaning throughout this book" ["Void", *Zenshū* I 742]. The reader is left to infer that Baien is relying on context to convey his own array of meanings.

By the final version of *Gengo* this sort of meaning shift has developed into a clearly stated policy. He says in the Preface:

When I use the word "*ki*" there are the kinds: *ki* and object, *ki* and body, *ki* and shape, *ki* and matter, *ki* and image, heaven and *ki*, mind and *ki*, *ki* and colour"... When I use "heaven", there are the kinds: heaven and earth, heaven and spirit, heaven and object, heaven and man, heaven and destiny, and so on.... If we did not rely on the pair we might mistake the subject. [Section 8]

Not every term in the *jōri* pairs takes part in a *jōri* shift. Baien has no policy which dictates which terms might be subject to the *jōri* shift and which not. There is no shift in "yin" or "yang", "warp" or "woof", "dynamic flux" or "chaotic content", all of them also pervasive and fundamental terms; and, for different reasons in each case, we do not expect a shift with these pairs. However, "heaven and earth" is a fundamental pervasive pair, the two chapters of *Gengo Honsō* (Core Text) are called "Yin and Yang" and "Heaven and Earth". Yet "heaven" has many shifts, and "earth" as a single term has none. None of the terms of the only slightly

less pervasive pairs <fine and coarse> or <hollow and substantial> are subject to the shift. Nor, understandably, are most terms as specific as those in <man and woman> or <land animals and water animals>.

natural shifts

When we have gone some distance towards mastering the *jōri* system, we should see it is as significant not that Baien is difficult to follow, as indeed he often is, but that we, especially we native English speakers, do understand him. The native English reader of *Gengo* will eventually catch on to his terminological method, even without the examples in the Preface. It is plausible that this would be so regardless of what our native language should be.

The prevalence of two character compounds in the Chinese and Japanese languages means that one sometimes has to decide whether to interpret a compound word as a *jōri* pair, or whether Baien is using natural language. For example, he uses "*dōtoku*", which often means "ethics", for the pair "way and power" ("*dō*" and "*toku*"). Even if we were to express the whole *jōri* system in English, not by the form "<A and B>", but as compound words, "AB" - heaven-earth, manifest-concealed, way-power, these compounds would rarely, if ever, coincide with an established English compound. In this respect there is a fundamental difference in the two languages.

It is all the more significant, therefore, that shifts of meaning similar to the *jōri* shift can and do occur in English. From an examination of this we conclude that some features of the *jōri* shift are features of natural language in general.

We might take the very word "English" itself. A New Zealander in Berlin may feel or seem very "English", as opposed to "Continental"; the same New Zealander in England may be very "Antipodean" as opposed to "English". She may seem English in Japan, as opposed to American, but in Wellington, confronted with English visitors, may seem or feel very New Zealand. The case of the word "English" might be represented by the following table:

PLACE	NEW ZEALANDER	CONTRAST
1. Berlin	<u>English</u>	Continental
2. London	Antipodean	<u>English</u>
3. Tokyo	<u>English</u>	American
4. Wellington	New Zealand	<u>English</u>

The lefthand members of the pairs apply to a New Zealander. "English" applies or not to her according to her location.

Such shifts in meaning are perfectly comprehensible. Some may even be found in dictionaries. For instance, the implicit contrast of "fruit" and "vegetable" distinguishes both these words from their other uses. There is "man" as in "man and beast" or "man and woman", a contrast enviably absent from Latin and Japanese. "Soft", in both "soft and hard" and "soft and loud" might also be described as "shifting", rather than changing meaning altogether. These casual observations are no substitute for a close linguistic study, but the single point of interest here is that by some implicit contrast we can understand their usage without lexical aids. Although for Baien it was a great convenience to be able to select any pair of characters to form a new compound, the fundamental mechanisms of the *jōri* shift are not confined to Chinese. We do not need to be Chinese or Japanese speakers to understand it.

However, although the suggested shift in meaning of words like "English" shares something with the shift in meaning of *jōri* terms like "*ki*" or "body", none-the-less, the pair "English and Continental" could never be a *jōri* pair. As we shall see presently, there is another element in *jōri* terms that is not claimed for words in natural language; that is, they reflect nature to the extent that they name its features precisely. This element depends on Baien's theory of word-subject naming which will be discussed in Chapter 4.

3.3 whole pair shifts from realm to realm

Despite the different relations that members of *jōri* pairs might bear to one another, the *jōri* shift of members of pairs, such as the shifts of "*kā*" or "body", is sufficiently tight to be practical for us to work with. But there are also shifts in the meaning of whole pairs. <Heaven and earth> is a pair that shifts very frequently as a whole. Baien says in Reply to Taga:

Consider again that blue sky, like lapis lazuli, and those vast piles of rough stones and soil. This describes a very coarse heaven and earth. [Zenshū II 93]

<Heaven and earth> has many references besides earth and sky, and its most technical use is contrasted with the use of <yin and yang> as pure variables in Chapter 7.2. When it comes to shifts in meaning of whole pairs themselves, the system is more loosely stated. To explain the implicit principles behind this I need not only to introduce Baien's notion of "realms", but to use a similar term myself to describe his method. As what I say will apply to his realms also, I propose to keep his term and extend its range a little. Because "realm" is not itself a member of a *jōri* pair its usage is less tightly stipulated.

realms

A *jōri* pair, (sometimes expressed as the "one" which "opens" to give the two members of the pair), metaphorically marks out the boundary of a territory. Baien conveys this in several different ways: "man opens the boundaries of the small" [Preface 2]; "dwelling within motive power, dwelling within body" [NST 378,36]; "within the divisions of holding, within the divisions of image" [Preface 8]; "within the manifest, within small objects"; "inside hollow and substantial, inside number" [Preface 13]; "return to image, return to object" [Core Text NST 397 20]; "in the sphere of light, in the sphere of humidity" [Core Text NST 396 24]; "belonging to colour, belonging to nature" [Preface App. VI].

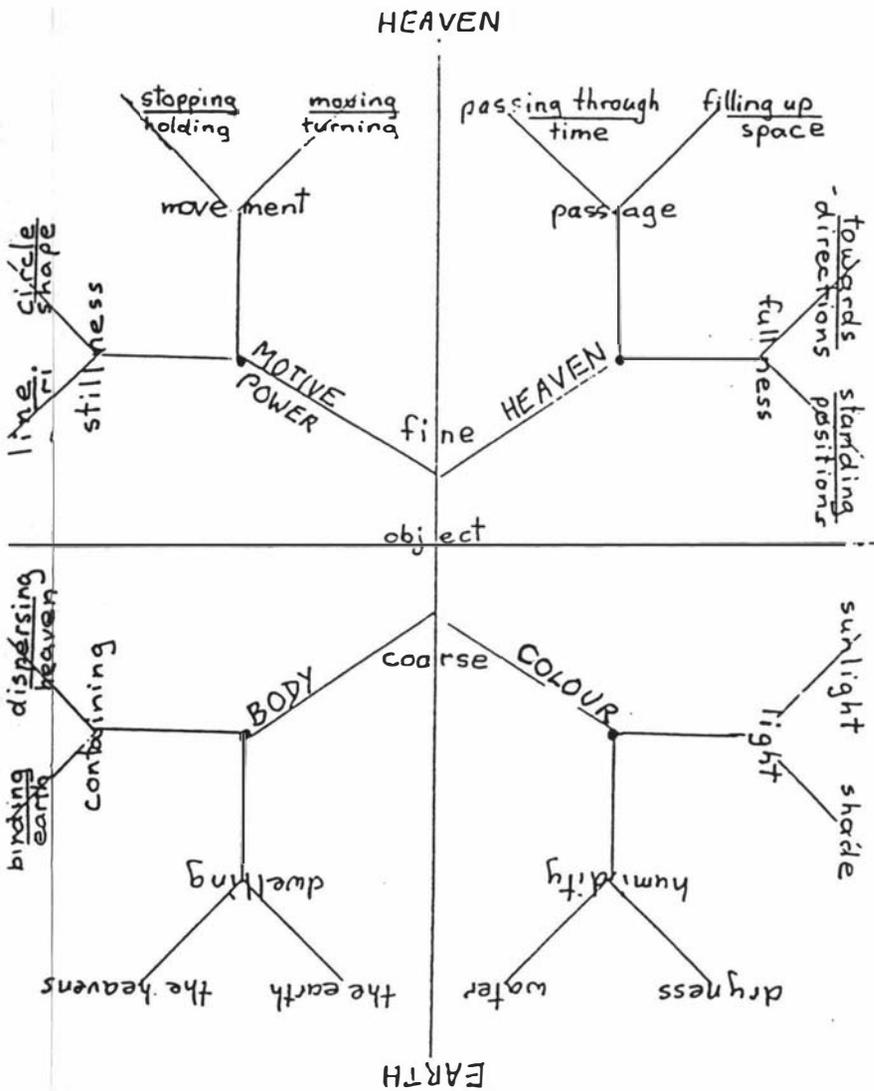
But the dominant term in this connection is "realm" (*kai*, 界), when he speaks of "Four Realms" in the text or in diagrams.. There are at least four of these quartets, namely: "*kā*, object, nature and body" [NST 574 Fig. 69]; "heaven, motive power, body and colour" [NST 588 Fig.28; see p.49]; and at least two versions of "heaven, motive power, body and nature" [NST 580 Fig.88 and Reply to Taga Zenshū II 95].

I shall use "realm" to refer to any territory marked out by a *jōri* pair. Shimada uses "domain", (*ryōiki*) in the cases of <material and immaterial>, <hollow and substantial> and "number" [NST 26,3], but in English this might lead to confusion with the use of "domain" in predicate logic.

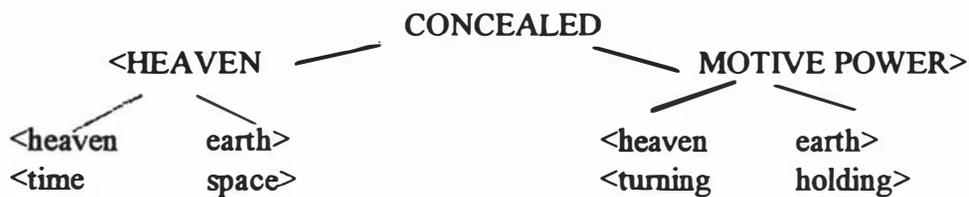
I shall illustrate the use of "realm" in this chapter with reference to two of these quartets, although the term will not always refer to parts of those structures. Diagram A is a translation of Baien's diagram of the four realms "heaven, motive power, body and colour", Diagram B is from a segment of his account of the four realms "heaven, motive power, body and nature". [See p.49 verso]

A: HEAVEN, MOTIVE POWER, BODY and COLOUR [NST 558]

四界圖



B: HEAVEN, MOTIVE POWER, [BODY and NATURE]



Motive power and heaven are concealed, and form heaven and earth, nature and body are manifest and form heaven and earth. Heaven is heaven and earth within the realm of space and time, motive power is heaven and earth within the realm of turning and holding. Heaven and motive power alone are not sufficient to manifest heaven and earth as objects. Body forms heaven as hollow and earth as substantial, nature forms heaven as fire and earth as water. Then heaven and earth are indeed manifest as objects. The object whose body is apparent is the house, and the manifest things dwell within it. [Reply to Taga Zenshū II 95]

Note: Diagram B shows the subdivisions of the CONCEALED; a similar sketch might be made for the MANIFEST. But we must remember not only that there are different versions of the Four Realms, but also that the pair <concealed and manifest> shifts constantly from realm to realm. Of "object" in <*ki* and object> he speaks of the concealment or manifestation of object.

Some points about my use of "realm" in regard to Baien's texts are the following:

1. A realm is indicated by uppercase letters when I wish to emphasise the point that a member of a pair is a realm.

2. "Realm" is extended beyond the "*kai*" of Baien's quartets to indicate any "territory" governed by the union of a *jōri* pair, and named according to the *jōri* term that names that union. In this sense a very narrow realm would be that of NUMBER, which governs <odd and even> in the system. In Diagram A, besides the four realms, HEAVEN, MOTIVE POWER, COLOUR AND BODY, STILLNESS is a realm governing <line and circle>. In Diagram B, CONCEALED is a realm, and so are HEAVEN and MOTIVE POWER.

3. In his more cosmological passages Baien frequently uses the term "sphere" (*ken* 圈), with its literal meaning. Insofar as these "spheres" are exactly the territory of a *jōri* pair, such as <light and humidity>, or <sun and shade>, they will also be referred to as "realms". In Diagram A, LIGHT and HUMIDITY might be called "realms" in this sense, but not <sun and shade> in that diagram, as they are not represented there as governing anything.

4. A *jōri* pair "applies in" a realm, but will sometimes be said to "apply to" another pair. When pairs apply to one another the correspondence of their separate members is fixed. For example, in Diagram B, of the two realms governed by the pair <heaven and motive power>, both <heaven and earth> and <time and space> belong in the realm of HEAVEN. Here heaven applies to time and earth applies to space. <Heaven and earth> is also found in the realm of MOTIVE POWER, but this time heaven applies to turning and earth to holding.

5. A "realm" may be part of another more encompassing realm. In Diagram A, <heaven and motive power> are in the realm of the FINE. <Line and circle> are not only in the realm of MOTIVE POWER, but also in the "realm" of STILLNESS; <light and humidity> are in the realm of COLOUR, and <sunlight and shade> in the realm (and incidentally the "sphere") of LIGHT.

[Note, I have intentionally avoided using "world" for "*kai*" here because of its spatial connotations, and also to avoid any suggestion of its use in possible world semantics. In favour of "realm", Baien's realms are "governed" by *jōri* terms.]

the whole pair shift

Many *jōri* pairs are found in more than one realm. Insofar as the same pair applies in different realms the meaning will be to that extent different. This meaning shift is what I call "the whole pair shift."

In Diagrams A and B, the only pair that undergoes a whole pair shift within the diagrams is <heaven and earth>.

In Diagram A, <heaven and earth> at its broadest is in the realm of OBJECT. It is also found in the realm of CONTAINING, and again in the realm of DWELLING. In each case the meaning of the pair changes as a whole, according to the realm it applies in, that is, according to the *jōri* term that governs it. In the realm of DWELLING the pair seems to mean "the blue sky" and the "piles of rough stones and soil", the "coarse " <heaven and earth> in the realm of BODY. The meanings of <heaven and earth> in the realm of CONTAINING, and in the wider realm of OBJECT involve extensive parts of Baien's own theory that cannot be expressed so briefly in ordinary language.

In Diagram B, <heaven and earth> is found in the realm of HEAVEN and in the realm of MOTIVE POWER.

The following words from the Preface concern what I shall now call "the whole pair shift".

If I take A: B, C and D all come in terms of their relation to A; if I take B: A, C and D all come in their relation to B. From C and D we move on to F, I and J, and so on. Hence when we are in the realm of motive power, heaven and earth are also seen in terms of motive power, when we are in the realm of body, heaven and earth are both bodies. [Section 3]

The <heaven and earth> that applies in the realm of MOTIVE POWER is not the <heaven and earth> that applies in the realm of BODY.

Many pairs besides <heaven and earth> are involved in whole pair shifts, and often in a less structured way than in the Four Realms diagrams. To name just some of them now, <*ki* and object>, <fine and coarse>, <hollow and substantial>, <line and circle> all change in meaning according to the realms in which they apply. <Line and circle>, to take a more obvious example, has a different meaning in the realm of TIME from its meaning in the realm of SPACE. [See Chapter 8.2]

Taking the whole Gengo text, and not some more precise section of it, we have the following situation: pairs <A>, and <C> might apply together in realm 1, and <C>, but not <A>, might apply in realm 2, only in realm 3, <A> and <C> but not in realm 4, none of them in realm 5, and so on, according to how the *jōri* of reality is unfolded. This may well be a more haphazard picture than Baien would have wished. He believed that the complete picture was beyond human capacity to paint, but probably also believed that if it were fully painted the haphazardness would dissolve into order (like a giant jigsaw puzzle, impossibly difficult, but with no pieces missing).

Given his realism, it would be unfair to charge him with logical laxity because of the piecemeal way in which his realms are unfolded. Empirical science proceeds in this piecemeal fashion. We would not discard either psychiatry or psycho-biology on the grounds that we cannot fit their findings together. Using the brocade robe metaphor in yet another way, to illustrate Baien's approach, we might say that the piece, already valuable and worth preservation, has been left incomplete. Because of a colour discord, the weaver did not finish it and she could not decide whether the discord might be resolved by eliminating either an emerald dragon, or a gold phoenix, or whether perhaps the addition of a scarlet tail on the phoenix between them might effect the resolution. Thread was expensive, and she could not afford to experiment. For Baien, it is possible that apparent discords in his description of the *jōri* system might be harmonised by a further discovery.

In view of the tight structure of *Gengo*, its non-linear form, and the twenty-three or more revisions of it, it is unlikely that any one of the versions of the Four Realms is a correction of the others. They do not seem to be alternative hypotheses either. Baien would most likely attribute any apparent untidiness to the meanness of human comprehension in the face of the vastness of the manifold. He does seem to have faith in an ultimate order, derived from his "discoveries" of small scale systems, (just as our schoolgirl in Chapter 1.3 had faith from the beginning that the square of any number n would be the sum of the first n odd numbers]).

pair shift and conventional meaning

In ordinary language the reference of pairs of terms such as "heat" and "cold" is fixed by two things, their relation to each other, and their application. On specific occasions hot water for bathing may be much cooler than hot water from a thermal spring, and in each case the reference of "cold" is fixed first according to the reference of "hot", and then according to the phenomenon to which the pair, "hot and cold" applies. The reference of any *jōri* term is likewise fixed both by the other member of its pair, and also by the application of the pair as a whole.

Nevertheless, to say that the only pairs that shift from realm to realm are pairs of relative terms would explain nothing, because in Baien's system they are relative just because they shift. It may be possible to treat all pairs of relative terms in ordinary language as subject to whole pair shifts, but the reverse does not hold.

Although they are Baien's terms, and he has the say as to which pairs are to shift, and to where, some natural semantic relation persists through all the shifts. When $\langle X \text{ and } Y \rangle$ is moved from one realm to another, we should always be able to see in the new application, which is X and which is Y; for example, which is fine and which is coarse, which is heaven and which is earth, as I have guessed in the sketch of the CONCEALED in Diagram B above. A moment's reflection will show that stipulating the usage of terms does not empty them of all the meaning they had in ordinary language. This is the case with most stipulative definitions. The stipulated medical and botanical definitions of "influenza" and "fruit" are closely related to their everyday meanings.

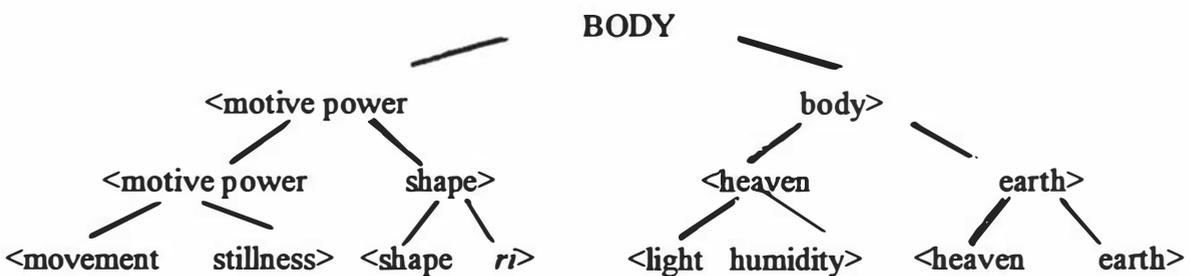
the irregularity of pair shifts

One way in which whole pairs shift from realm to realm is the simple pattern in Shimada's diagram of branching trees of yin and yang in Chapter 2.4. HEAVEN divides as <heaven and earth>, and EARTH divides as <heaven and earth>, and each "heaven" and "earth" of the subsumed pairs again opens as <heaven and earth>. It is possible that at some point Baien had hoped that all pair shifts would follow this path, but his realist commitment did not allow it. Things did not turn out that way in his analysis of nature.

It could be argued that in Diagram A above of the Four Realms, in which BODY divides as <containing and dwelling>, and CONTAINING and DWELLING both divide as <heaven and earth>, we should be able to deduce that in DWELLING, heaven applies to the sky and earth to the "rough globe", from the fact that in CONTAINING, heaven applies to dispersing and earth to binding, or vice versa. The grounds for this might be that, using Baien's metaphor of "twins from the same womb", that <heaven (sky) and earth (globe)> and <dispersing and binding> are doubly wedded as twins marrying twins, because heaven, the sky, is the dispersing of *ki*, and earth, the soil, is the binding of *ki*. But even if we were to concede that deduction is possible in this case, the pair shifts are seldom so balanced and systematic.

The application of pair to pair is irregular. If a complete and comprehensible pattern were within Baien's grasp, a perfectly regular system of terminology might have been possible. He may have hoped that a regularity would be apparent in an ideally successful exposure of the texture of reality, and have attributed his failure to uncover it as the human fallibility to which he so often refers. For Baien it is essential that the pairs do name real contrasts, which are discoverable.

The following segment from one of the less important Four Realms diagrams illustrates the irregularity of pair shifts [NST 580 Diagram 88].



Here, for instance, BODY opens as <heaven and earth>, EARTH again opens as <heaven and earth>, but HEAVEN opens as <light and humidity>.

3.4 Baien's use of relative terms

The reader of *Gengo* is expected to just catch on to both the *jōri* shift and the whole pair shift, we are not asked to begin reading from the beginning of the text, we may "turn the wheel from any point the hand touches it". In the Preface Baien helps us a little with some examples, in fact the title of the Preface, "*Reishi*", literally means "Examples". In the passage to be quoted below, the devices that I have called the "*jōri* shift" and the "whole pair shift from realm to realm" are both involved. The context shows he is talking about *jōri* terminology, and the "Best Sense Rule" that he is talking about the features of natural language that he is taking over for *jōri*. If these features were not natural, <word and subject> would not be a *jōri* pair; the *jōri* reality here is that though terms or words are invented, the relation between word and subject is discovered.

Although Baien's blocks of text are usually longer, I have divided the extract into three paragraphs:

- (1) When we compare the firefly with night it is "bright", but compared with a bonfire it is "dark". When fire is compared with night it is "bright", but compared with sunshine it is "dark".
- (2) When we speak of the distinction between "turning" and "holding", we say that turning is "*ki*" and holding is "matter". But within the divisions of the sphere of holding, the immaterial is "*ki*" and the material is "matter". When we speak of the distinction between "revolving" and "turning", the turning is "*ki*" and the revolving is "image". But when we classify within the sphere of image, stars and planets are "images", and shade is "*ki*". The moon is image, but it is also "matter". Water is matter, but it is also "*ki*".
- (3) A dog is "small" in relation to a cow, but in relation to a rat it is "large". The earthworm is "short" in comparison with the snake, but compared with a leech it is "long". There is no confusion when a house that is west of a house in the east is described as east of a house in the west. [Preface 8]

(1) In the first paragraph the "Best Sense Rule" suggests taking "bright and dark" as an example of a pair of relative terms in natural language. We are to guess the points to take from his example. We might do this by supposing "bright and dark" to be a *jōri* pair (<bright and dark> is one, in some narrow contexts), and playing a *jōri* game by applying it to other pairs in the passage, regardless of whether or not these are "true" pairs, that is, whether or not they correspond to real contrasts in the *jōri* system of nature.

	BRIGHT	DARK
1	<u>firefly</u>	night
2	bonfire	<u>firefly</u>
3	<u>fire</u>	night
4	sunshine	<u>fire</u>

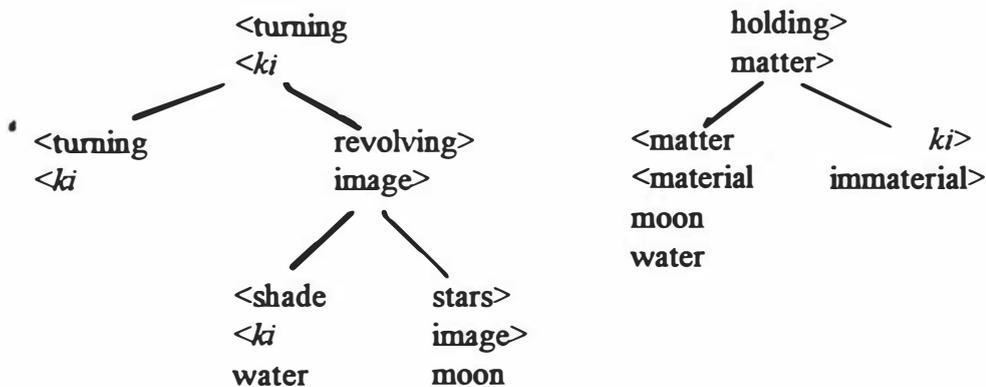
In our game, "bright and dark" applies as a pair in four realms. "Firefly", "fire", and "night" undergo *jōri* shifts by changes in the terms to which they are opposed. For true *jōri* examples we may pull the following from the *Gengo* text:

	< <i>ki</i>	object>
realm 1	<heaven	earth>
realm 2	<heaven	spirit>
realm 3	<spirit	essence>
realm 4	<spirit	object>

Here <*ki* and object> applies in four realms. In realm 1, *ki* applies to heaven and object to earth, but in realm 2, *ki* applies to heaven and object applies to spirit, and so on. Because "heaven" is defined in each occurrence according to its "opposite", there is a *jōri* shift in "heaven" here. There is also a shift in "spirit" and in "object" itself.

Without a character by character analysis of the whole *Gengo* text I could not guarantee that none of the above four realms coincide, but familiarity with the text renders it almost certain that some of them are distinct. [I have chosen four to match the "bright dark" list, and this has nothing to do with the "Four Realms" diagrams].

(2) In the second paragraph we find something rather different from "bright and dark" or the plain relative terms in paragraph (3), namely, the quasi-relative terms <*ki* and matter> and <*ki* and image>. If one is at all acquainted with *Gengo* it will be obvious that when <turning and holding> is applied to <*ki* and matter>, turning corresponds to *ki*, and holding to matter. HOLDING divides as <material and immaterial>, so that when the whole pair <*ki* and matter> shifts into the realm of HOLDING, it is clear which is material and which is immaterial. Taking care to avoid the hazards of tree diagrams discussed in Chapter 1, we might venture a sketch of the structure in this section of the passage:



(Bereft as it was of its ancient "opposite", the sun, Baien did find a new opposite for the moon, in the realm of YIN [NST 593 Diagram 128]. But as the term with which it is paired is part of an obscure astronomical theory it would be unwise to suggest an English translation.)

Water and moon belong in different divisions of the realm of IMAGE (of <ki and image>), but in the same subdivision of the realm of MATTER (of <matter and ki>). Moon and water are both instances of matter, but in the pairs <stars and shade> and <image and ki>, moon is an instance of star and of image, and water of shade and of ki. Water and moon are not a jōri pair, but this is not because the terms sometimes belong in different realms, and sometimes in the same realm.

(3) The third paragraph is the most difficult one to square with the *Gengo* text, and particularly with the paragraph that precedes it. We might rewrite (3) as follows:

Cow is to dog as dog is to rat. (in size)

Snake is to worm as worm is to leech. (in length)

Africa is to Australasia as Australasia is to America. (in direction)

But this is not how (2), the preceding paragraph, works. We cannot say, for example, that matter is to ki, or holding is to turning, as ki is to image, or turning is to revolving. Owing to the jōri shift, "ki" and "turning" have different references in each case. If there is a hint of the "as to" relation operating in (2), it is because of the strain of meaning that persists through the different occurrences of "ki" or "turning", a strain they share with the meaning of the words in ordinary Japanese.

But although Baien makes good use of the common strain of meaning in different occurrences of terms like "turning" and "ki", he does not define the terms in this way. "Turning" and "ki" are defined in two ways: always primarily by their relation to their partners within given jōri pairs; and when those pairs shift from realm to realm, also by those realms, that is, according to the other members of pairs to which they are applied in those realms.

There is no pair shift or jōri shift here in paragraph (3) where "rat", "dog" and "cow" are not jōri terms.

The differences between the *jōri* cases in paragraph (2) and the non-*jōri* examples in paragraph (3) are more striking than their similarity:

- a) the transitive relations of size, length and direction derive from the single terms "great(er than)", "long(er than)", and "west (of)";
- b) the relation between the terms of a *jōri* pair is opposition, which is intransitive; and most significantly,
- c) terms undergoing a *jōri* shift change meaning. For example, in <holding and turning> and <turning and revolving>, there are two different definitions of "turning", one as the complement of "holding", the other as the complement of "revolving". "Dog" does not change meaning. Neither does "long" undergo a "*jōri*" shift, insofar as it is always paired with "short".

To borrow other terminology, if we take the two pairs "cow and dog" and "dog and rat", in which each has the same transitive relation of being greater than, and order them accordingly, "dog" works as a logical "middle term". But "turning" in <holding and turning> and <turning and revolving> is not such a middle term. There is no transitive relation between any pair of the triple "holding", "turning" and "revolving".

For similar reasons, transitivity is ruled out in whole pair shifts. <*ki* and matter> opens as the two, <turning and revolving> and <*ki* and matter>. The first <*ki* and matter> has a different reference from the second <*ki* and matter> which applies to <immaterial and material>. Meaning also changes when the shift from realm to realm is not from division to sub-division. For example, <fine and coarse> applied to *ki* has little to do with <fine and coarse> applied to biological groupings.

Looking at (3) differently, *jōri* pairs may seem to involve transitivity. But this is a false trail. It is important to see why we are led along this trail, and why it is not an accurate presentation of Baien's intention. We can apply *jōri* pairs to pairs of instances that are not *jōri* pairs by taking the opposites as poles of a scale, and placing pairs of instances along that scale. We might look at <great and small> as a scale:

<great	small>
dog	rat
<u>cow</u>	<u>dog</u>
cow	rat

Transitivity allows us to place "cow and rat" on the scale as instances of the opposition <great and small>. The pair "great and small" does produce a shift in "dog" like the shifts of "firefly" and "fire" in paragraph (1) in virtue of the fact that "brighter than" is a transitive relation. In at least one passage <fine and coarse> is applied to <great and small> in a hierarchical way which produces a similar pattern.

A man is a coarse object and passes through coarse objects, but he is caught within the fine. Therefore we see trunk, root, sap and flower only in plants, and we may not see that animals are also endowed with trunk, root, sap and flower. But by merely seeing plants and animals as having trunk, root, sap and flower, we are not aware that these are taken from the great object. Because there is nothing that is not formed of *ki*, object, nature and body, there is nothing that is not endowed with trunk, root, sap and flower. The greatest things never leave out the small, the finest things never exclude the coarse. That is the power of the one. [Core Text, NST 391,9]

Admittedly, in this passage there is a transitivity which would allow us to deduce a relation between "the great object" (the universe) and "plants".

<fine	coarse>
<great	small>
plants and animals	plants
<u>the great object</u>	<u>plants and animals</u>
the great object	plants

But none of the three contrasting pairs on the list here is a *jōri* pair. <Fine and coarse> works like this here because it is applied to <great and small>. But in other contexts, such as that of "fine *ki* and coarse *ki*" which is illustrated by the water pot in Reply to Taga, the reference of <fine and coarse> is more subtle [Zenshū II 93; see Chapter 8.1].

We might be tempted also to apply particular things to other pairs such as <light and heavy>, <heat and cold> in this transitive way. Baien might appreciate transitivity as a logical relation, but for him it is nothing more.

Opposition, on the other hand, is not only a logical relation, it is a real feature of nature. Some people say that transitivity and other relations are also real, for example the "larger than" relation. [I would be inclined to say this.] Nevertheless, Baien regards opposition, or contrast, as unique in this respect. The scorn he pours on ancient theories in which directional relations are taken as absolutes suggests that he regards transitivity as a purely terminological matter.

Man is not forced to arrange things in terms of north, south, east, west, up and down. Without them he could not understand the working of the sun, with them he cannot penetrate the mystery of the One primal *ki*. [Genkiron "Heaven and Earth" Zenshū I 745]

So if "great and small" are a *jōri* pair, they are so only as opposites, never as transitives. A sliding scale between poles has little to do with *jōri*. (Polarity will be discussed in Chapter 5.1.)

What then can be salvaged from that embarrassing third paragraph?

In ordinary language the reference of a pair of relative terms varies according to context, but is fixed in each application by the relation within the pair.

In *jōri* language the reference of some pairs and some terms varies according to realm, but is fixed in each application by the rigid contrast within the pair (in this case a reflection of reality).

If we were to take more than this from paragraph (3), paragraph (2) would become incomprehensible.

The above comments show that this passage from the Gengo Preface is not a case of suggesting a solution to the pre-philosophical puzzle about the nature of relative terms, but a deliberate attempt to make use of some of their features in his own terminology. The topic of *jōri* opposition will be approached again from a different angle in Chapter 5.

Overwhelming textual evidence suggests that we should refrain from seeing any of the *jōri* terms as two-place predicates like "greater than", or indeed as predicates at all. Instead, we should see them as names of features of reality. The names might be derived from relative terms in natural language, but they have stipulated references bestowed on them by the *jōri* of the universe. Baien would say that if we wish to understand things like fireflies and bonfires we should need to grasp realities like <bright and dark>.

This point gives us an excellent opportunity to see a significant difference between, for instance, Platonic realism and Baien's realism. (Baien's theory might be called "realist" because the application of his terms is not arbitrary but fixed by "heaven and earth".)

Plato might have said, at some stage in his career, that the firefly "participates in" the Forms of both brightness and darkness, and that as Forms, bright and dark are ultimately real and enduring. Baien would say that <bright and dark> is there before our eyes, a real part of the universe which is revealed by phenomena like bonfires and fireflies or fireflies and night.

Plato would be left with the problem of describing how the Form of bright relates to the Form of dark. To our minds educated in Western philosophy, Baien is left with the problem of describing how all the different bright and dark phenomena are related to the *jōri* pair <bright and dark>. But for Baien, only members of pairs are real subjects, as I shall explain in the next chapter. <Bright and dark> may be applied to some of these real subjects, such as <sun and shade>, for example. Names of other things are mere terminology.

stipulative definitions

As a merged one, a pair shifts in meaning, but if its place in the *jōri* system is clear, this shift does not confuse us. Its place in the system will be determined by reference to other pairs. For instance, we might take the shifts in <heaven and earth> just mentioned in relation to the Four Realms diagram, and speculate that <containing and dwelling>, which merge as BODY, mean

something like <"making a place" and "being in a place">. When "BEING IN A PLACE" divides as <heaven and earth>, that pair is clearly used in its locative sense. Every body is located either in heaven, such as the fixed stars are, or on earth, as animals are. In Baien's language, "stars are heaven and animals are earth", and in ours, stars "apply to" heaven. Cosmological categories will determine the boundaries.

The relation of the *jōri* system to scientific theory will be discussed in Chapter 6, but the fact that pairs of *jōri* terms are amenable to shifts in their meaning, yet have tightly stipulated meanings within each application, is convenient in that the terms need not be discarded when their applications to particular phenomena are discovered to be false.

In the "Heaven and Earth" chapter of the Core Text, Baien says:

Heaven is hollow, but within its hollowness there are visible shapes. These are sometimes called "images", sometimes "fire", sometimes "yang", but we shall give them the new name "light". On the outside of the substantial [earth] are the substantial bodies which play on it. These are sometimes called "matter", sometimes "water", sometimes "yin", but we shall give them the new name, "humidity".

We shall understand objects if we take them in contrasting pairs. We must not be dazzled with words so that we mistake what they refer to.

Because [the ordinary words] "images", "matter", "water", "fire", "yin" and "yang" have specific references, they could mislead the reader. We shall use the general names "light" and "humidity".

The original names "fire" and "water" refer to things that we find on earth. Therefore, when the sun is referred to as fire, this captures its substance, but the name is not accurate. [NST 395,37]

Towards the end of the Preface, the persistent stress on <light and humidity> might be puzzling were it not taken as a reference to his terminological method. [App. I] In "Appendix XI" he says again:

When we speak of "water and fire" on earth, the characters have the standard interpretation, when we speak of them as passing through heaven and earth, they refer to light and humidity. The reader must make the distinction by looking for *jōri*, and must not use dead words for living subjects.

Here, "word and subject" are a *jōri* pair, the same "word" in our usual sense becomes a different word in Baien's sense when applied to a different subject. Old words are reincarnated. *Jōri* opposition, the *jōri* shift and pair shifts add up to a reasonably systematic means of applying old words to new subjects. That is, the system is a fresh start project for apprehending the universe, not shackled by the conventional meanings of terms, but not forfeiting either the useful semantic features of those conventional meanings. In fact, in Baien Zenshū, the whole Preface ends with the lines:

Fire resides on earth and contrasts with water, but speaking more generally, the sun in heaven is fire. Nevertheless, "sun" and "fire" refer to specific subjects, therefore the pairing of sun in heaven with water on earth is not traditional. So now we call the pair "light and humidity". [App. XV]

This is not the peroration of the Preface, but it is at least the final afterthought of a late version.

With <light and humidity> Baien would seem to be allowing for flexibility of interpretation, combined with firmness of application in virtue of the *jōri* shift. The meanings of the terms are fixed both by their mutual opposition and by their relation to a real pair of opposites. Has our word "atom" changed its meaning in the course of two thousand or so years? It would now seem to have moved in meaning from the ultimately indivisible unit of matter, to whatever it was that Rutherford split, and its reference continues to change with scientific advances and redescriptions. A live issue of meaning and reference surfaces here, but confining ourselves to the *jōri* shift, we might say that if "atom" were a *jōri* term (contrasted with "composite particle"?), Baien would say that the subject had been mistaken, and that we may still be mistaken in our application of it. We do not need to abandon the term because of its history.

We mistake the subject even when we can scrutinise shape and image, how much more likely we are to fail when we cannot see shape and image, or hear voices and sounds. [Volume of the Small, NST 489,33]

Of course once a pair is correctly assigned, the terms may each be absolute in that assignment, as in the assignment of <heaven and earth> to the heavens above and the globe with its surface of soil and water. This is what he means when he says:

If meaning does not live beyond the word, language is of no benefit to us. Once a distinction is already clear, the word cannot shift, however slightly. [Volume of Earth "The Manifest", NST 459,14]

These words occur in the section "light and humidity", matching the comments in "Appendix XI" of the Preface.

In ordinary language, relative terms may vary in precision. Left and right, above and below, before and after are precisely determined by a point of reference, but bright and dark, long and short, fast and slow may be much more vague. Such vagueness is a feature of natural usage that Baien discards. Terms related by *jōri* can never be vague, because a term and its contrasting term have no meaning until the reference of the pair is clearly fixed by reality.

Summary of Chapter 3:

Bearing in mind that Baien neither offers us any such summary, nor proceeds in this ordered way, we might summarise the steps in the construction of the *jōri* lexicon as follows:

1. *jōri* terminology, confined to contrasting pairs, depends on a device, already found in Chinese and Japanese, in which compound terms are constructed from pairs of contrasting terms. Regardless of whether or not they form a compound in ordinary language, and regardless of any meaning which that compound might have, two characters form a compound so that each is a complement or "opposite" of the other. [rather like "motorcar"]
2. Once the terms acquire this definition, they may be used separately, but only with a meaning precisely determined by their relation to the other member of the pair. [rather like "motor" and "car"]
3. These single terms may be used in several other pairs, each time shifting in meaning according to the new terms they are paired with. It follows from 2. that though it is the same lexical item, the definition of a term must change. This is "the *jōri* shift". The presence of similar shifts in natural language enables us to "catch on" to the *jōri* shift, but in contrast to terms that shift in natural language, *jōri* terms have precise references.
4. Not only do single terms change their meanings by being paired differently, whole pairs may have different applications as pairs. This happens when they are applied in different "realms". A realm is the territory marked out by some governing *jōri* pair. If they occur in more than one realm their meaning again must shift, as to shift from realm to realm just is to alter the definition.

The *jōri* pairs that Baien has chosen for the whole pair shift behave like pairs of relative terms insofar as their reference varies with context. In shifting, terms must carry with them some semantic associations from their other locations. Baien does not discard all the semantic associations that his terms have in natural language, but makes use of them as it suits him.

No regular pattern is discernible in the shift of whole pairs from realm to realm. Baien finds the primacy of context in his reference shifts to be a convenience in the coining of scientific terminology.

In the above process, shifts of meaning rely on the natural flexibility of language. The precision of their references once the shifts are made relies on opposition in the case of the *jōri* shift, and their application in different realms in the case of whole pair shifts. When the reference is correct, it is fixed by the rigid distinctions of the natural world. It will be argued later [Chapter 10] that this combination of flexibility and rigidity (Baien would approve of this opposition!) is not accidental, and that contextual shift and sharp distinction are two vital elements of our conception of reality.

Chapter 4: WORD AND SUBJECT

Names are indeed made by people, a reed has come to be called "naniwa's ~~foot~~" in Ise. ^{ashi (足)} X
But we ourselves cannot alter reality. [Reply to Taga, Zenshū II 100]

In this chapter the discussion of the *jōri* pair <word and subject> will begin with Baien's notion of a word, which necessarily includes his notion of a sentence. Then we must take the word "subject", the other term of the pair, and discuss its relation to the Japanese ordinary language word "*shu*", of which "subject" is a default translation. To say that "word and subject" are opposites, is to say that the terms are interdependent, but to understand what they refer to we must examine the naming relation. Understanding this naming relation will lead us to Baien's notion of the real.

Introduction: Japanese interest in written language

Baien's system of *jōri* terminology required him to think about the uses to which language might be put. Individual as his system may be, in the Edo period it was so commonplace to have views about language, especially written language, that there can scarcely be a scholar who has not produced some text on philology. Baien had read many of these texts, or texts from which they were derived.

One reason for this was the Neo-Confucian focus on textual studies. The other, a purely Japanese reason, was that to be a scholar at all in Japan one needed to be virtually bilingual. The writing system was imported from China, and the first scholars had to read and write Chinese. Japanese, a completely different language, was gradually introduced as a written language, but in an unsystematic way which became both a frustration and a challenge for later interpreters of earlier Japanese texts. Peter Nosco names a dictionary of Japanese readings of Chinese characters, the *Setsuyōshū* of 1591, as the first non-religious publication of Japan [1990 26]. "Religious" may be interpreted rather widely here, if it includes all literature connected with Buddhism, but one could hardly be surprised that the first exception was a dictionary. Many of the scholars were polymaths, as was still the case in the Europe of that time.

The topics on which they wrote include etymology, literary composition, and scientific nomenclature. The following are just a few of those with which Baien was familiar. In the 17th century, Yamasaki Ansai, 1618-1682, undertook an etymological study of the ancient *Nihongi*, "Chronicles of Japan" (c.720 AD) that had both mystical and political implications [Ooms 1985 242]. In 1709, Kaibara Ekken published *Yamato honzō*, "Plants of Japan", following the taxonomy of Li Shih-chen's *Pen-ts'ao kang-mu*, "Great Pharmacopoeia" of 1596, which Baien had also studied. *Yamato Honzō* is a classification of plants minerals and animals and a discussion of their names. Arai Hakuseki's *Tōga*, of 1719, is another historical study of Japanese names for natural kinds, neatly organised into categories. The first chapter, "Heavenly Phenomena", for example, deals with words for "heaven, sun, moon, star, mist, smoke, fog, rainbow, wind, rain, dew, frost, snow, thunder and lightning". Joyce Ackroyd describes this work as a "path-opener in etymology" [1979 11], but Hakuseki's general

enterprise was by no means unusual. Hakuseki consulted the 10th century work *Wamyōshō* ("Japanese Names"), of Minamoto no Shitagau, to which Baien refers in the *Gengo Preface* [14]. (But *Tōga* also has similarities to the Chinese work *Tung Ya*, (1643/1666) by Fang I Chih) Ōgyū Sorai's *Narubeshi* ("How it Must Be") of 1736, appearing on Baien's reading list for 1776, is a pedantic and prescriptive treatise on correct and incorrect names for hundreds of people, plants, animals and suchlike. Radically critical works on language and literature, including Tominaga Nakamoto's *Shutsujōkōgo*, "Emerging from Meditation" (1745), and the works of Motoori Norinaga, were a feature of Baien's own century. Baien does not appear to have taken a strong stand on the major controversy between Chinese classicists and Japanese nativists. He wrote in both *wabun* (Japanese style) and *kanbun* (Chinese style).

Baien's deep interest in language and languages extended well beyond the *Gengo* lexicon and his philosophical interests in scientific nomenclature. *Baien dokuhō* ("Reading Methods"), 1774, which begins with a general discussion of the nature of written language, is largely an account of correct and incorrect pronunciation of Chinese and Japanese words, with many lists of examples. R. V. Van Gulik [1938] is so impressed with Baien's *Shitetsu* ("On the Trail of Poetry"), 1785, that he recommends it as the ideal primer for anyone hoping to translate Chinese poetry. In a final passage Baien says "As poetry arises when words and also sighs and moans, prove insufficient to express the human emotions, it must be found in all countries." [*Zenshū* II, 630]

Many of the linguistic and literary debates of that period are already well documented in Western studies. There is no point in quibbling about whether or not to describe any of those debates as "philosophy of language". The significant question is whether any of them amounted to discussing the relation between words and the world in the way that Baien does. The cautious answer is that it seems that they did not. Nevertheless there is no doubt that they were a great stimulus to Baien's thought and writing.

One exception to the lack of attention to the relationship of words to things predated Baien by nearly a thousand years. This is *Shōji jissōgi* ("The Significance of Sound-word-reality") of 817 A.D. by the Buddhist Kūkai, or Kōbō Daishi. This work is very brief, and much of it consists of an analysis of Sanskrit compounds. Thomas Kasulis [1982] compares it with Plato's *Cratylus*, describing both works as "ground-breaking efforts that emerge out of and go beyond a prephilosophical view of language." Kūkai's main interests were in other features of language and his discussion of "the proper way of making words name things" does not seem to have been followed up. Baien does not refer to Kūkai, and there are indications that between the times of Kūkai and Baien no other Japanese thinker addressed the problem. In a textual study of Baien's theory of reference, when Iwami [1987] states that Baien makes no reference to *Shōji jissōgi*, Kūkai is the only Japanese predecessor whom Iwami even mentions in this regard.

In his comparison of *Shōji jissōgi* and the *Cratylus*, Kasulis says:

To be truly philosophical, an enquiry must have at least a rudimentary theory about the relationship between words and nonlinguistic reality. [393]

What one chooses to describe as "truly philosophical" is a somewhat arbitrary matter, but Kasulis's statement applies within the wide philosophical field in which *Gengo* belongs. *Gengo* is a truly philosophical enquiry in any sense of "truly philosophical". The *jōri* system is intimately concerned with the relationship between words and non-linguistic reality, or to avoid begging the question of whether or not reality is non-linguistic, the relationship between symbols and the world of non-symbols.

In Baien's theory of the relationship of words to things, words are subordinate to things. In terms of indigenous Japanese theory of language (as distinct from the Chinese traditions), Baien's slight resemblance to Kukai is less significant than the contrast between Baien's approach and the ancient doctrine of *kotodama*, "the spirit/soul of words", in which words are said to contain great power, released by their recital. A similar belief is found in many religious groups, but this ancient Japanese doctrine was embodied in theory of language, such as that of the 18th century nativist, Norinaga. Norinaga believed that to uncover the meaning of the ancient words of the earliest extant Japanese text, the *Kōjiki* ("Record of Ancient Matters"), is to participate verbally in the creation itself [Kasulis 1991 222. See also Miller 1977]. Important as language is to Baien's system, he would be emphatically against such a doctrine. For him, any "power" resides not in words, but in the world to which they refer.

4.1 word (*sei/shō*) 声

For <word and subject>, a thing and its name, the central pair in his theory of reference, Baien uses "*sei*" (*koe*), which is sometimes read as "*shō*", and "*shu*" (*nushi*).

The general notion of a word is a complicated one. Words are spoken, written or read, they have numerous grammatical functions, (and all these possible combinations may be compounded further by the distinction of type from token.) Therefore, although Baien's usage is not always thoroughly strict, it is important to clarify his term "word" as far as possible.

<Word and subject> is a *jōri* pair, that is, the very terms we use to talk about pairs are themselves a *jōri* pair. There is no problem for Baien here, any more than using "English" as an example of an English word. The term "word" applies to man and the term "subject" to heaven; here, <man and heaven> is subsumed under MAN in <man and object>. (It will be already clear that by the *jōri* shift the term "heaven" might appear in almost any realm. My translation of "*sei*" as "word", and "*shu*" as subject gives the impression that neither term undergoes a *jōri* shift. Now of course there is no need for the *jōri* shift to work for every *jōri* pair, <dynamic flux and chaotic content> are an example of a pair whose individual terms do not shift at all. But the fact is I am guilty of creating a false impression, for not only does Baien use "*sei*" (*koe*), meaning "voice", "utterance", "cry", elsewhere in ordinary language for a voice, or a cry such as animals make; he also uses it in a pair which I translate as <utterance and behaviour>, in which the meaning of "*sei*" clearly changes, in true *jōri* fashion, by its opposition to "behaviour". He says in Volume of the Small:

Animals all possess utterance and behaviour which convey knowing and feeling, the faculty which man alone possesses of patterning utterance in language. [NST 491,32]

(Note: "pattern" ("*mon*") is omitted from the *Zenshū* version. [NST 544])

Once birds and beasts give utterance, they use the voice for crying out in pain and pleasure, once man who is conscious and knowledgeable gives utterance, the skill of words supplements the skill of the body. [NST 540,16]

<Word and subject> as an instance of a *jōri* pair will be discussed in Chapter 5.1 when Baien's opposition is examined more closely.

Language, for Baien, is focused on speech, not thought. It seems that Baien takes the spoken word as fundamental in some sense, and this element of "utterance" carries over into "word" in <word and subject>. But as the terminology of his own written work is always a dominant concern, he uses "*sei*" freely to mean also the word uttered on paper with brush and ink, the read word, as well as the heard word.

Baien might have said that the tongue is essential to language, and that the brush is an optional extension of the tongue. This need not mean that we could always ask of a word or a name, "Who uttered it, and when?". Baien is sometimes talking about particular utterances of words,

but often also about a word as a "type" of utterance, such as his discussion of the fish name, "*kawappa*", that is, the word "*kawappa*" is an utterance type, just as running is an action type.

sentences

Words are parts of sentences which too are spoken, uttered on paper, heard or read. Baien's account of sentences clearly excludes written characters as static ink shapes, in contrast to the events of writing, uttering a sentence or reading it aloud.

In the Preface, Baien remarks that Chinese uses order where Japanese uses inflection [Section 14], but he does not say that there is no order in Japanese. The words of a sentence succeed one another in a continuous string in any language, but as he says, sometimes the order of words is arbitrary:

Sometimes they may be ordered in terms of before and after, sometimes ordering has no purpose. [Preface]

If we can take <sentence and diagram> as a *jōri* pair, sentences are real, but they are not "objects" as Baien uses "object" in Gengo:

Object possesses warp and woof. In sentences the order is before and after, as a warp, there cannot be two words together as a woof... the intricate structure of sentences depends on change, the order within diagrams depends on *jōri*. [Preface 3]

The pair <warp and woof> applies to the pair <time and space>. This means that sentences occur in time, they are "one-dimensional", only spatial things occur side by side. Uttering and receiving sentences are events. Baien must surely see that a process of making diagrams and drawings is likewise an event. But as he says, it is not the acts of writing or drawing alone that constitute the sentence or the diagram, it is its resulting structure. Sentence structure is temporal, the order in which words are uttered or read may be vital. The structure of diagrams is spatial, and we can take it that the order in which the marks have appeared on paper, or in which they are examined, is irrelevant. If he means us to take <sentence and diagram> as a *jōri* pair, they apply to <time and space>.

This dynamic view of language is implicit in the text, especially in certain sections of the Preface and of Volume of the Small. His discussion of <warp and woof> and <sentence and diagram> marks off his field of enquiry. However, that special terminology in no way implies that Baien had some calculated investment in a kind of language theory, such as a conscious contrast with a mentalistic approach, for example. It could well be that Baien's only deliberate departure from a traditional view of language is his analysis of the phenomena in *jōri* terms. He contrasts man with heaven, and places the pair <speech and behaviour> in the realm of MAN:

With the constant interplay of sound and utterance, man grasps the ten thousand objects and events with language; with the constant use of hands and feet he puts into practice ten thousand skills and crafts by controlling and creating. And then he creates characters to record things in language with his fingertips, he makes pictures to grasp objects and images with his eyes. [Volume of the Small, NST 540 1]

When the pair <unconscious and conscious> is applied to the pair <heaven and man>, both speech and behaviour are in the realm of the CONSCIOUS. "Behaviour" here refers to conscious action with arms, hands, legs, or feet. [Japanese "*te*" and "*ashi*" make no distinction between arm and hand, or leg and foot.]

The speech he refers to is behaviour too, in the usual sense. The behavioural view of language is more characteristic of East Asian than of Western thought, though not universally present or absent in either. The well-discussed classic passage on the "rectification/correction of names" from the Confucian Analects is a typical discussion of language:

If names are incorrect, speech is out of accord. If speech is out of accord tasks are not fulfilled. If tasks are not fulfilled ... Therefore what the man of virtue names is sure to be sayable, and what he says is sure to be performable. [XIII, 3]

Baien ingeniously lines up his very different *jōri* realism with this Confucian wisdom:

If we confine ourselves to the traces of whatever lucky or unlucky fortune we receive, we shall not consider the reality of which actions are possible, which not, and in praise and censure, right and wrong, the way of <word and subject> will not be followed. [Volume of the Small NST 512,38]

The behavioural view is less conducive to theories of universals and suchlike than the more static view. (Likewise, a dynamic view of objects, such as Baien's, may not be so conducive to theories of "properties", things do not stay still for properties to "inhere" in them.)

4.2 subject (*shu*) 主

"*Shu*" is used in modern Japanese for the Western term "subject" in several grammatical or philosophical senses. Most of the distinctions in Japanese grammar books have been imposed on the language by analogy with terms in European grammar books. When Baien's contemporary, Fujitani Nariakira, set to work to classify Japanese grammatical functions, of his four key terms, "*na* (name), *yosoi* (decoration), *kazashi* (hairpin) and *ayui* (binding cord), he was forced to invent all but "*na* (name)". In The Japanese Language Roy Miller says: "Had they [Fujitani and others] proceeded without this largely baneful influence from the outside the Japanese would without doubt have evolved a science of grammatical description of considerable significance in the history of world scholarship." [1967 311] There are many instances in the interpretation Baien's texts in which it is tempting to describe Western philosophical terminology also as a "largely baneful influence from outside". The present essay is a constant struggle to escape its thrall.

In the more technical contexts, by default I too have chosen to translate "*shu*" as "subject", as in "subject of investigation". ("Object" is unavailable here as it is required for other technical uses in the same contexts, namely, for "*butsu*" [see Chapter 8.3].) The default choice of "subject" demands the qualifying comments on uses of "*shu*" that follow.

other uses of "*shu*"

a) master or ruler:

The root meaning of "*shu*" ["*mushi*"] is "master" or "owner", quite naturally extended to "main" as is our word "chief".

In one of its contexts outside Gengo, Baien uses "*shu*" when prescribing a methodology derived from the realism that underwrites the *jōri* system. In the following lines of Letter to Asada 1785, "master" is a sensible translation of "*shu*", and "subject" hardly makes sense:

To see objects, the mind cannot be the master. If the mind is the master, then it will inevitably seize an object according to its own prejudices. [p.337]

Baien's technical use of "*shu*", as the *jōri* opposite of "word", retains a strong suggestion of "master":

The subject is reality, heaven and being. It is not the servant of man and action.
[Volume of the Small, NST 492,9]

Further, Baien may well have been familiar with the use of "*shu*" by the Neo-Confucian Cheng I (1033-1107). In the following lines concerning the ordering of the mind for concentration, "*shu*" is translated by Graham as "ruler":

Lu Ta-lin questioned me about the disorder of his thoughts. I replied that it was due only to his mind having no ruler; if it were given a ruler by composure, it would naturally be free from disorder....If the mind is concentrated on one object, its 'ruler', no distracting thought can enter....

Take the mirror as a parallel; it is inevitable that the innumerable things should all be reflected in it, how can one prevent the mirror from reflecting? The human mind is bound to interact with the innumerable things; how can one prevent it from thinking about them? If you wish to avoid confusion of thought, the only course is for the mind to have a 'ruler'. [1958 70f]

In reading "*shu*" as "subject" by default, "subject" must be severed from its English root meaning, which is virtually the opposite of "master".

b) host:

The default choice of "subject" for "*shu*" has not been a happy one for me. Above all, this is because the choice does not observe the *jōri* shift. Baien has a pair which I have already translated in *Genkiron* as "host and guest (*kyaku*)", in which "*shu*" is the term for "host". For example:

People who believe that only the sun is light and that darkness is the real thing think of light as the guest. And those who believe that only the shadow on the ground is dark and that light is the original thing, think of darkness as the guest.

It is not that light is not in the sun, or that darkness is not in the shadow on the ground, but to see either the light or the darkness as the host is to lack insight. ["Yin and Yang" *Zenshū* I 747]

Preserving this English translation, in the final version of *Gengo* the pair are used again:

In terms of spirit and action, going and coming is the host, assigning and receiving is the guest. In terms of heaven and being, assigning and receiving is the host, coming and going is the guest. [Volume of the Small, NST 485,33]

These words are very obscure out of context, but here "host" implies something like "belonging there as of right", so that <going and coming>, unlike <assigning and receiving>, belong wherever there is <spirit and action>, (roughly some kind of alternative for speaking of "necessary conditions" perhaps). This brings to mind the use of "*mushi*" in Japanese mythology, in which, for instance, the *mushi* of a pond is the presence that belongs there. If there were a direct English translation of the Japanese "*mushi*", I would choose that word for "*shu*", in preference to the bland "subject".

c) subject:

Because "word and host" seems too theory-laden, if not quaint, I have settled for "subject" in the English rendering of this pair. But the obscured shift in "*shu*" is a genuine *jōri* shift. In the Preface he uses host (*shu*) and guest (*kyaku*) to mean grammatical subject and object:

To describe the difference between Chinese and Japanese writing, in Chinese one meaning is conveyed by a single sound, the functions of subject and object are conveyed by their position in the row. In Japanese... the functions of words are conveyed by inflections. [Section 14]

English "subjective" and "objective" are in Japanese "*shukanteki*" ("as the host sees") and "*kyakkanteki*" ("as the guest sees"). Although this is a correlation between the words "*shu*" and "subject", it is not a relation we want for <word and subject>. If anything, the "subject" of the pair is the "objective" phenomenon of nature.

"subject" in <word and subject>

It is an important point of Baien's theory that the thing named takes a precedence of some kind over the name. The "subject" is the master. In English, "the referent", "the signicate", "the indicated", "the named", and in many cases "subject" itself, are all more passive in meaning than Baien's term, in which the thing named is master of its name. But Westerners can quite easily think in Baien's converse way. We understand the metaphor of language as a mirror on the world, "reflecting" the world, as in the passage from Cheng I just quoted. The homely slang, "handle", for "name", as in "what is your handle?" is even more to the point. A thing has a handle solely so that people can use it, and is not otherwise essential to the thing itself.

How important is the nuance of "master"? In any realist theory which requires the thing denoted to be independent of its name, "master" and "owner" are apt metaphors.

From Baien's choice of "*shu*" and these common threads of meaning from its various uses, from his remarks about the relation of words to things, and from the general realist tenor of Gengo, we can take the "subject" of <word and subject> as something not subordinate to any name, holding its rightful place in the order of nature.

Although we may come to truly understand fire, fire will continue to burn as it did before, and water will continue to flow as it did before we came to understand it. Names are indeed made by people, a reed has come to be called "naniwa's feet" in Ise. But we ourselves cannot alter reality. [Reply to Taiga, Zenshū II 100]

4.3 naming

Section 8 of the *Gengo Preface* is the Rosetta Stone not only for understanding the pair <word and subject>, but also for understanding the whole *jōri* system. It begins with the sentence:

Words are names, subjects are realities. Subjects are heaven, words are man.

After a long list of groups of pairs, each group containing a term that undergoes what I have called the "*jōri* shift", Baien says:

If we want the word to pick out the subject correctly, we must infer the meaning from the pair. That is the method of seeking *jōri*...

If we did not rely on pairs we might mistake the subject.

Further, in the one *ki* there is *ki* and object, and also in the great object there is *ki* and object, and the ten thousand things are each *ki* and object. Thus although the concealed is heaven and the manifest is earth, the concealed is also heaven and earth and the manifest is also heaven and earth, heaven is also heaven and earth, and earth is also heaven and earth, and so on for everything.

Therefore, concerning word and subject, we must infer pairs by distinguishing within the merged. When *jōri* is clear we cannot be mistaken about a subject. If his mother had not been mistaken about the subject, she would not have thrown away her shuttle when she heard "Tseng Ts'an has killed a man".

This last "paragraph" is followed by the three paragraphs discussed in Chapter 3.4 in relation to relative terms: "When we compare the firefly with night it is "bright" etc..." At first reading (and in my case, on many subsequent readings) the last sentence above does not seem to belong. Tseng Ts'an is after all a personal name, yet all the other terms discussed in the passage are *jōri* terms. But that difference between the personal name and the *jōri* terms is exactly what Baien expects us to notice.

From the brevity of the allusion we can infer that Baien's contemporaries would recognise it easily. Tseng Ts'an was a disciple of Confucius. The story referred to may be found in *Chan kuo ts'e* ("Plots of the Warring States", c.200 BC), in which Kan Mao tells King Mu about Tseng Ts'an's mother, who, twice when someone said "Tseng Ts'an has killed a man", answered "My son is no murderer" and went on with her weaving. But despite her faith in her son, when a third person cried out "Tseng Ts'an has killed a man", she dropped her shuttle in fear and fled, unaware that there was another man of the same name. Kan Mao goes on:

"Your servants' nobility being somewhat less than that of Tseng Ts'an your majesty's faith in me being less firm than Tseng's mother's and my detractors being more numerous than three, I fear your majesty will 'drop the shuttle' while I am gone."
[Crump, 1964, 63f]

There are circumstances under which even Tseng's mother can mistakenly believe that her son is a murderer. Furthermore, adds Baien, there are circumstances under which even Tseng's mother can be mistaken about whom the name "Tseng Ts'an" refers to.

How could it be that such a mother of such a son could make a mistake about the reference of a personal name? Are personal names unreliable? Yes, says Baien. Because even when correctly applied, the relation between Tseng Ts'an and a disciple of Confucius is not an example of the *jōri* pair <word and subject>. Because her understanding of the reference was not according to *jōri*, Tseng Ts'an's mother had no guarantee that any use of the name would pick out the correct subject. Only real subjects are the master of the words that refer to them, and the only real subjects are members of *jōri* pairs.

Does that mean that Tseng Ts'an was not real? Again Baien's answer is "Yes", insofar as a proper analysis of heaven and earth, that is, an analysis according to *jōri*, will not contain individuals such as Tseng Ts'an and his mother.

Now, without individuals such as particular person, chestnut or kettle, heaven and earth would be the less. But heaven and earth does not require any of these things as the particular things they are. Reality consists entirely of *jōri* subjects, that is, members of *jōri* pairs. For example, when Tseng Ts'an is before our eyes, what we have "really" before us is: man, not woman; man, not heaven; conscious being, not non-conscious being; the animate, not the inanimate; not to mention whole pairs such as <body and shape> or <*ki* and object> perhaps, and certainly <chaotic content and dynamic flux>:

Every particular thing, be it a tiny wriggling shrimp or a slow snail, is of itself chaotic content. [Reply to Taga *Zenshū* II 93]

We can properly understand the names of any of these subjects only by understanding the subjects that are their opposites. We have to look at heaven and earth to discover the correct pairs. But Tseng Ts'an, this chestnut, Baien's kettle, and so on, have no opposites, they are not proper subjects at all, and so there is no way of guaranteeing that any name that refers to them is correct.

Baien uses the example of Tseng Ts'an's mother to show us that only members of *jōri* pairs are real subjects. It does not show that all *jōri* pairs are real subjects. The possible pair "boat and cart" which will be discussed later in Chapter 8.3, or even <word and subject> itself, might be thought to be an example of a *jōri* pair that is not a pair of real subjects. But this cannot be. Either these pairs are pairs of real subjects, or they are not *jōri* pairs at all. For "*jōri* is heaven, seeing opposites is man". By definition, we might say, *jōri* pairs cannot be mere conceptions, but elements of heaven and earth, real elements, that is, real subjects. So Baien does claim then that a subject is real if and only if it is a member of a *jōri* pair.

Baien's use of "*na*", "name", for one term of the <word and subject> relation, has a little in common with the term "name", or "proper name" as it is often used in twentieth century discussions of the logical functions of language. For instance, if "the meaning of a name is its bearer" then the subjects of names must be "real", on the principle, "no bearer, no name". But they are not real for Baien, because these non-*jōri* subjects are not the masters of their names.

If the famous Tseng Ts'an had been master of his name his mother would have never doubted his innocence. There is nothing about Tseng Ts'an that prevents another man having the same name, and Tseng Ts'an could have many names, (in fact he did have several, and so did Baien). But even if the relationship were one name for one person, there is nothing to underwrite the relationship between the two. Merely to bear a name is not to be its master.

On the other hand, in *jōri* terms, the sun is master of its name, if, but only if, the terms "sun" and "shade" are used to refer to the pair <sun and shade>. The meaning of the *jōri* term "sun" is not just that bright hot thing that bears the name, but also that bright hot thing that is the opposite of shade. <Sun and shade> are a *jōri* pair, a reality before us in heaven and earth, and however we choose to use words, we only name the things of heaven and earth correctly when the names are ruled by a pair of real opposites. The choice of the same word "sun" is not a correct name for that bright hot thing "that shines by day" if "sun" is paired with "moon", "that bright cold thing that shines by night". This is because "sun and moon" are not a *jōri* pair, sun and moon do not have that necessary "one and one" interdependence. For instance, the humblest observer knows that the moon can be seen by day, and astronomers have no reason of any kind to see sun and moon as opposites.

As already mentioned, the first discussion of the relationship of words to things in Japanese literature occurs in Kūkai's *Shōji jissōgi*. By "*shō*" (*sei*), Kūkai means the spoken word, in contrast to "*ji*" which is unequivocally the written character. Translating the lines consistently with the *Gengo* lexicon, Kūkai says:

A word is not uttered in vain, it invariably indicates the name of something, which is called a "character". Names necessarily point to bodies --- [Kūkai 401]

Angus Graham describes a similar idea in the Chinese tradition: "A name is used to 'point out' (*chūh*) an object, and if appropriate to it 'fits' (*tang*)." [1989 227]

But what would guarantee the "fit" of an arbitrarily chosen term? If it merely points there is no description, no list of features that we might check off one by one. If it offers a description, for example, "the bright hot thing", there may be nothing that answers to that description. Whether or not the Chinese had more to say about naming, one can certainly understand their appeals to the authority of the sages to determine whether or not a name was used correctly.

This simple pointing function is a far cry from the function of "word" in Baien's <word and subject>. True enough, the "names" of that Chinese tradition must refer to something real, there before us, if we are to point with them, and so must Baien's *jōri* names. Using that same character for "fit", Baien seems to say in the Preface [10], "the subject fits the name". It has been pointed out to me that that statement does not square well with the interpretation that the subject is master of the name. However, elsewhere Baien uses that same verb ("*tō*") to mean "accords with" [NST 405,25]. If the subject does not "accord with" a name, then that name is not a "name", that is "word" in the sense of <word and subject>, at all. Baien says not only that it is not the sages but heaven and earth itself that determines which names are correct, he tells us also how heaven and earth does this. The complex *jōri* system of heaven and earth gives rise to the complex *jōri* naming system.

To speak of things that ordinary language has not allowed for, and also of things that ordinary people do not speak of, scientists and philosophers gradually extend natural language by stipulating, in specialised contexts, new uses of old words, or meanings of new words altogether. Some of these new terms or usages become embedded in ordinary language, such as "schizophrenia" and "dinosaur", others remain exclusive, such as "set" of "set theory", and "bract". But even in fields that use an extensive lexicon unavailable to the layman, an artificial language is seldom designed for the purpose, apart perhaps from pure or applied mathematics.

Baien wished to speak of things that his ordinary language did not allow for, and also wished to speak of things that ordinary people did not speak of. The success of his astronomer friend Asada Gōryū, for one, would have shown that this was not only possible, but often necessary for the advancement of science. But by the nature of his own project, Baien had no traditional lexicon to draw on, or, more accurately, the terms that he pulled from any traditional philosophy required radical redefinition before he could use them for his system:

When we do not know the name of something even though it stands out distinctly, in the end we have to name it ourselves. [Preface 9]

Using words and characters already in his language with other functions, he designed not only an artificial lexicon, but also the elaborate shifting mechanisms described in the previous chapter. It was his firm conviction that heaven and earth rendered this artificial lexicon necessary, and dictated its form.

The terms that name the "subjects" of the <word and subject> relation do more than "point" to their subjects. Fingers can point, but *jōri* words have meaning. Their meaning is determined by the way the world is, that is, by the pairs of opposites to which those subjects belong.

It is in the nature of heaven and earth that there are two ways in which a *jōri* subject may bestow meaning on its name.⁴

1. One way in which a *jōri* subject may bestow meaning on its name is by presenting itself as one of a pair of opposites. For instance, the correct use of the name "sun" is determined not just by the subject, sun, but also by the subject, shade, and conversely for the meaning of the term "shade". When we have the *jōri* relationship of <sun and shade>, then we have enough to use and understand the names correctly, we have more than Tseng Ts'an's hapless mother had.

2. But the relation expressed as "one is one and one" may produce another result. Baien has a name for the union of sun and shade, namely, "light". If nature allows us to understand the meaning of the names for the "one and one" in virtue of their opposition, through their opposition we may also come to understand and name their oneness. If the names "sun" and "shade" fulfil the <word and subject> relation, then we may use the name "light" properly through recognising it as the oneness of <sun and shade>. But by using "light" in this way as the name of a *jōri* subject, we are implying that it too is a member of a *jōri* pair, but in this case we already have an adequate grasp of its meaning without knowing what the other member of the pair is.

There is a rider to the second method in that in the case of the subject "light", for example, there must be alternative ways of grounding the reference. Not only is light the union or "merging" of sun and shade, as a real subject it too has an opposite, namely "humidity", which subsumes <water and dryness>. Though perhaps less accessible to human knowledge, in principle the recognition of light as the opposite of humidity would also be enough to fix the meaning of "light" or of "humidity" by the first method above, because <light and humidity> is a *jōri* pair. Baien would say that whether or not <light and humidity> is correctly named as a pair will depend on whether or not he has succeeded in laying out his cosmology in accordance with the dictates of the teacher, heaven and earth. As it happens, Baien uses the term "spheres" for what I have called the "realms" of LIGHT and HUMIDITY, and even speaks of the "spheres" of <sun and shade> and <water and dryness>. By this he would seem to be taking those "realms" as physically spherical. But physical spheres or not, the method is the same for all *jōri* pairs.

The choice of two methods for understanding *jōri* terms, namely, by seeing that they name one of a pair of opposites, or by seeing that they name a union of opposites, has a very desirable consequence for Baien's project. He is not locked into a regress; neither is he compelled to map out a hierarchy, a procedure which, as I have argued in Chapter 2.4, is at best a way of seeing only segments of the *jōri* system. The above examples are taken from Diagram A of the Four Realms on p.49 above, in which <light and humidity> in their turn are subsumed under the realm of COLOUR, and if we wish to carry this on according to that diagram we might say that <body and colour> are in the realm of the COARSE. Now admittedly this might be described as a brief hierarchy within the four realms of the foursome "heaven, motive power, body and colour". Nevertheless, the real subjects are the facts that determine the naming, and we can still name them correctly whether or not they conform to such a branching pattern.

According to his theory he could, for example, continue a cosmological (or philosophical) study of sun and shade, fully understanding them and using the names correctly, without tracing a "hierarchy" back beyond light, and perhaps without even stopping to name light. Sun and shade themselves are sufficient to establish the reality of light without the pair <light and humidity>. Baien is not always concerned to name the union of <*ki* and object>, for example, and there is no name for the oneness of <word and subject>. It is highly likely that Baien would say this is how scientists advance, that although their terms are dictated by the way heaven and earth is, their progress in any specific branch does not depend upon unlocking the whole structure. Baien did not see his own project as so different from theirs as we do now when we describe his as "philosophy", not "science". From his letters to Asada, in particular, it would seem that though he fully appreciated his own lack of specialised scientific skills, he saw himself to be working elsewhere on the same jigsaw puzzle, as it were, or at least on a broader outline of the same unsketchable structure.

To summarise the naming relation of <word and subject>:

1. Only real subjects can be the masters of *jōri* terms.
2. Only members of *jōri* pairs can be real subjects.
3. Individuals are not real subjects. A proper analysis of heaven and earth will not contain individuals.
4. Because they are not members of pairs, "names" of individuals are not related to those individuals as <word and subject>.
5. To be understood or used correctly, by the principle "One is one and one", a *jōri* term must be recognised: either as a), a member of a *jōri* pair, as one of the "one and one"; or as b), the union of a *jōri* pair, the "One" that is "one and one".
6. A *jōri* term does not merely "point" to its subject. It has more meaning than that insofar as understanding it implies knowing the subject to which its subject is opposed, or, alternatively, which pair of subjects it is that it unites.
7. A name can be used correctly and informatively without reference to its place in some broader hierarchy. This is because the alternative methods of naming real subjects depends in one way or another on naming some pair of real opposites, and this is sufficient to establish their reality.

In the naming relation of <word and subject> there is no choice when it comes to what things there are to be named. With the reference fixed precisely, in theory any name that could be used to refer to the thing would do. In practice, some are less suitable than others. The one thing is master of all its names, and each case is an example of the relationship <word and subject>.

Baien mentions several times that the same subject can have different names, or the same word can name different subjects. Section 8 of the Preface begins:

Words are names, subjects are realities. Subjects are heaven, words are man. Because it is man who talks about heaven, sometimes he is correct and sometimes he is mistaken, sometimes the word is different but the subject is the same, sometimes the word is the same but the subject is different.

He follows this with a long list of *jōri* examples. Later, he also discusses ordinary language naming in regard to "same word different subject", and "same subject different word". This symmetrical expression of the situation owes no more to *jōri* than its verbal style. The point is

simply that there is no one-to-one correspondence between names and the things they name. He says:

When a man meets an object he will always give it a name. He names it and others also name it. That is why there are several names for each object. [Section 9]

In English the verb "to name" is ambiguous between giving a thing its name: "the police have not yet named the victim", and giving a thing a name: "they have not yet named the baby", and both senses are apparent in the above quotation.

In Section 14 of the Preface Baien discusses numerous examples of inconsistencies in naming, pointing out that in Japan this has come about not only through regional differences, but also through the use of Chinese characters for things that already had Japanese names. This section betrays Baien's keen interest in language in general, apart from *jōri*, and more obviously his interest in the naming of biological species.

There seem to be two points in Section 14 that are relevant to his *jōri* system:

1. Although it does not matter which lexical item is chosen for a *jōri* subject, the term it is paired with must be also specified, and the name must be used consistently through its shifts. On the other hand, if a name does not refer to a *jōri* subject, the choice of names is quite arbitrary. There is no logical or linguistic constraint on renaming a thing on each encounter, however confusing that is to others. For example, this is in direct contrast to the precepts of Ōgyū Sorai in *Narubeshi*, which Baien had read. Confucian scholarship of his time lent credence to the doctrine that the classical Chinese name for a thing was the correct one. Baien compares choices of name that are merely confusing or misleading, (an English speaker might suggest "sea-horse" as an example), with definite mistakes such as miswriting "armour" for "helmet", or "hoe" for "plough". [Preface 14]

2. Names of biological species can be determined, or partially determined, by their subjects if they are related to *jōri* kinds. <Birds and beasts>, and the broader terms <land animals and water animals> are real subjects.

Because the way of *jōri* has not been studied, things have been named on sight, and classified at will. Therefore the distinctions between things may not accord with *jōri*. The work of this book depends on *jōri*. Thus I have given new names to things that have had no name before, and have classified them solely according to *jōri*.

The sun is classified as a star, and the moon is named as a planet. As for the distinction between "age" and "year", in a note in The Rites of Chou it says: "years are calculated by months, ages are calculated by periods". Thus I call the period when the sun goes once around heaven an "age", and the twelve cycles of the moon a "year".

Grasses and trees are classified as vegetable. Those which are small and slender and flourish and decline annually are grasses, those which are strong and large and continue to grow permanently are trees. [Section 14]

In the Preface, Baien compares simpler cases of naming with more difficult cases.

What does it mean to point exclusively to a subject? When an object is manifest by means of a body, it is characterised sharply, as when we talk about heaven, earth, water or fire. Those terms are fixed directly to their subjects. [Section 3]

But naming is not always so simple.

Objects have definite bodies, men speak of them in terms of what they all see, but *ki* is nebulous and cannot be seen.... This is why there is always a shortage of names for *ki*. [Section 9]

We mistake the subject even when we can scrutinise shape and image. How much more likely we are to fail when we cannot see shape and image, or hear voices and sounds. [Volume of the Small, NST 489,33]

The message to be gathered here is that naming correctly is not a matter of simple observation. It requires a constant unfolding and folding again of the *jōri* system, that is, philosophical thought as Baien conceives it.

Some modern Japanese commentators have substituted "concept" ("*gainen*") for Baien's noun "name". This interpretation is understandable, especially on the part of those familiar with Western traditions, but we must remember that Baien did not have the benefit of these. An obvious reason for that interpretation is Baien's exclusion of individuals from the real subjects of the universe. If what we really have before us is not Tseng Ts'an, a chestnut, a kettle or a snail, but <language and behaviour>, <circle and line>, <body and shape> or <chaotic content and dynamic flux>, and other things of that kind, it would be natural enough to feel stranded in a river of "abstract" thought.

Nevertheless, the word "concept" raises questions quite alien to Baien's project about meaning and the relation of ideas to words. Yamada Keiji says: "Baien's philosophy is strongly tinged with classification of concepts" [1982 147]. Yamada goes so far as to use "concept" for "name" throughout his modern Japanese version of the Gengo Preface. This results in representing Baien as beginning Section 8 of the Preface with "Words are concepts". In the passage from the Preface quoted earlier, using "name" for "*na*", Baien says:

When a man meets an object he will always call it by a name. He names it and others also name it. That is why there are several names for each object. [Section 9]

Yamada renders this as:

When a man meets an object he will always assign a concept to it. He assigns it a concept and others also assign it a concept. This is why there are always more concepts than objects.

Yamada's book is called "*Kuroi kotoba no kūkan*", ("Patches of Light in Dark Words") but the substitution of "concept" for "name" renders Baien's words "darker" than they need be. In normal usage of the terms "concept" and "*gainen*", we can have concepts of things that do not exist, but by its very definition "*na*" names something real. It is no doubt because of his reading of Yamada that Najita Tetsuo says that in *Gengo* Baien "turned to the general problem of language as conceptual expression", a misleading statement in Najita's otherwise interesting discussion of Baien's thought. [1987 278]

Would Baien really want to say that our "concepts" of things vary just according to the word we choose to name them with, even when we coin the name; or that those who use the same name have the same concept, and when one person uses different names for the same thing he or she has different concepts of it? What is gained by saying that "*nijimasu*" and "rainbow trout" are two different "concepts"? In ordinary language, "*gainen*", like "concept", refers to an idea, or some sort of mental activity. Baien's "names", however, are "words", which are necessarily spoken or written as symbols for things. To translate "*na*", name, as "*gainen*", concept, converts an observable phenomenon, an utterance, into a mental act, without offering the least guidance as to how such a theory of mental acts should run. Admittedly, in technical language there may be notions of concepts, like Platonic Ideas, that describe something other than the workings of the human brain, but only a very stretched use of "concept" could fit Baien's "*na*". The translation of "Words are names" as "Words are concepts" looks even more unlikely when we remember that Baien also uses "*sei*" ("word") for "utterance", and attributes utterance to animals.

Yamada is not the only scholar who suggests that Baien is talking about the relation of "concepts" to things. Perhaps they have concluded that that is what he should be talking about, if he were consistent.

names and truth

Gengo contains two relatively distinct discussions about language. One is the discussion that I have been describing of <word and subject>, mainly in the *Preface*, together with his less directly stated observations that show the importance of context for the reference of terms, that is seen in the *jōri* shift and the whole pair shift described in Chapter 3. The other, much less fundamental to the *Gengo* system, is the placing of language in the schema of nature according to *jōri*. For this he contrasts speech with the skilled behaviour of hands and feet. There is not much inclination to refer to the latter discussion as "semantics". Even in the case of the former, it is a very thin "semantics". This is partly because his concern is primarily with words that name real things, and partly because in *Gengo*, at least, he is not concerned with natural language as he finds it, but with putting some of the features he finds in it to technical use.

Nevertheless, we cannot say that Baien is not concerned with truth because the only language theory essential to his system concerns names, and not sentences at all. Logic meets philosophy in that both the truth of sentences and the correctness of names may be described as depending on their relation to the real.

In recent years there has been some controversy among Sinologists about the "concept of truth" in Ancient China. Some aspects of this controversy might apply also to an evaluation of Baien's thought. We find statements like the following:

In China, truth or falsity in the Greek sense have rarely been important considerations in a philosopher's acceptance of a given belief or proposition; these are Western concerns. The consideration important to the Chinese is the behavioural implications of the belief or proposition in question. [Munro 1969 55]

In discussing Neo-Mohist semantics, Chad Hansen says:

Chinese semanticists had no clear concept of a sentence as a grammatical structure.... That the order of the graphs made a difference was clear, but their semantics included no theory of what functional elements were involved in sentences nor any use of the notion of semantic truth - the semantic correlate of sentences. [1983 46]

Continuing this discussion, Graham [1989] argues both on linguistic and general grounds that a lack of theoretical concern with the notion of a sentence does not imply a lack of regard for propositional truth.

Harbsmeier, however, recognises a "metaphorical root", a natural shift of meaning in the significant English word "true":

None of these terms corresponds perfectly or exactly with the concept of semantic truth. But then neither does the English word 'true'. (Compare this with 'a true friend'. It is a sobering reflection that 'true' etymologically is related to German treu and is thus very much like "shin" [believe, loyal, trustworthy] and far from being a purely logical term.) [1989 125]

I was "sobered" too when, puzzled by some errors in their exercises, I asked a class of philosophy beginners what the adjective "true" applies to, and roughly half immediately gave examples like "true friend" and "true colour". Reputable dictionaries will support this by giving these meanings first. Harbsmeier makes his observation parenthetically, and suggests this nuance of the Germanic "true" is a drawback to serious logical discussion. He may be correct in claiming that Western philosophy has been preoccupied with the Greek "aletheia", but there is something in the meaning of the Germanic "true" (and derivatives of Latin "verus", "our very eyes"?) that allows us to feel philosophically comfortable with Baien's focus on the "real".

Even when it comes to truth in the sense of "aletheia", propositional truth is not always the explicit focus of logical analysis. The logic of Aristotle, whom no-one could accuse of lacking respect for truth relations, is chiefly concerned with the relations of terms, and inferences that depend on the relations of terms. And the exercise of finding examples for his invalidity proofs by counter-example is much speedier if one chooses animal, vegetable or mineral kinds for one's terms. The use of real terms, "real names", is the quickest route to finding true premises.

A focus on names does not indicate a lack of concern for the truth of the utterances of which they are part. Modern realist theories of natural kinds, for example, in which true kinds are named, have nothing primitive about them, and everything to do with scientific truth. Furthermore, no-one can fail to *use* truth of the propositional kind, we could not even speak if it were not assumed that what we say is normally taken to be true: lying and joking depend on that norm, and a human being who did not make some use of truth-preserving relations when thinking could not survive without constant care.

What makes a *jōri* term correct is not its lexical properties, but that it names a member of a *jōri* pair, and to be real just is to be a member of a *jōri* pair. Baien would definitely say that when the reference of a name is mistaken the sentence in which it occurs is bound to be false. Baien does not have to justify the aim of speaking more correctly about the world, he is allowed to assume that his readers will share that aim. We can safely continue to say that names are correct or incorrect, and sentences/propositions /theories are true or false. But there is a philosophically relevant use of "true" by which we can also say a correct name is a "true" name, it names truly. That is, the distinction between those features of nature that are potentially "truly" nameable, and those quasi-features that are not "truly" nameable, is determined by what is real. It is by making this distinction that Baien aims at truth.

distinguishing the real

The notion of the "real" is part of the notion of "*jōri*". Because *jōri* itself is not a member of a *jōri* pair, neither could "real and not real" be such a pair, if something is not real it is not a subject at all. We have named a *jōri* pair correctly when its terms are ruled by their subjects, when it names an opposition in heaven and earth. But we can get this wrong. Baien believed that he had made some mistakes among the *jōri* pairs set out in *Gengo*. The *Gengo* texts give us reason to believe that Baien would suggest the following guides towards naming correct *jōri* pairs:

a) A closer scrutiny of the world might lead us to revise our naming. More information about the mathematical properties of squares and circles might lead us to see that the straight line was a more likely pair for the circle than the square.

b) One possible pair might fit much better with other *jōri* pairs than another. This again is the case with <circle and line>, in comparison with the false "circle and square". According to Baien celestial motion is circular, but terrestrial motion is linear, things rise and fall in straight lines towards the centre of the earth. He had a distinction between cyclical and linear time.

c) Another indicator is that correctly named *jōri* pairs yield information, and false opposites impede understanding. For example, Baien would say that the ancient false opposition of sun and moon, as the Great Yang and the Great Yin, does not yield further information. Instead, we are to pair the sun with shade. This pair may be of less use astronomically than Baien hoped, but it certainly helps in understanding how day and night vary in length. Baien takes the

opposition <circle and line> as a basic principle of the cosmos, and he would not have expected those Chinese who mistakenly paired the circle with the artificial square to have learned much from so doing. The understanding achieved here is also mathematical, circles and straight lines are mutually dependent. Baien's attitude to science, and also the significance of the pair <circle and line> to his system, will be discussed Chapters 6.2 and 8.2.

d) Because *jōri* subjects are found in independent nature, two terms that name them correctly cannot overlap, as the two pieces of the torn sheet of paper cannot overlap if they are correctly joined. "Where one is concave, the other is convex, but when joined they combine without a gap." [Preface 6]

In the discussion of natural shifts in Chapter 3.2, we looked at the word "English" in pairs such as "English and Continental", "English and Antipodean" and "English and American". To a degree "English" shares a linguistic mechanism with "object" in *jōri* pairs such as <*ki* and object>, <object and event>, <spirit and object> and <man and object>. Just as the meaning of "English" is regulated by the term it is paired with, like all *jōri* terms, the meaning of "object" is regulated by the term it is paired with by the mechanism of the *jōri* shift.

For all this, "English and Continental" could never be a *jōri* pair. The decisive difference between *jōri* pairs and those pairs of which "English" is a member is that the division of a realm into "English and Continental" is not clear-cut, it admits of borderline cases, such as people of mixed nationality, or machinery designed in England and built on the Continent. According to most theories of language it is the use of words that creates borderline cases, not their subjects, not things. For Baien,

Because words are man, they are variable. We could call a boat a "cart". However, subjects are heaven, and so are fixed, a boat could not be a cart. Because subjects are real, words can name them appropriately. A cart is a cart and a boat is a boat, the realities are precise, the words are terminology. [Volume of the Small NST 491,38]

In contrast to *jōri* terms, "English" and "Continental" do not name precise realities, they are mere terminology.

The comparison of *jōri* shifts with shifts in natural language raises again the question of the relation of *jōri* shifts to natural shifts that was discussed in Chapter 3.2. Concerning the naming of real subjects, I should like to make the observation that Baien's real subjects are more dependent on natural language than his account might suggest. Baien says in the Preface, "If you look at heaven and see errors in my writings you must reject them, what has heaven to do with me?". Nevertheless, heaven may have much more to do with him, as a language user, than he thinks.

When a *jōri* term shifts from realm to realm, the subjects that it names vary precisely according to the subjects with which it is paired. Baien is explicit about this. But there is another principle of ordering implicit in this shift. It is seldom, if ever, a completely arbitrary matter what lexical item is employed to name a *jōri* subject. In fact it cannot be arbitrary, there must be enough of ordinary language in the *jōri* lexicon for us to work out the meaning of the *Gengo* texts.

Artificial as it is, numbers or other ciphers would not do for the lexicon. When a term such as "body", "object" "*ki*", "man" or "spirit" appears in several *jōri* pairs, in addition to the meanings it derives from its relation to the other members of those pairs, a thread of meaning continues through all its shifts, and probably all *jōri* terms also connect with their usage in ordinary language by that thread of meaning. It is not plausible that the subjects are somehow masters of these meaning threads. Because these threads are vital to the shifts, these shifts depend on features of natural language. Yet Baien claims that they reflect reality also.

It is very difficult to see these "shifts in reality" as reflecting an order in nature that is independent of language. Surely the *jōri* shifts are a function of language, just as the shifts in the meaning of the word "English" are a function of language; this leads us to suspect that the whole *jōri* function owes more to language than Baien would allow. But there is less of a disagreement with Baien here than it might seem, because his view of language is a narrow one that may well exclude the mechanisms that drive the shifts. Moreover, this does not mean his theory is not a realist one. It does not say that the terms of the *jōri* lexicon may not still be ruled by their subjects. The idea that reality is inseparable from language, and that this is compatible with realism, is explored in Chapter 10.

Summary of Chapter 4

1. Words are utterances, and so are sentences. The dynamic temporal sequence of words in sentences accords with a traditional view of language as performance.
2. Unlike the case of "subject", the ordinary language associations of the Japanese word "*shu*" conveys the sense of "master". It is important to the theory that the "subject is master of the word".
3. The "word" of <word and subject> names correctly only if the subject is a member of a *jōri* pair. We understand and use the term correctly if we know the other member of the pair to which its subject belongs, or if a subject is understood to be a union of a *jōri* pair. Thus we can proceed to speak of real subjects without in fact finding the pair of their union.

English "concept", or Japanese "*gainen*", has no useful role in this part of Baien's theory. "Concept" is a misleading translation of "*na*" (name).

Concern with names, rather than with the sentences in which they occur, does not imply a lack of concern with truth. Speaking correctly about heaven and earth involves naming things correctly according to *jōri*.

It is possible to make mistakes in the naming of real subjects, but several considerations might correct these mistakes, such as: more information about a subject; the relation of a possible pair with other already established *jōri* pairs; the informative content of the pairing; and the precise fit of the two opposites, without overlap. The precise fit of two members of a pair is in contrast to the loose fit of natural language pairs such as "English and Continental"; Nevertheless there is reason to believe that Baien's reality has more to do with natural language than his account suggests.

Chapter 5: OPPOSITES

Opposition is the heart of *jōri*. So far in this essay, the word "opposition" has been left rather vague. I do not propose to define it precisely, but rather to take it as part of *jōri*, and allow the complex meaning of *jōri* to unravel as the account proceeds. This is also Baien's method in *Gengo*. [See the second and third sections of Chapter 1.] In this chapter, and in Chapter 7 on Yin and Yang, features of Baien's pairs of opposites will be brought into relief by contrasts with pairs of opposites used in other thought systems in different ways, and for different purposes.

We begin with an analysis of Baien's opposition as a method of differentiation. It contrasts with "polarity" in which pairs of opposites are the pairs of a sliding scale. Opposition is a binary relation; a consideration of the notion of oneness, and the role of the number two in the *jōri* system leads us to consider Baien's theory of number in general. In particular, we shall look at his exclusion of three as a basic number, in contrast to some other theories of opposites, and then briefly consider the significance of the number four in *Gengo*. Next I shall criticise the tendency to assimilate the *jōri* system to Western theories, especially Hegelian or Marxist dialectic, or theories of universals. Lastly I shall question the value of applying a distinction between "abstract and concrete" to Baien's system, a distinction that is often ill-defined.

5.1 *jōri* opposites

In Chapter 1 I have stated two of the three salient features of *jōri* as follows:

1. *Jōri* is a relationship of contrast, by which two contrasting "opposites" are balanced parts of one whole.
2. Everything that exists, (except the inexpressible "ultimate one"), is a member of a contrasting pair.

Baien uses the terms "*han*", for "opposition", and "*tai*", for contrast. "*Hantai*" is the common Japanese word for "opposite", but Baien's usage of the two as separate terms must be preserved in translation. We have here another example of his tendency to separate the nearly synonymous terms of an ordinary language compound when coining *jōri* terms [see Chapter 3.1].

He pairs opposition with comparison, and contrast with division. We find two different kinds of opposition in the two pairs <opposition and comparison> and <contrast and division> themselves. Whereas opposition and comparison are both complementary relations between two discrete things, <contrast and division> involves one whole and two parts. Contrast

requires two, seen as one in virtue of their opposition; division requires one, seen as a combination of two parts.

The goal of Gengo is to set out the principles of differentiation in the universe, and we might see the complementary relation between two discrete things on the one hand, and relations like "whole to part", on the other, as two general kinds of differentiation. We might sort the pairs in the opening paragraphs of Gengo into two groups accordingly:

1. The first group is of pairs that are balanced opposites in the Gengo system, <yin and yang> are the prototype of these, and <ki and object>, <nature and body> and <warp and woof> are examples. In terms of his principle "One is one and one", the relation in the pairs of this group is the relation between the "one and one", whose union is the "One".
2. The second group might be seen as a group of ordered pairs, such that the first members represent the undifferentiated "one", and the second members represent the differentiated "one and one". Examples of this are: <whole and side>, <merging and distinct>, <one and two>, <endowment and divestment>, <combination and separation> and <pair and member of a pair>. Some of these metaphorically involve containing, entering or leaving, such as <containing and dwelling>, <closed and open> or <swallowing and ejecting>. The relation here is between the "One" and the "one and one". For example, the One is the merging of the distinct one and one; one and one combine as One, or separate from One; one and one dwell in the One, which contains them; the closed One opens as one and one; the One swallows one and one, or ejects one and one.

The two chapters of Core Text are entitled "Yin and Yang" and "Heaven and Earth". It could be argued that these pairs illustrate another kind of differentiation, but here the Western reader must be careful. This is a differentiation resembling "numerical" and "qualitative" differentiation.

Analyses of sameness and difference often distinguish between and numerical qualitative identity, although the interesting cases are usually those that are not straightforwardly one or the other. The case of two peas in a pod is a straightforward example. They are two, and hence numerically different, but exactly alike, hence qualitatively the same.

In Core Text, Baien says:

Body has the power of stabilising heaven and earth as *ki* and object. Nature has the power of activating yin and yang as light and humidity. Thereupon the manifest gives rise to heaven and earth as nature and body. [NST 393,7]

Here, <nature and body> relates the two pairs <yin and yang> and <heaven and earth>, in that NATURE subsumes <yin and yang> and BODY subsumes <heaven and earth>. It is tempting to describe <yin and yang>, here applied to <light and humidity>, as quasi-qualitative differentiation, and <heaven and earth>, here applied to <ki and object>, as quasi-numerical differentiation. Nature gives us cosmic "qualities", body gives us the countables of heaven and earth.

Nevertheless, though it may be like the qualitative-numerical distinction, it cannot be the same. We must be careful when we use the Western terms "quality" or "attribute" in relation to *Bai'en*, and indeed in relation to the whole Chinese tradition. This will be discussed later in connection with *yin* and *yang* [Chapter 7].

Not only is the term "qualitative" inaccurate here, but also the term "numerical". *Bai'en* sometimes uses the word "two", as in "one possesses two, and two open one" [Reply to Taga Zenshū II 91], but to describe "one and one" as "numerical" differentiation is to involve the notion of counting and number. "One is one and one" does not refer to an arithmetical fact, though it may be regarded as a precondition for the human activity of counting, as we shall see in 5.2. With the pair <concealed and manifest> discussed in Chapter 11, the one thing that is "manifest" has its opposite "concealed" within it, there is a pair, but only one thing to be counted in the ordinary way.

comparison

Comparison is comparing pairs with pairs, such that like is always beside like. [Core Text NST 391,23]

Just as contrast itself is found in the pair <contrast and division>, comparison too is a member of a pair, <comparison and opposition>.

Bai'en explains comparison in "Appendix XII" of the Preface:

Comparison is paired with opposition. There is opposition when something is present in the one, and not in the other. There is comparison when something is present in the one and also in the other. Nevertheless, the "comparison" of "comparing" is distinct from the "comparison" of "comparison and opposition".

Ordinarily, "comparing" can be carried out with any two things at all. But the "comparison" in the *jōri* pair <opposition and comparison>, is, like opposition, ordered precisely. This too is part of the *jōri* complex, and we are to expect to find our examples in heaven and earth. Perhaps we might say that *jōri* does not compare chalk with cheese, but chalk with sandstone or some other kind of rock. *Jōri* comparison, not opposition, requires that the things compared should belong to a kind.

The function of the ten thousand objects lies in each one taking from the great object. Pairs are in opposition, kinds in comparison. Because they take from the great, there is nothing that does not relate to heaven. Because they reside in severality there is nothing that does not pass through as event. Because there is opposition, there must be pairs. Because there is comparison, there must be kinds. [Volume of Heaven NST 404 27.]

These "kinds" (*rui*) would seem to be discovered facts, as are cases of opposition. "Kinds" includes biological kinds:

There are voiceless things among the feathered kind, and where there is voice, it comes from the feathers. In the reptile kind, there are many voiceless things, and where there is voice, it beats in the throat. [Volume of the Small NST 540,15]

There is reason to believe that with biological kinds he was attempting a *jōri* revision of the classifications of drug ingredients found in old pharmacopoeia.

Baien's other "sideways pairs" are cosmic greats, and do not sit very well with biological taxonomy:

Heaven has earth in opposition, sun has earth in comparison. [Volume of Earth, "The Concealed" NST 446,7]

Sun and moon are in comparison in heaven, whereas water and fire are in comparison on earth. Water and dryness are in opposition on earth, whereas shade and sun are in opposition in heaven. [Volume of Earth, "The Manifest" NST 473,4]

Confronting in pairs is opposition, pairing side by side is comparison. Sun and shade, and water and dryness are confronting pairs; sun and moon, water and fire, are sideways pairs. [NST 475 11]

Because both the pair, sun and moon, and a pair of the same biological kind are not "confronting" pairs but "sideways" pairs, they are not *jōri* pairs. They are, however, members of *jōri* pairs, hence among those things usually referred to as biological kinds, only those with "opposites" are included in Baien's kinds.

polarity and interdependence

In Chapter 3.4 I have argued that despite the simplistic lines beginning "A dog is small in relation to a cow ..." [numbered paragraph (3)], *jōri* terms are not transitive, basically because opposition is not transitive. In their chapter, "Conceptual Polarity", on Confucian cosmology, the polar pairs cited by Hall and Ames involve transitivity, since in polarity "everything that exists falls on a shared continuum on which they differ in degree rather than in kind ...". [1987 19] This involves binary relations such as left of, above, clearer than, thicker than or harder than. That is, X and Y are the poles of the scale, X A → B → C → D → E Y, such that if X-Y is left-right, above-below, clear-murky, thick-thin or hard-soft, then B is right of, below, murkier than, thinner than, or softer than A, C is right of, below, ... or softer than B, and so on.

In an account of the Confucian cosmos, Hall and Ames say:

The epistemological equivalent of an immanent cosmos is that of conceptual polarity. Such polarity requires that concepts which are significantly related are in fact symmetrically related, each requiring the other for adequate articulation. ... Yin is always "becoming yang" and yang is always becoming yin, night is always "becoming day" and day is always "becoming night". But having said as much, most commentators on the Chinese tradition simply leave it at that, without spelling out precisely the character of the presupposition that underlies the mutual immanence and symmetrical relatedness of classical Chinese notions. [1987 17]

In spelling out the presuppositions behind Baien's opposition, we find that some of the notions mentioned by Hall and Ames are adopted as fundamental also by Baien, and that others are explicitly rejected by him. For example, terms of *jōri* pairs are symmetrically related just to the extent that "each requires the other for articulation"; and on the other hand, as I shall explain later, Baien emphatically rejects the notion of yin and yang "becoming" one another.

Hall and Ames say:

Dualistic explanations of relationships encourage an essentialistic interpretation in which the elements of the world are characterized by discreteness and independence. By contrast, a polar explanation of relationships requires a contextualist interpretation of the world in which events are strictly interdependent. [1987 19]

Baien has it both ways. In their sense, *jōri* is clearly dualist, not polar. On the other hand, his explanation of relationships requires a contextualist interpretation of the world in which events are strictly interdependent, but these are the non-polar pairs of the *jōri* shift. His pairs are not the two ends of a scale, but two parts which fit together seamlessly, like the torn paper, to form a whole with no gaps and no overlap [Preface 6]. This combination of interdependence and discreteness underlies the *jōri* shift described in Chapter 3.

Baien comes nearest to the sliding scale between poles when he uses the whole pair shift. Some of the more pervasive pairs are subject to this shift: <fine and coarse>, <heaven and earth>, <hollow and substantial>, <visible and invisible>, and also the pair <manifest and concealed>, which I shall discuss later as significant for Baien's realism. Now, as already discussed in Chapter 3.4, it cannot be denied that the reference shift of ordinary relative terms resembles the reference shift of Baien's whole pair shifts. In ordinary terms, what is hot in one context is quite cool in another, hot tea will not melt an iron bar. But of the five *jōri* pairs just mentioned, only fine and coarse could fit happily on a sliding scale. Although any pair of relative terms might be redescribed in terms of Baien's whole pair shift, the converse does not hold. Many *jōri* pairs that shift as wholes are not relative at all in the ordinary sense.

In passing, the comparison of Chinese "polarity" with Western "dualism" made by Hall and Ames invites comment. They say that the concept of transcendence is ubiquitous in Western philosophy and virtually absent from the classical Chinese tradition, and define "strict transcendence" as follows:

A principle, A, is transcendent with respect to that, B, which it serves as principle if the meaning or import of B cannot be fully analyzed and explained without recourse to A, but the reverse is not true. [1987 13]

They say this "has introduced into our conceptual inventory a host of disjunctive concepts - God and the world, being and not being, subject and object, mind and body, reality and appearance, good and evil, knowledge and ignorance, and so forth..." [1987 17]

But on reflection the situation is not nearly so clear-cut as they suggest. The relation between the terms of the pairs on their list would seem to be largely that of superior to inferior, a relation frequently held to characterise the relation of yang to yin [see Chapter 7.1] Insofar as these disjuncts are to be interpreted as dualism, it would seem they each equally require the other. Of "subject and object" and "mind and body", it is not clear either which is the one that can be explained without recourse to the other, or which is held by the West to be superior to the other.

We might also question Angus Graham's remark on this topic of transcendence: "given the pairs 'Life/death' and 'Necessity/chance', the West strives to abolish B and preserve only A." [1989 332] The book by Hall and Ames, and this passage from Graham, have a very different purpose from the present essay, and for this reason, their remarks on transcendence might be viewed more favourably when taken in their full context. But the above criticism of their generalisations affords an opportunity to reiterate a point that is very relevant to the present exposition of *Gengo*. We should not assume that language or tradition prevent any kind of thinking, especially in the case of serious philosophy.

Hall and Ames describe the traditional Chinese polarities as "conceptual". Baien's pairs are definitely "realist", the oppositions are there already in the world, not applied to it. A consequence of Baien's so-called "dualism" is that unlike the polar oppositions, his opposition, such as the opposition of circle and line, would seem to preclude a sliding scale. The *jōri* shift and the whole pair shift preserve absolute opposition, even in the cases of the seemingly relative opposition in <light and dark>, or of the intermingling <yin force and yang force>.

We have seen that *jōri* opposition cannot admit a continuum between the two members of an opposed pair. The two members are necessarily distinct: necessarily, a circle excludes straightness, but necessarily also, a circle and straight line are always interdependent. There can be no circles without the straight lines that are their radii, and no straight line either, unless when taken with others of equal length, they form a circle radiating from a common centre. (In the case of the straight line, this qualification might sound less contrived if we bear in mind

that Baien usually conceived the centre of the earth as the centre of the universe, and the natural lines of gravity as evidence for this. This is where he found the straight line in nature.)

Our ordinary notion of opposition becomes rather stretched in the case of some of Baien's pairs. These are more like some pairs in Western philosophy such as "substance and attribute", "form and matter" and "universal and particular". They might be seen as pairs of "opposites", but in a very different way from "heat and cold", or even "necessary and contingent". By definition, substance is completely distinct from attribute, matter from form, and universal from particular, and yet each member of these pairs is necessarily dependent on its opposite.

Besides <circle and line>, a crucial pair in which Baien's notion of "opposition" is stretched like this is that of <*ki* and object>. <Body and shape>, <nature and body> and <word and subject> are other examples. Baien asks us to abandon the idea of <yin and yang> as applying only to "obvious" opposites such as <heat and cold> and <rising and falling>.

5.2 Number

The *jōri* system depends on opposition, and however opposition is interpreted, it is essentially binary. Baien's opposites are not varying positions on a sliding scale, but two "ones" that join seamlessly. There is no third thing, an "opposition maker". On opposition in Chinese thought, Graham remarks "the binary tends to leave out the maker of the opposition", and he adds that by the end of the classical period some pairs began to be expanded into triads. [1986 40] Baien's theory does not require triads, because the two are identified with the one. The raw side and the finished side are numerically identical with the whole brocade, and when the two pieces of torn paper are fitted together there is only one thing, not three.

What reason does Baien give for saying that the structure of nature is binary? Why not a threefold division, animal, mineral, vegetable; solids, liquids, gases; past, present, future, or, using his metaphor of the branching of a river, why not three tributaries or outflows? He has a short answer. Three is not a natural number. In *Genkiron* he points out that all the other numbers can be derived from one and two:

Although there are nine digits, the only numbers that relate to heaven and earth are one and two. One is the beginning. Two is one and one, and the opposite of one.
["Numbers" *Zenshū* I 756]

One and two are the only natural numbers, the other numbers are artificially abstracted from them, just as the circle and the straight line are the only natural shapes, all the others are human artefacts.

Or so it may seem. But are Baien's "one and two" numbers at all?

oneness

Changes in his handling of "one and two" show a development of thought. As early as some drafts of *Genkiron* we find him saying "one is the only number that relates to heaven and earth", instead of "one and two are the only numbers that relate to heaven and earth". In an appendix to the *Gengo Preface* he has a rather mystical sounding passage which begins:

One suffices without counting. However far it is divided, one can be neither destroyed nor depleted. However many ones are added, one can be neither multiplied nor attained. Hence when pressed to name it we call it the One primal *ki*. [App. X]

We cannot describe it, but we can name it, and it is not mystical, Baien's lifelong project was to clarify, not to mystify. I suggest that throughout the twenty-three versions of Gengo he was undecided between two principles:

- 1) "One and two are the only real numbers";
- 2) "One, in heaven and earth, is not a number".

and that he came to prefer the second. There is a chapter on numbers in Genkiron, but none in the final version of Gengo.

The idea that one and two are the only natural numbers has overtones of intuitionist mathematics, as in the following quotation from Brouwer:

... intuitionist mathematics is an essentially languageless activity of the mind having its origin in the perception of *a move of time*, i.e. of the falling apart of a life moment into two distinct things, one of which gives way to the other, but is retained by memory. If the two-ity thus born is divested of all quality, there remains the *empty form of the common substratum of all two-ities*. It is the common substratum, this empty form, which is the *basic intuition of mathematics*". [Körner 1960]

But it is more consistent with the final version of Gengo to say that counting or numbering, like naming, is a human activity. The relevant features of nature, that is, of heaven in contrast to man, are oneness and division, contrast and merging, hence one and one are one, not two. In Letter to Yumisaki Yoshitada he says:

The number of heaven and earth is simply one. We meet it as one and one. Numbers from three onwards, even numbers and odd numbers, and ten taken as one again to make hundreds, thousands, ten thousands, hundred thousands, and so on, are not functions of heaven. We seek in heaven what are not functions of heaven. [p.350]

The emphasis on oneness is an emphasis on necessary interrelatedness. Baien may have recognised the need for his enquiry to proceed piecemeal, but every pair has a union. Oneness is not the same as the number one. In the jōri system, one and two correspond to oneness and diversity. Diversity is represented by the number two because it depends on the binary relation of opposition.

The importance of this difference between the number one, and "oneness", is well expressed by Alison Black in her discussion of t'ai-chi ("the Supreme Ultimate") in Wang Fu-chih (1619-1692):

If the ordinary world (characterised by diversity) came from a non-ordinary source (transcending diversity), then that source would be something existing in its own right apart from the ordinary. Such was the fault he [Wang] found in the Taoism of Lao-tzu, for example, in the well-known passage,

The Way gives birth to one, one to two,
two to three, and three to the myriad things.
The myriad things carry yin and embrace yang,
from their mingled ch'i deriving harmony. [Lao-tzu 42]

Here the harmony of yin and yang, which Wang defines as t'ai-ch'i, is confined to the "myriad things", whereas the "one" (which for our purposes represents t'ai-ch'i), is understood to precede diversity. But for Wang t'ai-ch'i spoke neither of the ordinal nor of the cardinal number "one" but of oneness interfused through phenomena (a distinction that is not self-evident in the Chinese language). T'ai-ch'i, as he says above, "is not something standing on its own over and above yin and yang." [1987 67]

(Incidentally, Wang also uses the term "jōri" ("t'iao-li"), translated by Black as "the innate structured organisation of a thing. [1987 69])

Using <being and action> in which man acts, and heaven has being, Baien says in Volume of Earth:

Although in heaven numbers add up to the infinite, there is only the number one. The odd and even numbers that we use for calculation are all man-made. Being is heaven, but if we should understand only that being arises from heaven, and not also that action is not heaven, we shall be dazzled by man-made numbers. [NST 445,16]

Heeding the Context Rule, we should observe that these lines occur in a "note", that is, one of Baien's many long indented passages, in the "Concealed" section of Volume of Earth, in the discussion of the realm of MOTIVE POWER. The lines follow an account of the revolutions of heavenly bodies, and are immediately preceded by a list of the numbers of days in a month, days in a year, months in a year, and so on.

Baien would not accuse mathematicians of being "dazzled by man-made numbers", he had the deepest respect for the astronomical calculations of the brilliant Asada Gōryū. The "dazzled" could be an allusion to those doctrines of which Baien said: "three talents, four masters, five elements, six *ki*, nine mystic markings, ten mystic diagrams - this is all the wisdom of the blind". [Letter to Yumisaki Yoshitada p.350] Alternatively, he is quite likely referring to numerology. By reputation, this could be the system of the Chinese philosopher Shao Yung (1011-1077).

Nevertheless, in defence of Shao Yung, Anne Birdwhistell would say that it is too swift to identify Shao with the numerology that Baien despised. She says:

Shao Yung did not believe that numbers control reality. Rather, he repeatedly suggested that phenomenal reality is patterned and that one pattern is numerical. [1989 72]

There are several superficial, and quite possibly some deep resemblances too, between Shao and Baien. Shao uses the term "fan-kuan", Baien's "hankan", "seeing opposites". Furthermore, for Shao the highest form of knowledge was a perfect mirror-like reflection of things as they are [Birdwhistell 1989 184]. This is consistent with Baien's focus on what is before our eyes. Nevertheless, Shao Yung's emphasis would seem to be attaining a state of sagehood or self-development. Baien, on the other hand was more interested in the world before his eyes for its own sake and not for personal fulfilment, and was not discouraged by the realisation that a complete analysis was unattainable.

one and two

In the main text of Volume of the Small where the topic is the very distinction made by the pair <heaven and man>, <one and two> is applied to <merging and distinctness>. Baien says:

Heaven makes numbers and man counts them.

Heaven turns and revolves and man makes calendars.

Heaven makes parents and children, and man is respected or is humble.

Heaven makes man and woman, man matches them in pairs.

Heaven makes land and soil, man makes cities and villages. [NST 493,3]

If one were alone as one, as one merging, why would people persist with two?...

Although heaven and earth differ in position, together they are one being. Although we have both ears and eyes, or arms and legs, they function in pairs as one. This is because when the left leg runs, the right leg is carried with it If two were simply two, the left hand could draw a square while the right hand draws a circle ...

If two were alone as two, as the distinct, why would people persist with one? [NST 494,13]

As mentioned earlier, in different versions of Genkiron Baien changes his mind about whether or not two is a natural number, or whether it is man-made, like the number three. From Gengo it would seem that two is a "natural number" in that it is not man-made. He is not discussing the cardinal numbers when he says, in the late work, Reply to Taga:

... one possesses two, two open one. Therefore one is two, and two amount to all the things of the manifold. [Zenshū II 91]

We must assume that in counting discrete things, the cardinal numbers one and two function as "man-made" numbers, and like the other man-made numbers they derive from the *jōri* one and two of heaven and earth. The derivation is a human artefact.

There can be no doubt that Baien's system owes something to I Ching. This need not be held against it, it is a mistake to infer from the fact that nowadays many works on I Ching are found on the "Occult" shelves of local bookshops, that I Ching is not of considerable philosophical importance. Nevertheless, the differences between I Ching and *jōri* are radical, and Baien regards himself as rejecting "the Lines".

Many people have commented on the relevance of I Ching to binary notation. For instance, Ho Peng-Yoke says:

Now if we replace the symbol 0 by the broken Yin line - - and 1 by the full Yang line - ---- then we can write out the 64 Hexagrams in exactly the same fashion as we have just written down the numbers 0 to 63 using the binary notation....

The fame of Leibniz and the usefulness of the binary notation in modern computers both have a catalytic effect on the revival of interest on the system of the Book of Changes in recent years concerning its application to science. [1972 25]

But it cannot be deduced from this application of the I Ching system that the Chinese themselves were interested in binary arithmetic. As Graham points out:

Not that the Chinese had discovered binary arithmetic, for the number ascribed to the unbroken or Yang line is 1 and the broken or Yin line is 2. They supposed themselves to have discovered the structure of the cosmos (which indeed was its significance for Leibniz), and had indeed discovered the structure of binary thinking as it organises a cosmos, the pattern in the unfolding of "the first of the metaphysical oppositions, that between the same and the other", which for Kepler too was still not the start but the end of cosmology. [1989 361]

Binary notation has also been mentioned in connection with Baien, but the above difference between arithmetic and cosmic organisation is very definitely crucial in Baien's case. Binary notation, as a method of representing the cardinal numbers, has little to do with oneness and diversity. A logic of the cardinal numbers based on "zero" and "successor of" has nothing to do with it either.

One might speculate however, that practical techniques, insofar as they depend on sameness and difference, be it of divining rods or of electronic states, do depend on the theory behind the *jōri* slogan "one is one and one". As binary diversification, sameness and difference are real features of the world.

three

We return now to Graham's observation that "the binary tends to leave out the maker of the opposition" and that by the end of the classical period some pairs had been expanded into triads [1986 40; 1989 339]. Triads consisting of pairs of opposites plus "the maker of the opposition" appear again in 17th century China in Tung hsi chün, the most philosophical work of Fang I-chih. In this text Fang actually draws little triangles of three dots, ". . ." to indicate a pair, together with the "one that runs through them". [Fang 1962, "Three Questions", 27] Tung hsi chün was not published before 1962, and it is very unlikely that Baien would have been acquainted with the manuscript. In Zeigo, Baien refers frequently to Fang's Wu-li Hsiao-chih, ("Notes on the Principles of Things"). This book is mainly a scientific encyclopaedia, but it does contain some philosophical comments:

I hold the principle ["li", the "ri" of "jōri"] according to which one dwells within two, so that because one cannot be destroyed, two cannot be destroyed either. [1664, "General Remarks", 9]

In the preceding line Fang says:

Since it is the mind alone that knows and sees, everything reflects or echoes it. As I said before, "The bounds of mind are the bounds of li".

One might speculate that this "idealist" approach inclined Fang finally to use "the maker of the opposition" to construct his little triangles, in contrast to Baien's realist approach in which conceptual triads have no place. Fang describes the apex of his triangle as the one that runs through the other two. There is no doubt here that the apex is of a higher order in some sense important to him, and it is possible, as some suggest, that there was an element of mysticism in Fang's ultimate one. Controversy about Baien's stance notwithstanding, no ontological hierarchy is implied by the jōri system. Baien makes it explicit that the smallest divisions are as real as the great undivided.

four

Although Baien does not classify threefold, four-way divisions do appear in key positions in his system. Firstly there are the alternative sets of Four Realms mentioned in Chapter 3.3:

ki-object-nature-body;
heaven-motive power-body-colour

and

heaven-motive power-body-nature. [See Diagrams on p.49 above.]

Sometimes these foursomes are represented as circles with two hemispheres that correspond to <fine and coarse>, but not always. In any case we might ask, if we may depart from "two", a jōri pair, why stop at four particularly, why not eight, or sixteen? There is no doubt that Baien attached some special significance to these groups of four. In Reply to Taga he says:

These four things, heaven, motive power, nature and body, are like the four legs of a Go table, if one leg is missing the other three cannot stand alone. [*Zenshū* II 95]

Baien's Go table could not stand on two of its legs, either.

Again, when Baien analyses the individuation of physical objects in *Core Text*, he introduces the foursome, ki, object, nature and body. He uses the example cum metaphor of a tree, correlating the four one-to-one with trunk, root, sap and flower, which in turn are correlated with conservation, control, conveyance and action. [See Chapter 8.3] (As often with Baien, it is not the metaphor itself, but its application that was original. To give just one previous instance, Prince Shōtoku, accredited with the founding of Japan as a unified nation, applied the model to the three-fold distinction of Shintō, Confucianism and Buddhism: Shintō is the root, Confucianism the stem and branches, and Buddhism the flowers and fruits. [Anesaki 1930 8])

Baien says:

When nature is divided into two bodies, it is one *ki* and one object, one and one come together, two and two become four. When they are split up, there are *ki* and object, body and nature; when they are combined there are trunk, root, sap and flower. [*Volume of Heaven* "The Stable" NST 423,30]

Earlier he has said:

Heaven, object, sap and spirit combine as trunk, root, sap and flower. That is to say, the trunk is *ki*, the root is object, these are necessarily heaven and earth. How could there be anything outside heaven and earth? Invisible body is the sap, the visible is the flower. In other words, of necessity, the visible and manifest is the flower, and the invisible and concealed is the sap. [NST 417,36]

These lines come from a passage that is difficult to interpret in fine detail, but at least we can take it that <*ki* and object> represents the oneness of <heaven and earth>, whereas <body and nature>, in the forms of the concealed or the invisible and the manifest or the visible, represents the changing states of things. Nevertheless, there is no clear delineation of a governing *jōri* pair in which the two pairs, <*ki* and object> and <body and nature> are members and opposites. There may be *jōri* pairs among the four, but the structure is fourfold. As with the legs of the Go table, or "trunk, root, sap and flower", all four are required.

It might be added that he has no qualms about employing the image of a square, another foursome, when he says in *Zeigo*: "The analysis of living things in *Gengo* is not exhaustive. I have given only one corner, the beast kind, you must supply the other three corners." [*Zenshū* I 541] Here he is deliberately employing an image from the Confucian *Analects*: "When I have presented one corner to anyone and he cannot learn from it the other three, I do not repeat my lesson" [VII 8]. Shao Yung, too, made great use of the number four. Birdwhistell says that a division of things into four parts was a characteristic of Buddhism. [Birdwhistell 1989 125 and 230].

Baien's foursomes are not all derived successfully from two specific *jōri* pairs. Perhaps Baien himself was "dazzled" by the fact that four is two twos, forgetting that two is only significant in the *jōri* system because of the "one and one" into which the "One" divides, and not for its man-made mathematical properties. Despite the *jōri* slogans, as his thought develops, the emphasis seems to shift from the pair <one and two> and its implications, to *jōri* as a branching, and branching is not necessarily branching in two. At times confinement to the binary schema leads him to some very clumsy hypotheses, and it appears that he himself felt a tension between his binary commitment and his "realist" commitment.

5.3 alien terms

Studies of Baien frequently involve technical terms from Western philosophy. This is like marketing Baien's texts for a philosophical supermarket, called "Easy Find", with the signs "Metaphysics", "Ethics", "Formal Logic", "Politics", etc, in the aisles, along which are arranged packets labelled "Baien Set Theory", "Baien's Hegelian Dialectic" and so on. The student of Baien who shops at Easy Find has good reason to complain of misleading labelling.

dialectic

With its catch phrase "unity in opposition", it is natural enough to describe Baien's system as "dialectic", on the grounds of a superficial similarity with Hegelian or Marxist theory. For Hegel, it belongs to the nature of everything to be a "unity of opposites" [Wood 1981 200], and in his own sense, for Baien too.

We can imagine how this assimilation to Hegelian theory might happen: A scholar with a training in German philosophy attacks the inscrutable Gengo text. His eye catches a familiar phrase "unity in opposition" - Hegel! and this is the catch-phrase of the *jōri* system! No wonder he feels he has found the key to Gengo. He turns to Hegel for help in interpreting the rest. Hegel is talking about concepts, about abstract thought. So is Baien talking about concepts? The text does not bear this out. Perhaps Baien did not realise it, but he should have been talking about concepts. In fact, Baien can be credited with getting so much right, that if we should only take his pairs as pairs of concepts, his system might be mapped neatly on to Hegel's...

That would be an encouraging thought for those who endorse Hegel, but a perplexing thought for dissenters. For how could an 18th century Japanese thinker, educated entirely in Sino-Japanese tradition, share that elaborate system? Nagura Masahiro has complained about the interpretation of Baien's terms according to terms from Kant and Hegel when the terms Baien uses were already in use in China and Japan, and Baien himself "wrote in the Edo period, in the remote countryside a long way from any city, and not blessed with an affiliation to a master..." [1993 47] Regardless of how we judge Hegel's system, (and no assessment is intended here), the answer must be that it is not at all the same as Baien's. A more careful reading of Gengo reveals that the substitution of "concepts" or similar mental entities for the elements of the *jōri* system completely ignores its motivating force. Baien's enquiry was essentially realist. It originates in the search for the structure of the universe, and proceeds on the conviction that because of our limitations that structure could never be fully accessible to human thought.

More specifically, the test of a true *jōri* pair does not lie in logical analysis. Speaking of Hegel, Allen Wood points out some of the difficulties in establishing criteria for the opposition of terms. Firstly, sometimes there are several alternatives. Wood gives the example of "red", its "opposite" might be "green", "white" or "black" depending on context. Secondly, sometimes one member of a pair of opposites can exist without the other. [1981, 200f.] Wood says that

females could exist without males, for example, or lefthanded people without righthanded ones. Perhaps Hegel would say that the "concepts" of "male" and "righthandedness" would remain. We need to know how opposite "concepts" apply to the world in Hegel's system.

Whether or not the possibility of a world with only one sex, or one kind of handedness are really problems for Hegel, if they are problems for Baien they are solvable ones. For righthandedness and lefthandedness to be a *jōri* pair the world would have to contain both kinds of people.

In general, it would be safe to say that although Baien's universe itself is dynamic, the *jōri* system is nothing like a developmental process. Furthermore, Baien does not believe he is constructing a system at all, certainly not one authenticated by pure abstraction on the part of a philosophical elite. He believes he is uncovering piecemeal what is already before us, and that the whole is too vast and intricate for one person, or even all mankind, to master.

In the case of alternative opposites for "red", by our modern understanding of colour, if "red" were a member of a *jōri* pair, only green could be its opposite, because this pair tells us something about what red and green are. Baien's justification of the *jōri* system itself is the increase in understanding that the theory gives rise to, an unshakeable conviction derived from experience, rather than any Cartesian style certainty. (The doubts that Baien emphasises as necessary to constructive thinking are not systematic Cartesian doubt either, though more than one reader of Baien's remarks on doubting has cried "Descartes!")

Our scholar of German philosophy was fictitious, but for whatever reason he saw fit, Saegusa Hiroto, who wrote extensively about Baien, took the approach that Baien was an unspoiled dialectical materialist. Saegusa had such authority that his work must be held partly responsible for the tendency to interpret Baien in this way. Of the general environment in which Saegusa worked, Maruyama says:

In the second half of the twenties came Marxism, sweeping through the Japanese intelligentsia like a whirlwind and drawing the academic world, too, into its turbulence.... For members of the Japanese intelligentsia who still retained in some remote corner of their consciousness the sediment of an animistic view of the universe inherited from ancient times, but who had also been trained in the specialized fields of higher academic learning imported directly from Europe, Marxist methodology presented a startling freshness of vision as an integrating, systematic science that offered to unite the specialized sciences into a comprehensive Weltanschauung....

It was not, however, until after 1934 ... that Marxist scholars began to publish in the history of Japanese thought proper, as opposed to economic or social history. The studies of "traditional" ideology - National Learning, and Shintō - by Nagata Hiroshi, Torii Hiro, Saegusa Hiroto, Hani Gorō and so on - belong to this time. [1974, xxiii f.]

Maruyama, quite correctly, excludes Miura Baien's thought from the "traditional" ideology, but Saegusa's work on Baien otherwise fits Maruyama's picture. Saegusa's interpretation seems to have influenced Gino Piovesana's translation of Reply to Taga [1940], and very likely

Katō Shūichi's description of *Gengo*: "*Mysterious Words* seeks to explain the universe as an almost Hegelian dialectical development of matter" [1983 171]. Nakamura Hajime says: "It is asserted frequently that, in the Tokugawa period, logical thinking appeared in some Japanese scholars, for example, in Baien Miura, but all that we can discern in him is a way of thinking similar to Hegelian dialectics" [1964 549]. Nakamura says elsewhere:

Miura Baien expressed a theory of dialectics of his own. "The way to understand Nature (or the universe) is dialectics (*jōri*). The secret (*ketsu*) of dialectics is to see synthesis (*gōitsu*) in antithesis (*han*). It is to give up one-sided preoccupation and to correct marks (*chōhyō*) - *yin* and *yang* are antithetic to each other and constitute opposition. As they are antithetic to each other, they can be brought into synthesis." [1967 194]

I have chosen to translate the above passage from Reply to Taiga (including the lines that Nakamura omits) as follows:

The way to true understanding is *jōri*. The key to *jōri* is simply discarding habits of thought, following the correct signs, and seeing opposites as one. Discarding habits of thought means freeing oneself from personal attachments.

Following the correct signs means being able to distinguish those things that are signs from those that are not. For example, as we see it there is every sign that the sun and moon travel westwards, but the truth is they travel eastwards, and water seems certainly to be the enemy of fire, but fire in fact depends on water.

The way of heaven and earth is *yin* and *yang*. The bodies of *yin* and *yang* contrast and oppose one another, and by opposition they combine as one. Then they constitute heaven and earth. [*Zenshū* II 89]

Baien's correction of old beliefs about the sun and moon or water and fire may leave much to be desired, but at least they were clearly an attempt to find sounder empirical hypotheses. I am in no position to interpret or evaluate Hegel's theory, my contention is that terminology such as "dialectics", "thesis, antithesis and synthesis" (terms that even Hegel seldom uses, and Marx only once! [Wood 197]) do nothing to elucidate Baien's meaning, and lead to misleading interpretations. Piovesana deserves credit for trying to translate Baien's terms into a European language, and the shortcomings of his translation expose the dangers of using Saegusa's exegeses as source material. [Piovesana 1940] (Nakamura refers to Saegusa's modern Japanese translation in *Japanese Materialists*, 1956, (1928) p.93 and *The Philosophy of Miura Baien*, Saegusa 1973 (1941), p.85f.) It is fair to say that it is not only because of his authority that Saegusa has been influential in interpretations of the *Gengo* project, but also because Baien himself is so difficult to read. It is understandable that Katō and Nakamura, who were engaged in writing general surveys of Japanese thought, should be forced to rely on secondary sources.

More recently, with the upsurge of interest in Baien, approaches to Baien have shown freshness and variety. Takahashi says:

Since Saegusa has pronounced that Baien's *hankan-gōitsu* is dialectic, materialists have strictly adhered to this, but it is unproductive. The Baien research done by Japanese materialists is sometimes really extraordinary, but ends up by lapsing into idealism or metaphysics. Baien's *hankan gōitsu* is grounded in global theory. [1981 287]

Sueki Takeshi contrasts Baien with Hegel in detail, and concludes that the similarity has been greatly over-stressed:

In simple terms, Baien's fundamental *jōri* formula, "One is one and one, one and one is one", has a resemblance to Hegel's formula of "truth, refutation and unity". But when it comes down to it, the two are not the same, moreover, their differences are not only based on fundamental differences in Baien's and Hegel's approaches, they involve fundamental differences between Japanese and European culture. [Sueki Takeshi 1990 1]

Shimada Kenji is of the opinion that all the arguments about whether or not Baien's theory is "dialectic" are no more than a debate about terminology [1979 337]. But the arguments cannot be ignored altogether. One should object to the application of the term "dialectic" to Baien's theory. For one thing, it may give the impression that there is more similarity between Baien and those Western theories than in fact there is. For another, in the case of Hegelian or Marxist systems, "dialectic" and its Japanese equivalent "*benshōhō*", are already used metaphorically and derivatively.

Both "dialectic" and "*benshōhō*" originally refer to spoken argument, appropriately in the case of Socratic dialectic. Wood says:

In more familiar philosophical parlance, dialectic refers to the activity of establishing or refuting by arguments in the give and take of discussion. Hegel conceives of organic development as fundamentally a process of cosmic reason, a process by which spirit tests and 'refutes' the imperfect forms of its embodiment, rising successively to higher forms. [1981 196]

To apply the terms "dialectic" and "*benshōhō*" to Baien's system via Hegel and Marx, is thus to use them at a double remove. There is nothing to be gained, but there is something to be lost, namely, the significance of a blood-line by which the *jōri* system is connected with Chinese traditions.

The customer at Easy Find who buys the package labelled "Baien's Hegelian dialectic" would be cheated. However tempted we might be to see Baien's pairs of opposites as "concepts", if we remove our European spectacles all we can see are pairs of names, that is, (pairs of *jōri* terms), and pairs of real subjects, that is, the phenomena to which they refer. Man is a very small part of Baien's universe, in which the faculties of conscious thought and language that distinguish us from other animals are very limited in their reach.

When it comes down to it, to attribute those European ideas to Baien, we should have to show that Baien's "One is one and one" shares with dialectical materialism something substantial that is not found in Chinese yin-yang tradition, I Ching, Neo-Confucianism, the subsequent ch'i philosophy, Fang I Chih, and so on; nor in the Sorai and Jmsai schools, Ekken and other Japanese writers who used these notions. This extra thing might be said to be a process of development out of conflict, or contradiction causing development, but where is this in Baien?

"Materialism":

The word "materialism" too can be a very misleading label, almost meaningless out of context. Irene Bloom has discussed the unfortunate results of labelling philosophy of ch'i as "materialism", characterising many Ming thinkers as "materialists" accordingly, and thereby creating an unwarranted dichotomy between materialism and "idealism". [Bloom 1979 106] A system of nature in which *ki* (Chinese "ch'i") is some kind of basic physical substance has led both Baien and Fang I-chih to be seen as natural dialectical materialists of the Marxist or Maoist kind. Of Fang I-chih, Hou Wai-lu says:

Fang Yi-chih has never been mentioned by bourgeois historians of philosophy. It is strange that the name of such a great thinker, natural scientist and anti-Manchu patriot of whom we could be proud should have been allowed to lie in oblivion for three hundred years. He was an adversary of the idealists. ...

With his knowledge of the natural sciences as a basis, he founded a system of materialist philosophy. ... The union of the two conflicting forces of fire is the cause of all changes in the material world. That motion is caused by the union of opposites - that is the most notable philosophical principle first made explicit by Fang Yi-chih....

Fang Yi-chih's philosophy has its shortcomings; it is marred by mechanism or determinism. [1959 61]

The leap from the physical sense of "materialism" to a political sense is unwarranted, but not uncommon. The following casual remark is another example: "According to Baien, concepts arise from the luxuriant manifold. This is a kind of materialism. It is certainly true that people of left-wing persuasion are numerous among Baien supporters!" [Sueki Toshiatsu 1983 74] The moral here is that we should never buy our Baien at Easy Find in a packet labelled "materialism" either, certainly not without reading the list of ingredients.

Contradiction:

In the discussion of tree diagrams and hierarchies in Chapter 2.4, I have already warned ~~stated~~ there is no warrant for drawing a picture of two contradictories resolving into a "higher" one. The torn paper does not become whole again, both the whole paper and the two pieces defined by the line of demarcation are simultaneously present.

"Dialectic" and "*benshōhō*" are more or less direct translations of one another, but can we say the same of "contradiction" and "*mujun*"? The original Chinese meaning of "spear and shield" is not the same as the Latin "speaking against". Ogawa Haruhisa points out how well the Chinese "*mujun*" fits the Marxist image:

The relation of contradiction has been conceptualised in the West, the concept is believed not to have manifested in the East, but I have come to see that in the ancient Chinese tradition of "*mujun*", the origin of the word shows a splendid grasp of the relationship of "contradiction". "A shield that cannot be pierced by the sharpest spear", and "a spear that cannot penetrate the hardest shield" shows sharp opposition and mutual negation. [1983 27]

Ogawa says further that the "Marxist" confrontation does not result in victory for one side, but resolution. He is right that the Chinese imagery would seem to fit the Marxist notion of class conflict better than the bland Latin derived "contradiction", which suggests merely verbal forms that are logically mutually exclusive. "Spear and shield" has a dynamic nuance, it places contradiction in the sphere of human activities, contradictions, for example, like posting home to one's own address the only key to one's letter-box; like all the emotional conflicts that ride with the frustrating fact that we can both want and try to achieve the impossible feat of having our cake and eating it too; or like the eloquent John Wisdom's "conflict in the human heart that dreads, and yet demands, the otherness of others."

Nevertheless, *jōri* opposition is not a theory of strife and resolution, nor does it involve logical contradiction. There is no conflict between the two sides of the brocade, or the two pieces of the one piece of paper, nor any literal contradiction involved in the pair <man and woman>, or in the cosmic turning westwards and turning eastwards, because at any one time it is not the same thing that is both man and woman, or turns westwards and eastwards. *Jōri* opposition frequently involves unity or balance, members of opposing pairs coexist harmoniously in the universe. Wood discusses pairs of opposites in organic development:

A warm-blooded animal, for example, has mechanisms both for generating body heat and for losing heat to its environment. Viewed in the abstract, it has two opposite tendencies, tendencies which even 'negate' each other, destroy each other's effects. Yet in the organism they are arranged so as to complement each other... Each of them is necessary to the life of the organism, and thus ultimately necessary for its own opposite. [1981 201]

Wood's well-chosen example happens also to express exactly the relation of contradiction to *jōri* opposition. The destructive, negative effect of opposition is present only when "viewed in the abstract". In Baien's case, these bodily mechanisms might well have been a *jōri* pair, and

abstractions of thought would not come into it. The harmonious and dynamic complementarity and interdependence would be the criteria by which the mechanisms were accepted in Baien's system. If Hegelians describe these things as "contradictories" [Wood, 202], this requires some process of abstraction that does not concern Baien who says, "The diving down of fish does not prevent the flying upwards of birds" [Preface 11].

universals and particulars

In discussing the role of relative terms in Chapter 3.4, I quoted a passage from the "Yin and Yang" chapter of Core Text in which "fine and coarse" appears to be used transitively, and observed that this impression is due to the fact that <fine and coarse> here is applied to <great and small>, one of the few pairs that is transitive. This same passage might lead one to interpret "fine" as "universal" and "coarse" as particular. Mankind is coarser than the animal kingdom, which by a *jōri* shift in the term "coarse", is coarser than animals and plants taken together. ... "The greatest things never leave out the small, the finest things never exclude the coarse."

But the *jōri* principle does not usually provide such a neat taxonomy, and it would be a mistake to interpret this as a Western doctrine of Universals unless it were really necessary. <Fine and coarse> is more often applied to *ki*, and so applied has nothing to do with "universal and particular". The idea of fine *ch'i*, in the sense of pure *ch'i*, is an ancient one, but usually contrasted with inferior, "impure" *ch'i*. Baien's account of fine and coarse *ki* is much more subtle. He says:

It is not that there is no empty space because heaven is full of earth. Heaven resides within earth. Furthermore, objects reside within water, but water also resides within objects. Thus we might say that heaven exists within earth, and earth dwells within heaven.... The fine fills heaven and fills earth. *Ki* is everywhere but its traces are not manifest. Because they are not manifest we cannot see it. But how can it be nothing?...

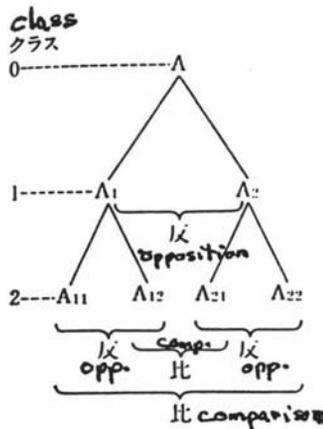
The substantial dwells within the hollow, the fine pervades the coarse. [Zeigo Zenshū I 303]

Note the contrast between "dwelling within" and "pervading" in the last line.

That which holds a place although its body is concealed is heaven within the coarse. If we look at heaven from within the fine it is just the same as earth. [Reply to Taga, Zenshū II 94]

Coarse *ki* is defined by the shape of the objects which bind it, it fills a place, defines a place, one might even say. Fine *ki* is the basic stuff of which things are constituted, it has no shape of its own [See Chapter 8.1]. In this passage "fine" does not mean "universal" and "coarse" does not mean "particular".

In Chapter 2.4 I mentioned three hazards of representing *jōri* division with branching tree diagrams. A fourth hazard might be that it inclines us, in some passages, to interpret Baien as discussing universals and particulars. Yamada offers the following diagram of <opposition and comparison>, given here on the left [1982 187]. Compare this with Baien's matching pair of diagrams on the right, entitled "Combined diagram of division and contrast, opposition and contrast" [NST 550 Diagram 7]:



What has the diagram on the right to do with classes, whose members, we take it, are grouped according to some universal feature that they share? To show the inadequacy of the tree structure, Baien has tried to add a dimension by making the pair of circles reversible, as it were.

Yamada says that by working upwards from A11 - A22 one comes to a complete understanding of A. He continues: "The developmental process of existence arises from the One in the class at the highest level, and gradually by continual binary division reaches the ones in the class at the lowest level."

The account of *jōri* so far in this essay should lend support to the claim in Chapter 2.4 that Baien was more concerned with differentiation than "complete understanding" of a One that is essentially incomprehensible.

abstract and concrete:

Along with "classes", "universals", "hierarchy" and so on, the word "abstract" is quite often used in twentieth century commentaries on Baien's *jōri*, either the *jōri* terms themselves are described as "abstract", or Baien is said to have "abstracted" them. Gino Piovesana uses this term, and also interprets "*na*" as concept:

Baien expresses the difference between abstract concepts and their objective content with the words *koe* (voice) and *myo* (name) to signify concepts, whereas he uses *shu* (main thing) and *jitsu* (reality) to indicate things in themselves. The dialectic process is to be extended to the opposition between the subjective and objective aspects of our knowledge. [1965 403]

We may detect the heavy hand of Saegusa Hiroto on Piovesana's shoulder here.

One could argue that <sun and shade>, and even <water and fire> are not "abstract". Or are they?

If we are describing the construction of a hierarchy of classes beginning with "concrete" particulars, such as particular people, through a hierarchy of increasingly more general terms - Japanese, human being, land mammal, mammal, animal - it does make sense to say this is based on "abstracting" more and more widely shared properties at each step, and hence to say that each step is more "abstract" than the one before.

But this use of the term assumes both a theory of properties, and a hierarchy of classes. We should be wary about assuming either of these in the case of traditional Chinese thought, and especially in the case of the *jōri* system in which the notion of universals is out of place, despite Yamada's determination to see class hierarchy in the *jōri* system as a doctrine of "unification through the abstraction of common factors" [1982 153].) It is difficult to see what other technically precise sense "abstract" might have in these contexts, especially when contrasted with "concrete".

A schema that is commonly drawn to represent class hierarchy resembles the branching family tree schema to which Baien sometimes alludes as an image of the branching of *jōri* (except of course that in class hierarchies branching need not be binary). Insofar as Baien suggests this as a *jōri* model at all, he does not do so to demonstrate particular *jōri* pairs. Starting with one man and taking his ancestors back generation by generation we find two analogies with *jōri*:

1. The difference between the generations has nothing to do with a scale from concrete to abstract, they are all real persons. There is no reason to believe that the "One" which branches as "one and one" is more abstract, in any sense, than the members of the *jōri* pair that "open" from it.

2. Few instances of the branching of *jōri* pairs are demonstrated to work beyond one or two steps, and this is so with real family trees. If the man's parents were second cousins, the very same real woman could have occupied the places in the schema for two of his great-grandmothers, and such connections are frequent. Baien may have hoped wistfully to find a recursive structure in nature that is purely binary, but he did not.

However, in the sense that a family tree diagram is only a schema of reality, it is "abstract", but *jōri* is not. Whether or not some members of *jōri* pairs are items that could be called "abstract" in some other sense, they are all real.

"Abstract" and "concrete" serve well enough as ordinary language words. For instance it has been said that the German language is much more abstract than Chinese and Japanese. We might take this as meaning that German has many more words that are not easily taught by taking visual aids into the classroom. Or concrete terms may be those that refer to "medium-sized hardware", like "table" and "cow". But such uses of "concrete" do not make useful philosophical distinctions without considerable elaboration. Are rainbows and other atmospheric phenomena "concrete"? Is fire, are tears, is hunger?

If indeed Chinese and Japanese are more concrete languages than German in some straightforward way, we should be careful not to leap from this to conclusions about how people think. To take just one of many examples of such a leap, in a book with the unfortunate title Understanding the Chinese Mind we find the following [my underlining]:

As a phonetic language, the Greek language is auditorily orientated and tends to present a world of meanings in separation from a world of concrete things. For there is nothing in the phonetic symbols of the Greek language to suggest the presence of sensible objects. This easily leads to conceptual abstractions, certainly more easily than would an image-language such as the Chinese language. The separation of the sensible from the non-sensible can thus become an inherent tendency in the use of a phonetic language just as the cohesion of the sensible with the non-sensible can become a fundamental feature of the use of an image-language. This contrast should highlight the difference between the major metaphysical orientation of the Chinese search for ontological becoming. [Cheng 1989 167]

This passage has been taken out of context, its main point is not our concern here; for example, it might be relevant to the fact, pointed out by Black, that it is more difficult to express the difference between "oneness" and "one" in Chinese, [see Chapter 5.2]. It is quoted here as an example of the confusions that can arise from an indiscriminate use of the words "concrete" and "abstraction".

"Concrete" is used in two ways in that passage, referring to the world of things as opposed to the "world of meanings", and as "sensible" as opposed to "non-sensible", not to mention a hint of "particular" as opposed to "universal" ("conceptual abstraction"). None of these usages is objectionable on its own, but the conflation of them flaws the argument. Such a conflation is even more confusing when applied to the intricacies of Baien's system.

We may agree to exclude sounds from "medium-sized hardware", "the world of concrete things"; after all, sounds are described as "abstract" in the game "Twenty Questions". But what is meant by suggesting that sounds are not "sensible"?

Clarification is needed before we can come to a conclusion about how people think. In passing, it should be observed that "phonetic" and "image" describe written language, and that most literate people, who were relatively few in ancient times, are masters of their natural language, learned "auditorily", before they begin to read. Furthermore, we should remind ourselves also that philosophers, whether Greek or Chinese, are almost by definition linguistic non-conformists.

As a technical distinction, the "abstract-concrete" distinction is itself a Western one, and often ill-defined at that. Jacques Gernet says: "The fact is that in Chinese, it is, for example, so difficult to express how the abstract and the general differ fundamentally, and not just occasionally, from the concrete and the particular." [1982 239] Chinese has its own problems, but these differences are hardly easy to express in English or French, either.

Concerning the alleged unsuitability of the Chinese and Japanese languages for expressing so-called "abstract" ideas, the writing of Miura Baien himself is a counter-example. Simply by conjoining two Chinese characters he can produce new terms, "abstract" indeed in the specific sense that they are philosophical or theoretical, but whose meaning is immediately clear. This method of coining technical terms is not available to writers of English, but Chinese writers have often used it, albeit less systematically than Baien does.

To discuss Baien's thought in terms of alien notions is to expose oneself to the danger of breaking the Historical Likelihood Rule. On the other hand, Baien's field of enquiry is not unique, if indeed a unique field were possible, and a critique, or even exposition of his theory would be worth little if every question beginning "What did Baien think about... ", "What would Baien say about...", or "Where does Baien stand in relation to..." was dismissed with the reply "Baien says nothing about that in the text". Strange as his system may seem to some readers, it is a rational one, and it is a proper question whether or not the texts commit Baien to particular views. It is also appropriate to say that certain questions did not occur to him, but should have if he had thought more thoroughly about what he was saying.

Nevertheless, replies to such questions cannot be forthcoming if their very expression involves terms alien to his system. The situation is worse still if those terms themselves are vague or loosely used. The temptation to employ those alien technical terms with which one is comfortable is hard to resist in the case of the interpretation of Miura Baien, as I well know. The meaning of Gengo is often so elusive that any established philosophical notion that seems to help is welcome, even though, more often than not, it will take us along a false path.

Summary of Chapter 5

1. Two kinds of opposition might be summarised in terms of "One is one and one": firstly, there is the relation of balanced opposites of which <yin and yang> is the prototype; secondly, there is the relation of the One to the one and one, such as <whole and side> or <swallowing and ejecting>. It is tempting to see also a distinction between quasi-qualitative and quasi-numerical differentiation through the function of the pair <nature and body>, such that natures are differing "qualities" and bodies are countable. But neither "qualitative" nor "numerical" fits the *jōri* system.

Opposition itself is opposed to comparison. Whereas opposition is based on difference, comparison is based on similarity. Pairs of things in comparison, such as sun and moon, or biological kinds, are not *jōri* pairs.

Baien's opposition is quite distinct from the "conceptual polarity" that Hall and Ames attribute to Chinese pairs that are opposed relative to their positions on a sliding scale between two poles. Baien's pairs are absolutes, there is no scale between them. Many pairs, such as <circle and line> and <*ki* and object> derive their "opposition" from the fact that they are distinct and mutually exclusive, but interdependent.

2. In later drafts of *Gengo* Baien suggests that all the cardinal numbers are man-made. His "one" and "two" may be preconditions of the numbers one and two, but in fact they refer to oneness and diversity.

The number three, in the form of triads which enter some theories of opposites when "the maker of the opposition" is added to the pair, has no place in Baien's system.

At times Baien uses the number four in a way which virtually departs from his principle of binary opposition, which suggests that he found that inadequate for the full expression of a realist system of the universe.

3. The phrase "unity in opposition" has led to a false assimilation of *jōri* to Hegelian dialectic, and coupled with his theory of *ki*, to dialectical materialism, including the notion of the conflict and resolution of opposites. However, describing a system as "philosophy of *ki*" is not sufficient reason to call it "materialism"; and *jōri* pairs are not concepts or ideas, nor is their "unity in opposition" the resolution of contradictions, or strife between opposites.

As the branching of one into the differentiated members of a pair of opposites, *jōri* has been likened to class hierarchies in which the two opposites are seen as particulars relative to one universal, a higher level class to which they both belong. There is no evidence at all that universals are part of Baien's "realism". Likewise, when the term "abstract" is applied to a hierarchy of increasingly general classes, this term has no place in Baien's system either. Before the terms "abstract" and "concrete" are applied in an analysis of any philosophical system, it would be well to determine precisely what their application entails.

PART II: THE PHYSICAL WORLD

Chapter 6: JŌRI AND SCIENCE

This chapter will begin with a brief overview of scientific activity during the Tokugawa period, and a discussion of its poor recognition by later writers.

Next we shall look at Baien's attitude to science, considering: influences in his reading and contacts; his disdain for mere speculation without corroborating evidence; some of the *jōri* terms that related most closely to "cause and effect"; and his general message for science in an age when empirical standards demanded specialisation.

Lastly we shall compare some features of *jōri* kinds with the kinds of some realist theories of natural kinds. We shall look briefly at Baien's attempt at biological classification in terms of *jōri*.

Introduction: Edo Science

When modern Japanese speakers refer to the Edo period they speak of "intellectual thought" rather than "philosophy" or "science". "Intellectual thought" is a happy choice as it recognises that the onus is on the Westerner to find that thought. It does not come conveniently labelled. Both the word for philosophy, "*tetsugaku*", and the word for science, "*kagaku*", literally, classified learning, seem to have come into use in Meiji times, influenced by Western ways of cutting up academic fields. [Nakamura 1988 138; Bartholomew 1988 4] It would be absurd to say that just because they did not use those specific words, the Japanese did not think philosophically or scientifically before then, but something very like that has been said.

Before the introduction of the term "*kagaku*", "*kyūri*" 窮理, was often used. This term derives from Chu Hsi's phrase "*kakubutsu kyūri*", "investigation of the principles of things". Chu Hsi's meaning is rather vague as to whether it means passive contemplation or active observation [see Chapter 9.2] However, by Baien's time "*kyūri*" was being used of serious scientific investigation. [Nakayama 1984 203] For instance, Matsuoka Joan (1669-1747) describes his own work on herbs and that of Kaibara Ekken as "not solely a basic text for doctors, it is truly a part of *kakubutsu kyūri*". [Craig 1965 140] Baien gives the Sung Neo-Confucians some credit for this by acknowledging *kyūri* to be of "some help in attaining the broad view of heaven and earth." [*Kizanroku Zenshū* I 1103].

Here the term "science" will be used to cover botany, astronomy, medicine, mathematics, physics, etc, and numerous applied sciences such as agriculture, surveying, horticulture and calendar making. As has often been the case in the history of science, many scholars who followed those interests were polymaths rather than specialists in any of these single fields, even where the fields themselves were clearly distinguishable.

6.1 historians' neglect of Edo science

It would be quite impracticable to list here the names, dates and fields of Edo scientists and scholars who worked in science at some time during the period from 1600 to 1866. The number runs into hundreds, if not thousands. They did not work in a vacuum, but in a vibrant community of colleagues, patrons, teachers, pupils and correspondents. Perhaps the mandatory annual treks between Edo and the fiefs of daimyos with their retinues facilitated a bustling interchange of information. Takahashi Masayasu describes the route from Nagasaki via Osaka and Kyoto to Edo as "the silk road of Western science." [1981 226]

In The Formation of Western Science in Japan, James Bartholomew recognises this vigorous scientific activity:

Tokugawa Japan was the scene of positive, unprecedented developments for scientific study. Beneath the Western influences of the Meiji period was a layer of attitudes and practices that had formed during the Tokugawa period. [1988 9]

From quite early in this century some informed Japanese writers have also recognised this. A notable example is Ōtsuki Nyoden's *Shinsen yōgaku nempyō* ("Revised Chronology of Western Learning"), published in 1927. This chronology has been translated as far as 1800 by Carl Krieger under the title "The Infiltration of European Civilisation in Japan", and published in 1940. The book is somewhat anecdotal, and inaccurate in places. Although the inaccuracies could be the fault of Krieger's translation of difficult manuscripts, they are more likely to have originated with the author himself. Nevertheless, it is a valuable contribution to the history of Japanese science. The subject matter ranges from astronomy to potatoes, and much of it has little to do with "European civilisation". Nyoden was the grandson of Ōtsuki Gentaku, who revised the *Kaitai shinsho*, ("A New Book on Anatomy") in 1798. The title of Nyoden's chronology is rather misleading, in that "Western learning", literally "Dutch learning" is used very loosely by Nyoden to cover any science or technology of the Edo period he saw fit to record. It would seem that "*rangaku*" (the "*ran*", 蘭, is derived from "*Orando*", the Japanese for Holland), widened its meaning first from "Dutch learning" to "Western learning" and then to "scientific and technological learning".

Shirai Mitsutarō, Kuwaki Ayao and Mikami Yoshio, and more recently Itō Shuntarō, are other Japanese writers who come to mind for respecting their own scientific tradition, but more often Japanese historians are apologetic for their past scientific record. Since the Meiji Restoration a curious thing has happened in the history of Japanese intellectual thought. Numerous well respected scholars have either ignored or positively disclaimed the existence of Edo science. As recently as 1992, Nishizawa Jun'ichi, a scientist of very high profile in Japan, said:

It is safe to say that the Japanese started studying science around 1858 when the country was opened to commerce with other nations. [1992]

It is not surprising that some Western writers have taken the same negative attitude. For example, when Carmen Blacker says in her book on Fukuzawa Yukichi that the Japanese way of thinking was incompatible with science, she surely gets this from Fukuzawa himself:

...the kind of thinking which in the west had made possible the rise of science - the particular view of the external world and man's relation to it - was not at all compatible with the views on these subjects which had been accepted since the beginning of the seventeenth century in Japan as a true explanation of reality. Hence, the scholars urged, if Japan was to become strong enough to be a match for the western nations she would have to rethink some of her most unquestioned assumptions about the way the universe worked. [Blacker 1964 xi]

Perhaps this is right to the extent that when confronted with Western technology many Japanese people may have needed to rethink their assumptions in a way that has no parallel in Western society. Ordinarily, people do not think much at all about how the universe works. But it is not true that previous Japanese scholars did not question their assumptions about the universe. From Fukuzawa and his contemporaries we might easily get this impression.

David Dilworth says of Fukuzawa:

In his Autobiography, 1899, he could look back with some satisfaction upon his own accomplishments and those of 'modern Japan' ... two of the great achievements of the Meiji period - the abolition of the feudal domains and their 'values', and the technological modernization ... were the persistent themes of his own personal life work.... Fukuzawa 'wrote the script' for both of these processes in modern Japanese history, at least in the minds of a good portion of the reading public. [1973 ix]

Note the wry qualification, "at least in the minds of a good portion of the reading public." Fukuzawa's work was widely read. But scholars whose main interests are scientific write mainly about scientific things, which would have been then, as now, over the heads of the general reading public. Difficult works are not best-sellers. In 1734, the astronomer Nishikawa Seikyū had said of scientific writing: "Those who are no experts, judge things only by what they can understand with ease. When it is not understood, it will not be used in this world." [Krieger 1940 27] In 1776 Miura Baien said that even if his works were adequate, they would never sell. "They will just remain in a box for worms to eat." [Reply to Kō Takaoki p.348] Nevertheless, this does not justify the dismissal of Edo scientists by later scholars. Many of their works were published, and those that were not, were well circulated among colleagues.

To be fair to writers of the Meiji period such as Fukuzawa Yukichi, we should take them in their context. Blacker says of Fukuzawa: "No other scholar pointed out so caustically the incompatibilities of the old ways of thinking with the needs of a new age." [xii 1964] They had a special mission to promote Western science and wrote, with considerable feeling, and for a wide audience, about Japan's relative backwardness. About one hundred years earlier, when Western science was introduced on a smaller scale, we can see the same phenomenon. When people like Honda Toshiaki (1744-1821) and Yamagata Bantō (1748-1821) write for effect, they too sometimes give the impression that their predecessors had never had a scientific or an original thought.

In 1894, Naitō Kōnan made the following statement which is more depreciatory than appreciative of Tokugawa originality:

"The three hundred years of the Tokugawa period produced only three works by men who built their theories from original discoveries, owing nothing whatsoever to anyone else: *Shutsujō kōgō* by Tominaga Nakamoto, the three "*Go*" of Miura Baien, and Yamagata Bantō's *Yume no shiro*." [Shimada 1979 316]

No-one, in fact, "owes nothing whatsoever to anyone else". Tominaga Nakamoto was definitely a radical, but by no means the only one. Motoori Norinaga and Hiraga Gennai come to mind immediately as two well-known thinkers who defied convention. Miura Baien was not nearly as isolated as he is often made out to be. The third "original" work cited by Naitō is Bantō's *Yume no shiro*, of 1820. This contains a great deal about new works on Western science, but Bantō's plea for an open-minded attitude was not new.

The list of texts referred to in *Yume no shiro* [Mizuta and Arisaka 1982 143] includes none of Baien's works, but it does include works that Baien also had read, and works by scholars with whom Baien corresponded. The claim that it was original may be justified on some count, but many of its observations, his stand against religious mysticism and the occult is just one example, had been made already by Baien, and/or by Baien's predecessors. Bantō had studied under Asada Gōryū, so it is possible that Baien had some indirect, but positive influence on Bantō.

We should at least be grateful that Naitō believed those three thinkers to be worthy of mention. In *Studies in the Intellectual History of Tokugawa Japan*, Maruyama Masao specifically excludes Miura Baien, saying:

Even scholars extremely distinguished as individuals and highly modern in their outlook have been excluded from consideration if they happen to have been largely isolated from the general framework of intellectual development. [1974 178]

I would challenge Maruyama's metaphor of "the general framework of intellectual development". Baien is mentioned only to be dismissed as not of the main stream, and neither the great astronomer Asada Gōryū nor the scientific Hiraga Gennai is mentioned in Maruyama's book. Michael Pye is amazed that there is no mention of Tominaga Nakamoto, [1990 43], and Bantō is not mentioned at all either. In short, it is tempting to say that Maruyama's *Studies* is an intellectual history that leaves out the most brilliant intellects, because brilliant intellects are, by definition, independent thinkers. Takahashi's criticism of Maruyama's omissions is sweeping:

Maruyama, who looks for the dawn of modern Japanese thought, especially modern rationalism, in Ōgyū Sorai, takes just this single piece of weaponry in his smoothly persuasive major work, despite the fact that he is prejudiced and complacent about the greater half of the intellectual field of the Japanese intelligentsia, defining the scientific and universal fields as deluded. To the extent that one is bound by this irrational guru-like spell, the quest for the lineage of modern Japanese thought will be unreliable, and

interpretation will continue with this unfounded emphasis. I believe this propagates unproductive dogma... [1981 219]

Manyama's books have been so highly esteemed that it has become fashionable recently to disparage them. But in his defence it is fair to say that in the Studies he has the specific theme of trying to convey what he calls the "consciousness" of the period, and he is entitled to concern himself with material that illustrates his thesis.

Open-mindedness

Scientific research requires people who see the need to question what others have said, to re-examine assumptions, and to check things for themselves. The Edo period is marked by just such a spirit of independence.

In 1762, Hiraga Gennai, himself a gifted scientist and very independent thinker, describes his 17th century predecessors in natural history:

[People who had provided themselves with imported medicines] blindly believed the names given to them by foreigners and did not look to see if they were right or wrong. Fortunately they did not do any damage. In the late 1600s Professor Inao established for the first time at Kyoto the study of natural history. Two scholars Kaibara and Matsuoka succeeded him and so this science became popular in our country. Latterly Professor Tamura Ransui made a name for himself in Edo. He is my teacher. One day he said: "Strange subjects should be studied thoroughly, otherwise one is not able to become well-versed in them." [Krieger 1940 47]

Kaibara Ekken says in his Preface to Yamato Honzō, "Plants of Japan", published in 1709:

One should not blindly regard all one has heard as true and reject what others say merely because they disagree, nor be stubborn and refuse to admit mistakes. To have inadequate information, to be overly credulous about what one has seen and heard, to adhere rigidly to one's own interpretation, or to make a determination in a precipitate manner... all these four modes of thinking are erroneous. [Okada 1979 270]

In Tenmon giron ("Discussion of Principles of Astronomy") of 1712, the astronomer Nishikawa Joken says ruefully:

Even Westerners cannot go up into the sky and examine it with their own eyes.

and also:

I think that those who want to learn astronomy should not conform to either the Western or the Chinese theories, but should just rely on their own observations and measurements. This attitude leads more directly to the truth. [Nakayama 1969 110,111]

Comments such as these on the importance of careful observation and empirical evidence were numerous in the Edo period.

Yet Fukuzawa makes the following negative comment about Japanese scientific curiosity:

The progress of civilisation lies in seeking the truth both in the area of physical facts and in the spiritual affairs of man. The reason for the West's present high level of civilization is that in every instance they proceeded from some point of doubt. [Dilworth and Hirano 1969 93]

... in Japan, the sudden change in men's minds since the opening of our ports ... can all be said to have been the accomplishment of those who endeavoured to effect these changes after calling into doubt customs which had been observed since time immemorial. But still, ancient customs were called into question only after Japan was opened to intercourse with the West. The reformers saw the superiority of Western civilisation and tried to imitate it. Therefore they were not motivated by self-originated doubt. [1969 94]

We find Ronald Dore saying, too, in 1965:

...there were no Japanese Lockes to urge that curiosity was 'the great instrument nature has provided to remove the ignorance' that children are born with and that its stimulation was an important pedagogical device.' [1965 51]

On the contrary, several scholars boasted of their childhood curiosity, including Kaibara Ekken, Nishikawa Seikyū and Miura Baien. [Craig 1965 140; Krieger 1940 27; Saegusa 1956 42]

Work in specific fields:

It can be no coincidence that Baien's first teacher, Ayabe Keisai, was also the father of the astronomer Asada Gōryū. Baien was a keen student of astronomy in his youth, but his friend Asada was 20 years younger, so Asada cannot have been the original stimulus. It is much more likely that both men were attracted by a ferment of intellectual interest in astronomy, both Chinese and Western. They were preceded by Nishikawa Joken, Shibukawa Harumi and many others. When Shibukawa found mistakes in the old calendars by observing eclipses, he produced a new calendar combining Chinese and Western data.

Many astronomers, including Asada and others with whom Miura Baien corresponded, worked at the Kaitokudō academy, founded in 1726 by merchants in Osaka. Asada set up a study group in astronomy, and had several distinguished successors among his many students. He has been credited with the independent discovery of Kepler's third law. [Nakayama 1969 190]

Japanese progress in astronomy had been hindered by slowness to accept the heliocentric theory, but it was not hampered by the issue of heresy that had made that a dangerous topic in

the West. Baien's attitude to the theory that the earth is not at the centre of the universe but revolves around the sun was one of perplexity. Nevertheless, he fully appreciated that his failure to understand it was his own shortcoming, and struggled to master it, as he says in the Letter to Asada 1985 [p.336].

Nevertheless, in 1989 we find the astronomer Kozai Yoshihide saying:

Astronomical research in Japan was started around 1880, after the University of Tokyo was founded, by a foreign professor. [1989]

For many scholars, such as Nishikawa Joken, astronomy and geography were thought of as the same discipline. In those days the roundness of the earth was a fairly new idea [see Chapter 8.2], but navigators had long used the idea of a round earth and spherical heavens in determining longitude and latitude.

Map-making was well established by 1700. As well as maps of foreign countries, local maps were drawn up that required considerable skill in surveying. Richard Henry Brunton, a Scottish engineer who built lighthouses around Japan during the 1870s, wrote a book with the arrogant title "Building Japan", in which he expresses his surprise at finding these maps among such a backward people:

Strangely enough, what were judged to be fairly accurate maps of the country were already in existence when the foreign treaties were signed. These were on too small a scale, and were lacking in detail, but they depicted the course of rivers, the outline of mountains, and the situation of towns with considerable accuracy. In fact, so correct was the line of the coast delineated, that it was adopted by the British Admiralty for the charts, by which ships were navigated. [1991 53]

Along with the advanced trigonometry used by 17th century surveyors, the mathematics used by astronomers, and so on, there was considerable development in pure mathematics. It is said that the samurai class scorned mathematics as mere entertainment, or associated it with the financial calculations of the inferior merchant class. True enough, keen mathematicians competed with one another in problem-solving, something in the spirit with which we conduct chess tournaments, but love of mathematics for its own sake has never done it any harm.

Agriculture was studied scientifically. The Kyushu scholar Miyazaki Yasusada published a systematic study of agriculture in 1696. It is said that in order that her children should grow as big as Western ones, the mother of Nitobe Inazō (1862-1933) gave her children potatoes to eat. It may well have been original for a housewife of her time and place to do this, but the nutritional value of potatoes was by no means a new discovery. The chronicle of Ōtsuki Nyoden records the following under the year 1735:

Aoki Konyō from Edo wrote "A Treatise on Potatoes". ... Konyō often said: "people that live far from the towns or on the islands, are sometimes struck by famine. the only way of fighting against this is by planting potatoes. Several kinds of satsuma-imo were then cultivated and afterwards these potato plants were spread all over the country.[Krieger 1940 28]

Engraved on the monument to Aoki are the words: "By introducing the potato into our country, may it be free from famine." [I have been told that Western potatoes have more nutritional value than the sweet *satsuma-imo*, so Nitobe's mother may have been making a further advance.]

Ōkura Nagatsune was another who wrote treatises on agriculture. For example, the Griffis Collection at Cornell includes a farmers' handbook in three volumes, published in 1854. [Perushek 1982 69] In an article, "Ōkura Nagatsune and the Technologists", Thomas C. Smith expresses his surprise at the degree of literacy, technical innovation and interchange of knowledge among the villages:

If the ideas of the technologists were as widespread as they seem, even though never expressed as an ideology, they help to explain the transition from Tokugawa to Meiji society. Great historical structures are not brought down until the popular beliefs and behaviour supporting them are deeply eroded, and this long process is not always accompanied by the beating of ideological gongs. Unless some such process was at work in Tokugawa Japan, the restoration and its social consequences become nearly unintelligible, and we are thrown back on speculations that pose greater problems of understanding than they would solve. [1988 198]

Botany and zoology took the form of natural history. Interest in plants, in particular, derived from the Chinese pharmaceutical tradition. The connection with medicine continued, and horticulture was another obvious application of the knowledge acquired. In the 17th century Japanese scholars not only translated Chinese pharmacopoeia but compiled their own for Japanese plants.

These studies may have been encouraged for practical reasons, but the 17th and 18th century naturalists pursued them for their intrinsic interest, setting up exhibitions and botanic gardens. Above all, there seems to have been a passionate concern with nomenclature. Arai Hakuseki, whose main interests were in politics and economics, indulged in the work of classifying the things of the natural world in his work *Tōga*. Even the famous scholar Ōgyū Sorai, one of the least interested in science, engaged in the discussion of names, as in *Narubeshi*, "How It Must Be".

In this the Japanese had a stimulus that the Chinese did not have. That is, not only would there be both Chinese names and Japanese names for the same plant, the theoretical question of whether it was the same plant was a constant issue. (The philosophical implications of this were not lost on Baien. The *jōri* theory derives some of its resilience from the liveliness of the question of naming.) Foreign naturalists, such as Kaempfer in the late 17th century, and later Thünberg, fuelled this interest. For example, the Griffis Collection includes *Geishi*, "On Whaling", published in Osaka in 1758, and described as "An illustrated book on various kinds of whales and how they were used." [Perushek 1982 70] By the end of the Edo period Western style taxonomy was well established, but the important scientific question of how to classify items had been a live one throughout, along with the scientific demand for accurate description and identification

Why?

Why have so many writers turned their backs on the science of the Tokugawa period, or denied its existence? Explanations of three different kinds come to mind: what is meant by "science"; the association of science with the merchant class; and the identification of Tokugawa thought with systems not amenable to science.

Firstly, does it depend on what we count as "science"? In the last case mentioned, some people might say that natural history is not the science of biology. A few take physics, and perhaps modern chemistry as the only real sciences, but that would leave out a great deal of Western science as well.

The detractors of those people may mean by "science", successful science, that is, scientific achievement and progress in international terms. It is not surprising that results were less forthcoming than in the West. For a fair comparison one should not compare Japan with Europe. Rather, we should imagine a single European country estranged from the resources and information of its neighbours. Many successful Japanese discoveries were not news to the world outside. For example, if the law by which the length of a planet's orbit is related to its distance from the sun was discovered by Asada Gōryū in the late 18th century, Johannes Kepler had already discovered this in the early 17th century. Furthermore, if Fukuzawa's use of the term "*jōri*" in connection with the ancients' adherence to the geocentric theory results from acquaintance with Baien's work, we could be fairly sure that the geocentric schemata of Gengo would have been enough for Fukuzawa to have dismissed Baien from serious consideration. [See Chapter 1.1]

Nakayama Shigeru points out that the great social changes and regrouping of institutions with the Meiji restoration broke the teacher-disciple continuity in the scholarly world. [1984 197] Add to this the fact that some Western disciplines, such as Western mathematics, were quite different from Japanese tradition, and we can expect a fairly sharp change in the people and institutions concerned with science.

Many writers speak of science, not as a human intellectual and practical activity, but as some sort of cargo, "imported" like a commodity, mainly after the Meiji restoration. To take just three examples:

In Science and Culture in Traditional Japan, Sugimoto and Swain say:

All science in premodern Japan was initially imported, first from China, and then from the West. [1978 xxi]

They save themselves by saying "initially", but the material of their whole book is organised in terms of waves of foreign influence.

Ronald Dore says:

....learning in the Tokugawa period came in national packets - Chinese learning; Japanese learning; Dutch/Western learning [1965 160]

Tsuge Hideomi says:

Today, Japanese science is deemed high in level. It is also considered a wonder that such a high level has been attained in the short period since modern science was imported. [Tsuge 1968 "Preface"]

Science and learning are not commodities. They are things that people do. With or without Western influence, science in Japan can only ~~refer to~~ mean Japanese scientists at work.

Secondly, a quite different explanation for the tendency to ignore Tokugawa scientific activity may be its association with the merchant class. The merchant class was in principle, though not in practice, the lowest of the four classes of society (warriors, peasants, artisans and merchants). Merchants were disparaged by the samurai class for being engaged in making money without producing anything. For others, it seems, production was an unworthy topic for scholars. For example in relating the anecdote about the initial refusal of Ekken's brother, Kaibara Rakuken, to write a preface to Miyazaki's work on agriculture, Minamoto Ryōen tells us: "Rakuken subscribed to the custom current among Confucians of not treating "lowly things"". [1979 461]

The academy set up in Osaka, the Kaitokudō, was a powerful centre of scientific activity, but it was financed by merchants, who were 95% of the Osaka population. Najita Tetsuo says that the Kaitokudō had a "crass bourgeois reputation" [1987 2]. One cannot help but wonder if some such attitude has influenced Maruyama when he describes the rise to power of the townsmen, the *chōnin*:

We should not overestimate the historical significance of this ascendancy of the *chōnin*. ... They were commercial, money-lending capitalists who lacked the ability to invent new methods of production [1974 124]

Like its shining lights, the Kaitokudō itself is only briefly mentioned in his Studies.

Thirdly, the identification of Tokugawa intellectual thought either with Confucian scholars working under official patronage, or with philosophical theories incompatible with scientific empiricism, would tend to exclude the more scientific work.

The phrase "Confucian scholars working under official patronage" requires some qualification. It might be more accurate to speak of scholars who wrote treatises with a bearing on the political establishment, and approved by that establishment. The works of "Confucian" writers who worked under official patronage are a rich and varied source. Many of the more

scientifically minded thinkers had some connection with officialdom. Even Miura Baien was twice invited to a post in the Kitsuki fief, but he declined the office.

The term "Confucian" becomes rather vague as a means of classifying thinkers. Edo scholars all had in common a thorough grounding in the Confucian classics, and usually a good knowledge of Japanese literature also. But it is easy to overlook the extent to which even those readily described as Confucian disagreed with one another, and how much they challenged both traditional doctrines and the ideas of their contemporaries.

It is not surprising that some writers refer to Miura Baien as a "Confucian scholar", and others as an opponent of Confucianism. [Yajima 1964 109] Sugimoto and Swain describe the work of Miura Baien and others as a "challenge from outside Confucianism", by which they mean "enlightened" thinkers acting privately and on their own initiative, not in official capacities" [1978 297]. A distinction between "Confucianists" and "non-Confucianists" can be very misleading, especially where the same person changes hats.

The search for a synthesis of matter and principle, derived from Chinese Sung philosophers, and well discussed in 17th century Japan, is sometimes said to have inhibited Japanese scientific thought. I shall discuss this problem in Chapter 9, but here I would simply ask: When have scientists ever waited for philosophers to tell them what they should do? Kaibara Ekken, for example, did much more for science by classifying the plants of Japan than he ever did with his philosophical discussions of principle and matter.

It has frequently been said that the rapidity with which the Japanese people adopted Western science in the early Meiji period is little short of miraculous, or, if not a miracle, that it is to be explained as the result of a special Japanese gift for imitation. There is no need for the mimicry hypothesis. To repeat Bartholomew's words: "Beneath the Western influences of the Meiji period was a layer of attitudes and practices that had formed during the Tokugawa period." Surely those attitudes and practices made all the difference.

Western science in Edo Japan

Although many commentators take "science in the Edo period" to mean simply Western science, before the late 18th century there were very few direct acquisitions of Western scientific information. The visit of the German naturalist Engelbert Kaempfer for three years from 1651, and the boost to geography from the arrival of the missionary G.B. Sidotti in 1708 are notable as two of the few exceptions. For well-known historical reasons, the introduction of science from Europe was very indirect. Chinese texts were of course one source of scientific knowledge, derived to a greater or lesser degree from ideas introduced by Matteo Ricci and other Jesuits in the 16th and 17th centuries. Some information about Western science entered Japan with the Europeans, especially with the Dutch at Nagasaki. The quality of that information varied with the informer, and with the comprehension of those who passed it on. Xavier had left Europe before the publication of the Copernican theory. Moreover, the Tokugawa policy of isolation involved the proscription of Christianity, forbade entry to Japan

of all but a few foreigners, and from time to time banned lists of foreign books. All this reduced the volume of imported texts considerably.

Much of the Western material that reached Baien, for example, reached him through several removes of translation and editing. He was one of many scholars impressed by the proof through observation of the superiority of a Western anatomical text, translated as the *Kaitai shinsho*, "A New Book on Anatomy", and published in 1774. He mentions this book often in Book III of *Zeigo*. [e.g. *Zenshū* I 410, 431, 447, and 449].

The story of the writing of *Kaitai shinsho* is well documented. A monument to the translators was erected in Tokyo in 1959, with an inscription by Matsumoto Ryōzō, and an engraving of the picture from the title page. (This picture is derived from a Dutch version, and Sugita Miwako has pointed out to me that the translators would have been unaware that the naked couple were Adam and Eve, complete with apple and fig-leaf.) The pivotal moment was the decision of a small group of medical men to commission a dissection of a corpse, to compare the findings with the anatomical drawings they had seen in Dutch books, different from the Chinese drawings which had been their common reference. One reason for the retarded development in this aspect of Sino-Japanese medicine was that dissection was performed by social outcasts, indifferent to the need to report accurately what they saw. There were no names at all for some body parts. The dissection was performed on the body of a woman who, Sugita Gempaku says "had done a heinous crime". Sugita's book, *Rangaku kotohajime*, has been translated into elegant English by Matsumoto Ryōzō, as *Dawn of Western Science in Japan*. Curiously, both the Japanese version in the *Nihon no Meicho* ("Great Books of Japan") series, and a German translation in *Monumenta Nipponica* [Mori 1952], leave out this reference to the identity of the famous corpse.

As the physicians suspected, the findings from the dissection were perfectly consistent with the Dutch drawings, and much at variance with the Chinese ones. Sugita's account of the work of translating the Dutch books, obtained from merchants at great cost, is a gem in the history of language translation. The first step was to learn the Roman alphabet, and then "It was as though we were on a boat with no oar or rudder, adrift on the great ocean - a vast expanse and nothing to indicate our course." They began with translating names on recognisable parts of diagrams.

Again in fairness to Fukuzawa Yukichi, it must be noted that he was partly responsible for bringing the book back to the public's attention in 1890. Fukuzawa says he was moved to tears by the courage and dedicated determination of the translators, and rightly so. But should we see them as a few "enlightened" individuals swimming against the tide, or should we see them as brave explorers stimulated and encouraged by a ground swell of support from an intellectual milieu to which they themselves belonged?

In *A History of Japanese Literature* Katō Shūichi describes the decision to translate the book as an historic moment, but in so doing Katō becomes another example of a writer belittling the intellectual curiosity of Edo thinkers:

For the first time a Japanese collected bleached bones and thought not of the impermanence of human life, but of the structure of the human body. [Katō 1983 II 167]

How does he know what the earlier Japanese thought of? In fact, Yamawaki Tōyō and others had been discussing their doubts about those Chinese anatomy drawings at least twenty years earlier. Miura Baien certainly thought about the structure of the human body.

On the whole, the information about Western science that was available in Japan was scrappy, out of date, and translated at many removes. Consequently several Japanese writers took the attitude that Western science was stronger than theirs in its practical aspects, but weaker in terms of theory. Mukai Gensho (1609-1677) in his commentary to *Kenkon bensetsu*, an outdated account of astronomy which appeared around 1650 and derived from Christian missionaries, says:

Those who write horizontally and eat with their bare hands instead of chopsticks do not comprehend the doctrines of *ri-ki* (principle and matter) and Yin-Yang.... therefore they do not know why heaven is heaven. [Nakayama 1969 91]

In *Seiyō kibun* ("Anecdotes of the West", 1715) Arai Hakuseki says:

Westerners are inferior in metaphysical matters, although they are ingenious in manipulating figures and instruments. [Nakayama 1969 109]

Miura Baien says in *Kagen*, ("The Origin of Price"), published in 1773:

Westerners employ their minds in practical experiment. Therefore, as is the case with studies of human anatomy, they try to find the truth by dissecting actual bodies. In this way they uncover the finest detail. But there is *jōri* in heaven and earth, and as long as they still carry out their experimental observations without comprehending *jōri*, they are still a long way from the truth. [*Zenshū* I 930]

6.2 Baien and science

influences

Miura Baien was not a scientist, but he was certainly a scientific thinker, and his theories were parasitic upon the scientific work of his colleagues and predecessors. His scientific interests attracted him to several Chinese works, including Li Shih-chen's Pen-ts'ao kang-mu ("The Great Pharmacopoeia") of 1596, and Fang I-chih's Wu-li hsiao-chih ("Notes on the Principles of Things") of 1664. Ebisawa Arimichi suggests that Baien's interest in the laws of the natural world began with his second visit to Nagasaki in 1778, and that he acquired his empiricist spirit from Western contacts. [1958 239, 377] A quick glance at Baien's biography shows this was not so, much of Baien's study and writing was behind him by then, including Gengo. Autobiographical details indicate that the sequence was in fact the other way around, it was his empiricist spirit that led him to make the trip to Nagasaki and indirectly to take an interest in Western books. Shimada Kenji suggests that when Baien speaks of learning from Western science, in his twenties, the shapes of heaven and earth [Reply to Kō Takaoki p.340], by "Western science" he is referring to Tenkei wakumon, (T'ien-ching huo-wen), by the late Ming scholar Yu I, first translated into Japanese by Nishikawa Seikyu in 1730. [1982 642] (Baien could not read Dutch, although he learned the Roman alphabet and practised writing a few words.) If we are looking for influences, Japanese scholars such as Nishikawa Joken and Kaibara Ekken are much more likely.

It is plausible that Baien's early aspirations towards practical science, such as the construction of a celestial globe at the age of 18, were thwarted by his short-sightedness, certainly a handicap in astronomy. Although his home in the Kunisaki peninsula was rural, and still is today, a small village surrounded by steep forest-covered mountains, he lived not far from Kitsuki, where boats left for Osaka with people and mail from Nagasaki. He ran a school, and would send his students to consult other scholars, to study with them, or just to act as messengers to ask questions and deliver letters. Scholars and students paid visits to him too. His contacts with other scholars increased as his own reputation grew. The letters translated in the Appendix here are typical of many.

Baien's position in relation to the dominant Neo-Confucian school, whose theories his Japanese predecessors and contemporaries expounded and disputed, will be discussed further in Chapter 9. We cannot be sure that the Neo-Confucian pragmatism, "*jitsugaku*", was a real encouragement to practical science. The performance of scientists is not typically impelled by the musings of philosophers. But once the science was under way anyhow, the more astute thinkers could not escape its influence.

One of the successors of Sung Neo-Confucian thought was "philosophy of *ki*". The more philosophical passages of Fang I-chih's Wu-li hsiao-chi fit well into this genre. The translation of "*ki*" as "matter", and the leap to the alien term "materialism" with all its political overtones has already been mentioned in Chapter 5.3. This has had an unfortunate effect on historians of Edo thought. For instance, Saegusa Hiroto would seem to see scientific insight as insight into materialist ideology. Kaibara Ekken with his many practical interests is one such target, but Miura Baien is Saegusa's chief example of a materialist.

Nevertheless, Saegusa's research was welcome in that it drew attention to Baien's work at a time when it was very little known. Furthermore, there is no real barrier to placing Baien in the stream of Sino-Japanese philosophy of *ki*. As for the Neo-Confucian "*ri-ki*" debate, Baien uses "*ri*" in the narrow sense of a straight line in the physical universe, but *jōri* is surely a transformation of Chu Hsi's *ri*. As suggested in Chapter 1.3 "One is one and one" is too thin as a principle, and *jōri* is more meaningfully seen as a complex of principles. It may be said that Baien broke the tension between *ri* and *ki* by replacing *ri* as a single unifying principle with this indefinite complex, and that he achieved this despite himself. This will be discussed later in Chapter 9.3. He may have believed initially, and perhaps never abandoned the hope, that a complete analysis of nature would reveal a single system, but he was too eager to work on the details to be inhibited by the lack of a single overall schema.

Fang I-chih, (1621-1671)

Baien has often been linked with the Chinese Fang I-Chih whose work Wu-li hsiao-chih ("Notes on the Principles of Things") is frequently mentioned in Zeigo. Baien's reading notes record that he borrowed Wu-li hsiao-chih in 1778, before the completion of Zeigo, but if this was his first acquaintance with the work it was much too late to have influenced him in the writing of Gengo. Takahashi Masayasu argues that Baien must have been very familiar with Wu-li hsiao-chih from the first draft of Gengo. [1981 177] Fang's late work, Tung Hsi-chün was not published until 1962, and is still little known and sometimes dismissed as obscure, but Takahashi is of the opinion that Baien must have been familiar with the ideas even of that work. [1981 201] Among the evidence for this, Baien is said to have derived from Fang the example of the water pot which will be discussed in Chapter 8, and which occurs in Baien's early works. Although this example also occurs in Tenkei wakumon which Baien read in his youth, it is very likely that Baien had either heard of Fang's ideas or seen the text of Wu-li hsiao-chih many years before he borrowed it in 1778.

John Henderson says, and it is well born out by Fang's text, that Fang had read widely in the natural-scientific literature published by the Jesuit missionaries [1984 214]. Thus for Baien Wu-li hsiao-chih became an important indirect source of information and misinformation from the West.

Fang I-chih was greatly admired by Joseph Needham, and Wu-li hsiao-chih is often quoted in Science and Civilisation in China. Fang gathered together in his voluminous work all the scientific information available to him, with comments, so that it is now a priceless source of information on Chinese science in the 17th century. An earlier work, Tung ya ("Comprehensive Refinements"), completed in 1643 and printed in 1666, is a collection of notes on language and also on scientific terms. The classifications of Arai Hakuseki's Tōga, (1719, "Eastern Refinements") are similar in many ways. Coinciding with the completion of Wu-li hsiao-chih, Fang withdrew to live in temples and teach as a Buddhist monk. Willard Petersen points out that this was a politically expedient thing for him to do, as it was the only alternative to taking a post in the Manchu government that the Ch'ing officials would allow him. [1975 374]. Nevertheless, Sakade Yoshinobu, who has studied Fang's more philosophical writing, believes that his retreat into teaching and thinking suited this final stage of his

intellectual development, the years before his death by drowning, probably suicide. Twenty years earlier he had bundled the manuscripts of Wu-li hsiao-chih into a box and sent them to his son to revise and publish. It was after this that he wrote Tung hsi chün. [The characters for this title mean literally "East West Equal". English commentators on this work all avoid translating the title. However "tung-hsi" sometimes has the meaning of "all things whatsoever".]

Petersen tells the story of Fang's life in Bitter Gourd, and the colourful character that emerges from this, taken together with his works and other references, appears to have been an extraordinarily gifted man. A person with similar talents and personality in this age of specialisation might have achieved fame as a political leader, a scientist, a philosopher, a painter, a creative writer, or even a musician. The following autobiographical remarks about his boyhood, translated by Petersen, fits well with the picture one forms of the adult man:

Yet he did not fulfil his desire to be like the learned men of antiquity, so that when times were suitable he could help the whole empire thrive. His disposition was to take the overview and he found it easy to grasp general ideas; rote learning, on the other hand, not only was difficult for him, after a while he began to forget. He regretted that his subtleties and intelligence did not come up to that of the men of antiquity, and that his body was weak and sickly. Moreover, he was good in calligraphy, adopting the style of the two Wangs; he was fond of playing *go* and flourishing a sword; he knew something about performing on the zither, Soochow singing, and other extraneous amusements. Whatever he saw, he immediately wanted to do. [Petersen 1979 18]

Miura Baien was more sanguine about not measuring up to "the men of antiquity", but Fang's regret did not prevent him from going his own way either.

The title of Fang I Chih's Wu-li hsiao-chih is quite reasonably translated "Notes on the Principles of Things", but because of the vagueness of the English word "things" one tends to put the emphasis on the word "principle". There is good reason to change the emphasis to "Notes on the Principles of Things", in contrast to the earlier Neo-Confucian concern with "principle", which will be mentioned again in Chapter 9.2.

Fang I-chih sought principles, yes, but for him principles begin and end with things, and things include physical objects, animal, mineral and vegetable, not to mention artefacts like water pots, and physical phenomena. Fang is sometimes now depicted as one of the first Chinese materialists, often in a line leading to Mao Tse-tung [see Hamamatsu 1984]. The historian Hou Wai-lu says: "Fang I-chih has never been mentioned by bourgeois historians of philosophy". [See Chapter 5.3] This is an almost incontestable claim if we take "bourgeois" as a term of disparagement, and consider that regardless of their political views many intellectuals take some pride in being thought of as defectors from the bourgeoisie.

As with Baien, something of yin-yang theory is found in Fang I-chih. He says in Tung hsi chün: "If there is one, there must be two, two is based on one. How can any pair of opposites in heaven and earth not originate from the same one source." [Tung hsi chün 39] Superficially, this is the meaning of Baien's *jōri* slogans "Unity in opposition" and "One is one and one". Fang's use of the unifying base third as the apex of a triangle was mentioned in Chapter 5.2 in

connection with the number three as the union of two opposites. Taken with the so-called "materialist" interest in ch'i, or *ki*, both Fang and Baien have been described as dialectical materialists of the Marxist or Maoist kind, but this cannot be. For one thing, neither Fang nor Baien have much, if anything, to say about the dialectics of history, and for another, there is ample evidence that the roots of a binary system run very deep indeed in the Chinese tradition. Fang seems to have had more respect for I Ching than Baien had. Sakade is surely right that it is pointless to try to describe a thinker so individual and eclectic as Fang I-chih either as a materialist or as an idealist. [1970 94]

In a section of Wu-li hsiao-chih, "On Ch'i", Fang says:

Going beyond shape we know ch'i. Going beyond ch'i we know spirit. Going beyond spirit we return to void. Going beyond void we see principle. Going beyond principle we come back to things. How could we go beyond them? [1967 3]

Fang I-chih desired more than biological classification and physical explanations of specific phenomena. In his Preface and in other passages he makes many general and philosophical comments. In the Preface to Wu-li hsiao-chi he had said:

Over a time I have recorded what I have heard and what I have come to have a judgment about, but I await some later day for comprehensive understanding. Meanwhile, I say this has been for my own pleasure.

The essays from the point of view of "comprehensive understanding" are to be found in Tung hsi chün, written after his retreat from the world. In this he turns away from the collection of scientific information, almost towards the mystical. In contrast, Baien in his latter years became increasingly excited by the fresh scientific information that was becoming available to him.

kiyu and evidence

Baien was not himself a practising scientist. He was a philosopher reflecting on the work of scientists. As a result, some Japanese historians have found it difficult to pinpoint his position in the general stream of Edo intellectual thought.

In History of Japanese Literature, Katō Shūichi suggests that Baien did not live up to his promise of empiricism:

Although the argument of Gengo stresses the importance of objective observation, it does not in fact include many observations from nature. Rather the main proposition is intuited from a relatively small number of observed facts and the argument is developed along the lines of 'perceiving unity in opposites' to reach the conclusion. In this sense Baien's method, although rationally organised, was philosophical [*tetsugaku-teki*] rather than positivistic [*jisshōshugi-teki*] [II 170; Takahashi 1981 252]

Baien frequently stresses the importance of methodical scientific observation and examination of evidence. Examples of Katō's "observed facts" ["*kansatsu sareta jijitsu*"] are more numerous than he suggests, but even if their number were small, such collection of informative observations is a job for scientists rather than for philosophers.

Scientific pursuits were then, as now, piecemeal. Baien was looking for a systematic way of thinking about the natural universe, but it is possible that terminology has a misleading influence in discussions of Baien's thought. The term "*tetsugaku*" is not an exact match for our Western term "philosophy". "*Tetsugaku*" retains a nuance of the 19th century German philosophy that prevailed among those Japanese scholars, including Saegusa, who first used that word in their studies of Hegelian idealism, dialectical materialism, and so on, all with a bias towards the construction of an all-embracing intellectual framework. Thus using "*tetsugaku*", Katō can say that Baien's method was "philosophical rather than positivistic", whereas in our much broader understanding of "philosophy" positivism itself is taken as a philosophical position.

As it happens, Baien's *jōri* system is an elaborate intellectual framework too. But when we look more closely we see that he was committed to analysing what was before his eyes, and intensely interested in scientific detail. Katō speaks of "architectonic beauty" and "abstract concepts" ignoring Baien's zeal to portray nature the way it is [1983 II 172] As his system develops, he becomes more adamant that his claims about the pattern of the universe are corrigible by scientific observation and evidence.

Since the time of the ancients no-one has put forward the theory of *jōri*. I myself do not expect to have found all the true pairs, although I have devoted my efforts to this for fifty years. Therefore in my book [*Gengo*] you will find the correct intermingled with the false. [*Letter to Asada* 1785 p.338]

The aspect of scientific work which concerned him most was respect for evidence. For instance, the actual sighting of an eclipse predicted by Gōryū but not by the official calendar makers [see p.332]; the proof by observation of the superiority of a Western anatomical book which led to the *Kaitai shinshō*; and the unreliability of the traveller's tales from the unenlightened sailor Magotaro [see p.347] are just three of many cases that engaged his interest in the power of observational evidence.

For fruitless methods of studying the natural world Baien used the term "*kiryū*", literally "peeping", or "prying". I have rendered this as "speculation". This is contrasted with seeing heaven and earth with "far-sightedness". Extending his metaphor of *jōri* as the key to the gates of heaven, we might say that *kiryū* was looking through the keyhole without opening the gates. The narrow view is ultimately a false view. This is the view we get, he says when we revere the words of teachers or sages to the point that we forget that they too are also fallible. The way to overcome this is to relate word and subject according to *jōri* principles.

I do not know of any other person since Fu Hsi, [reputed originator of the *I Ching* trigrams] who has understood yin and yang. However, there is a Way for understanding yin and yang, and until they grasp this Way, those who try hard to

understand it are like blind men imagining a painting, or deaf men imagining music, in the end they can only speak of what they can imagine. We call this "speculation" ["*kiyu*"]. Blindness and deafness delude people. Speculative explanations have power over people, and speculation has lured them into the School of the Five Elements. ...

Because our ancestors observed objects by speculating with their minds, what they ended with was their own minds....

When we see unity in opposition, the defects of speculation are completely excluded and cannot be concealed. However distinguished a person may be as a scholar, and however wise, if he does not enter the gates by seeing opposition, he may not enter the hall. Alas, speculation results from inferring in terms of ourselves about things that are not the same as ourselves. [Preface 6]

The difference between heaven and man is nothing other than the presence or absence of consciousness. When the conscious and the non-conscious are confused, knowledge degenerates to mere speculation. [Preface 13]

Another source of speculation, or "*kiyu*", is the correlative thinking discussed in Chapter 7.3, which he describes in his criticism of the Five Element theory as "mere classification". If we are to "tell a good horse from a hack" we must use the far-seeing *jōri* system. [Preface 10]

Baien's interest in science was keener and more specific than was the case of "typical" Confucian writers such as Ōgyū Sorai, but his involvement was less than that of those engaged in practical research (Asada Gōryū, Sugita Gempaku, Hiraga Gennai, etc.). Nevertheless, he made considerable effort to keep himself informed of their progress and constantly took account of their work in his own thinking. The two letters to Asada of 1763 and 1785 given in the Appendix here provide us with valuable external evidence about Baien's approach. Even in the earlier letter Baien's admiration of Asada has nothing to do with the philosophy of dualism.

Baien is genuinely humble about his own limitations in mathematical astronomy. In Letter to Asada 1763 he says:

I am dull. I have never been able to understand figures. Furthermore, my eyes are weak, I cannot make out the distant stars. [p.332]

and in Zeigo:

I met an interpreter who told me that for one hundred years the theory has been held in the West that the sun is in the centre of heaven, and stars, planets, moon and earth turn around it. I have deeply reflected but cannot understand it in terms of *jōri*. Probably, the sun and earth each have an orbit around them, of which they are the centre.

[Zenshū I 291]

But it is also evident from Letter to Asada 1785, very late in Baien's life, that he had taken considerable trouble to follow Asada's reasoning:

I am short-sighted. My measurements are clumsy. I once observed celestial phenomena when I was young and had not abandoned the old teachings. Every book I read reveals my ignorance.

At the beginning of this spring, I reread several of the passages you recommended. I spent several days unrolling volumes. At last I understood your meaning and became overjoyed. I applauded you and sighed "Oh my dear friend, your understanding is almost godlike. What things you have understood!...Although I cannot understand all your methods you have given me a great notebook for the study of *jōri*. [p.336]

From correspondence, and from the fact that Baien sent his pupils to the Kaitokudō [Najita 1987 5], and other historical evidence, it is highly probable that Asada valued Baien's opinion too. Although Baien's difficult philosophical works did not see much light for the next hundred years, there is no doubt that he had considerable influence as a scholar and thinker. It is significant that this influence was felt in the more scientific circles.

When he tells Asada (more than once!) of the *jōri* system Baien does not say that Asada should use it. Rather, Baien speaks as though *jōri* is his own theory, on a par, maybe, with the theory from which Asada reasoned when he predicted the eclipse. Baien seems to want to have *jōri* both ways, as a theory for which the universe provides evidence, and as a fundamental method for evaluating the scientific theories to which that evidence is more appropriately applied.

But *jōri*'s implication that the universe is fundamentally binary, as though that were a natural law of some kind, tells against its plausibility as either a scientific thesis or as a thesis of science-based philosophy. It is implausible because it is not falsifiable. When the method of seeing unity in opposites fails in any specific instance, Baien merely says: "However, *jōri* is not always clear. We grasp at wind or grope for shadows, we do not perceive the patterns." [Letter to Asada 1763 p.333] The "confirmatory" instances of *jōri* with which Gengo is studded could hardly be called scientific discoveries either. In fact the discoveries come first, and *jōri* analyses them. It is its deference to science that gave *jōri* its power for Baien. He never allowed *jōri* to weaken his commitment to realism, instead he devised the *jōri* shift and the whole pair shift to cope with the huge task before him.

Those who think the less of Baien for his commitment to a binary ideology, (and some people actually think the more of him for it,) should remember that a commitment to realism is also a commitment. If a realist theory is falsifiable in principle, it cannot be so by standards internal to that realist theory. Richard Sylvan, for instance, has made no bones about the fact that realism is a credo: "'Scientific' realism is shot through with such extravagant claims: it often reminds outside infidels of nothing so much as a religion; its ranks have been swollen by converts from Christianity, and its theses roll out like a catechism." [1988 282]. But extravagant claims are dispensable, the requirements for realism outlined in Chapter 10 of this essay are simple and spare. If we take *jōri* as a credo and strip it of its own extravagant claims, the simple realist

requirement is still satisfied. *Jōri* was not just a credo, however, but a linguistic device for intricate philosophical analysis.

We might complain that it is all very well to say that Baien respected observation and evidence, but much more needs to be said. Even the crudest "proto-science" uses observation and evidence of some kind, narrow vision is still vision. But we can safely say that Baien recognises the need for standards:

The eye is fundamentally the mirror of man, the ten thousand images come to be reflected clearly therein. When they come into contact with spirit it distinguishes them. The ear is the mirror of the word. The tongue is the mirror of taste. The mind is the mirror of knowledge and awareness, feelings and response. When these can preserve the fine what can escape them?

When upbringing and training are both ailing, one learns falsely. Disturbance of knowledge and feeling is false thinking. When one has a fever, heat feels like cold. This is not the cold of heaven and earth, but false cold as a reaction to illness. With a fever that confines one indoors, salt tastes bitter. This is not because the salt and soy sauce are bitter, but because the tongue informs one falsely. This is because the spirit is ailing. False seeing, false hearing and false thoughts, give rise to false words.

When the soul is in touch with reality we gather each of the ten thousand images in the mirror of the soul. But when we are ill, what we see and hear is not what those who are not ill see and hear. Thus we know that what we see is not something outside ourselves..

When our sight and hearing are sound yet we follow those whose sight and hearing is faulty, this is not due to weakness in our seeing or hearing, but in our intelligence.

[*Zeigo Zenshū* I 462]

What we observe, and in particular, what we learn from our observations, depends upon what we know already. When it comes to scientific theories and facts there is much to be said for the saying "A fact is a little theory, and a theory is a big fact". Baien would agree that observation requires preconceptions, and that evidence confirms or refutes already held theories. His criticisms of fruitless theories, such as correlations with the Five Elements, are easy to follow. It is much more difficult to give an account of his constructive advice for science.

traces (*seki*) 跡

As well as discarding habits of mind, and thinking for ourselves, how do we take heaven and earth as our teacher? We shall only see "unity in opposites" when we have the correct opposites, when we have followed the correct signs.

The state of *jōri* is that one endows two, and two possess one.... The key to knowing this is called "seeing unity in opposites, discarding habits of mind and following the correct signs." [Letter to Asada 1785 p.335]

The signs, that is the phenomena for which we seek *jōri* pairs, ~~pairs~~, are sometimes called "traces". Kozai Yoshishige was struck by an analogy with the "traces" within the game of Go. (Professor Kozai told me that he looked for a Go board in the old Miura home, and found one among Baien's relics.)

One of the fundamental concepts in Baien's philosophy is the concept of "traces". I have been wondering if these are not something like the diagrams that record games of Go. A diagram that shows the order of play is in other words its "trace", a tracing of the moves. It shows the forces, or motive power, exerted during the game. I believe that when one thinks in terms of Go, its connection with the basic concepts of Baien's philosophy such as *ri*, power, strength, motive power, reason, traces, (not to mention black and white as yin and yang) and so on, may make these concepts clearer.

No two diagrams are alike from beginning to end. The rules of the game are general ones, but on the basis of these general rules, when an actual game is played it takes on a specific pattern which is expressed in the diagram. In this sense, I am forced to think that "reason" and "traces" show Baien to be interested not merely in general rules, but also to have been intensely interested in very immediate, concrete, individual things. In other words, I think he was not only interested in necessity, he also had a very strong and vigorous interest in contingency. [Kozai 1975 31]

Traces are our pieces of evidence. They are what we have before our eyes when we look correctly.

We say what we mean by "heaven", "man", "heaven and spirit" and so on by pointing to their traces. [Volume of the Small NST 492,29]

We move on to the ten thousand things in which we can see the traces of the intermingling yin force and yang force; heat and cold interchange following the seasons. [Volume of Heaven NST 426,16]

As with the interchange of heat and cold, traces are not necessarily visible and not static.

Each of the ten thousand things is coarse as object and its traces are apparent. The functions of generation and decay are not fine either, dwelling and travel too have their traces. [NST 427,21]

In one sense, "trace" is a relational term. Anything we can become acquainted with by authentic means, however subtle, can have a trace, or be itself a trace. When "trace" is applied to a thing it refers to its role in knowledge.

Things that have traces are coarse, things without traces are fine. But when we deduce things without traces from things with traces, things without traces also have traces. [Core Text NST 395,26]

It would seem that fine things have no traces only as long as we do not know about them. The character for "trace", "seki", or "ato", derives from "imprint", and involves the foot radical. From different occurrences of the term "traces" in Baien's texts, the meaning of the term appears to waver between:

a) a sign, something that is a trace only insofar as it indicates to the observer something beyond it (Friday's footprints were a sign to Robinson Crusoe);

and

b) an after-effect, which does not imply an observer (the footprints would have remained on the sand as after-effects even if Crusoe had not arrived on the island).

That is, the meaning varies from something like a "clue" to something more like an "effect". With this ambiguity, sometimes the intermingling yin force and yang force have no traces, and sometimes they do. When they do, their traces are numerous, including phenomena such as the interchange of the seasons.

"Trace" is a *jōri* term in the pair, <motive power and traces>. By its very nature, wherever there is motive power there are necessarily traces. There is a *jōri* shift in "motive power". Although "trace" occurs here and there from *Genkiron* through to *Gengo* and *Zeigo*, <motive power and traces> occurs only very occasionally. In contrast, motive power itself ("ki" 機), [not the untranslated "ki" 氣 used in this essay] is a fundamental term in Baien's schemata of the universe, one of the Four Realms in fact. [See Chapter.3.3] It occurs most vitally in the pair <heaven and motive power>. "Motive power" is a difficult term in Baien's scheme, but as a *jōri* pair <motive power and traces> has something in common with our general notions of cause and effect, albeit intended to be much more stringent.

In *Genkiron* Baien says:

Things which have been killed already, or let live already, are the after effects of motive power, that is, they are its traces. ["Motive Power" *Zenshū* I 754]

However, when he is speaking about ourselves as causal agents, he usually uses the pair <heaven and destiny>:

The intermingling yin force and yang force act to create and destroy, motive power and traces have being as heaven and destiny. [Volume of Heaven NST 423 30]

Heaven is the necessity to which we have no choice but to conform. Destiny is what we can choose to do. In <heaven and man>, "heaven" shifts to become an agent grammatically, but it preserves the sense of how things are naturally, and necessarily, as in the passage quoted earlier in Chapter 5.2:

Heaven makes numbers and man counts them.

Heaven turns and revolves and man makes calendars.... [Volume of the Small NST 493]

(In this distinction between natural "causation" and human agency, <heaven and man> are often interpreted as "natural and artificial". This is reasonable, provided the meaning of "natural" does not imply "whatever is natural is good". Baien does not have a preference for heaven over man, they are just different, or rather, opposite and equal. For instance, words are artefacts, but sounds and meanings are natural. Artefacts such as carts and boats, are equally subject to *jōri*. Some modern Japanese readers nevertheless interpret Baien as preferring the natural. Perhaps they get this from "heaven and earth is the teacher", and a restricted view of what "heaven and earth" consists of.)

Baien's message concerning science

Baien's account of the *jōri* method is very disappointing to us if we expect it to look like a constructive method of scientific investigation. This is because we already take it for granted that there is such a thing as scientific method, and we wish to know Baien's version of that method. Although there is very little, if any, such method in works such as I Ching and the "correlative thinking" of the Yin-yang and Five Element schools which will be discussed in the next chapter, fruitful scientific activity had taken place in China and Japan for centuries before Baien. Good theory about how science works must come after science is well established. In pointing out the folly of those previous schools, namely their habit of "*kiyu*," Baien is simply undertaking to make his readers think about science, and the task of thinking about science is one in which he believes himself to be a pioneer.

Nevertheless, one purpose of his talk of <motive power and traces>, <fine and coarse> and so on, in which "motive power" and "the fine" are less accessible than "traces" and "the coarse", is to make a fundamental point about research such as astronomy, and about his own philosophical system, namely, the very simple point that it is difficult. The "*kiyu*" of the Five Element school was something that anyone could learn, but it offers no explanation. Complacency about the absence of explanation was expressed, according to him, by the term "*hazu*", meaning "necessity" in the sense that things are as they are necessarily, there is no point in being curious about them:

The rising and setting of the sun and moon, the constant changes of generation and decay, the eyes by which we see, the ears by which we hear, the limbs by which we move, the very mind itself which thinks these things, cannot have a single explanation. When we ask about them, people answer simply that this is how things must be, and leave it at that: eyes "must" [*hazu*] see, ears "must" hear, heavy objects "must" sink, light objects "must" float, these things are "common knowledge". [Reply to Taga Zenshū II 86.]

When *ki* is still it is straight. It is straight like a rope, which, when held up in the hand, always hangs straight downwards. People do not think about these things. This is because they decide that it is by "necessity" [*hazu*] that things should fall, by "necessity" that they go downwards. [Gengo Tebikigusa Taguchi 1978 437]

Baien does not say merely that *kiyu* and *hazu* yield no explanation. He points out the sad fact, familiar to us, but quite possibly new to many of his readers, that where there is an explanation, in many cases they have little chance of understanding that explanation. Science, properly carried out, is not publicly available. It is not merely confined to the more erudite scholars, according to their different specialities and expertise it is barred to most of them too. He sighs in his letter to Asada: "The more advanced my investigations, the less they will be accepted." [1785 p.337] The "mystery" associated with motive power is not mysticism, but describes the difficulty of access to the realities it concerns.

The intermingling yin and yang forces have no traces, but when spirit and mystery enter the realm of motive power, traces form in the actuality of heaven. Man looks through a veil and pries into the mysterious. Towards heaven which is necessarily hidden he is ignorant, towards the necessarily unfathomable spirit he is blinded. He uses *kiyu* as far as he is able, and mistakes the robber for his own child. [Volume of Heaven NST 429,6]

Baien does appear to have a positive method, that is *jōri*. The great yang and the great yin was a false pair, from which we learn nothing. Instead, we are to pair the sun with shade, and understanding begins.

In the method of enquiry according to *jōri*, if I have one trace and cannot find a pair for it, I postulate some other object and try to pair it. If this does not give me the truth I pair it with another object, if that fails, with another, and so on, stopping when I reach a pair that match. Before hitting on the straight line as the pair for the circle, one might first try the square, before pairing the sun with shade one might first try the moon, and finally arrive at the straight line and shade in this way. [Letter to Asada 1785 p.338]

The negative side is clear. We can see the futility of opposing sun and moon, and surely so could the most amateur astronomer of Baien's day. Where does opposing sun with shade get us? Before we could accept the opposition of sun and shade, surely we should already have had to understand the true nature of the sun.

The most difficult question about Baien's whole enterprise is as follows:

Baien had no time for the divination of I Ching, the false opposites of Chinese yin-yang theories, all these were *kiyu*. Why then did he not simply say that the binary system was false? Why, for instance, when the square and the moon fail, did he have to find other opposites for the circle and the sun? Why not just give up the whole notion of opposites?

I would not claim to be able this question completely, but offer three suggestions towards an answer:

Firstly, *jōri* contrast is fundamentally linguistic, and provided Baien with a rich source of philosophical terminology for viewing the natural world. His philosophical objective was original, and the poverty of traditional terminology was a serious impediment to his analysis.

Secondly, as I shall explain in the next chapter, the Sino-Japanese philosophical tradition did not usually work with the notion of properties adhering in substance, and the binary yin and yang system did some of that work instead.

Thirdly, *jōri* provided a theory of natural kinds, named by *jōri* terms, ultimately meaningful only if there was the one-to-one relation of <word and subject> to real phenomena.

6.3 *jōri* kinds

Baien's overriding aim is to find a way of thinking and speaking about the natural world. The *jōri* pair, <word and subject>, which was discussed at some length in Chapter 4 is directed towards scientific discoveries and theories. Names chosen for the members of *jōri* pairs are of course arbitrary, but the subjects they name, and the relation between word and subject, are entirely determined by the world in which they are discovered. Their reference is fixed not by internal meaning, but by the way the world is. They are discovered when the *jōri* system of nature is unfolded.

Baien was not the first East Asian thinker to say that the reference of names for elements of nature is fixed by the natural world itself. For instance, the Sung philosopher, Yang Shih (1053-1135) says:

The men of old had "a wide acquaintance with the names of birds, animals, grasses and trees". How could it only be their names with which they were acquainted? They deeply investigated and earnestly sought them.. [quoted in Graham 1958 82]

To express the relation of word and subject, Baien borrows from his predecessors the explicit metaphor of the relation of trap to prey:

Writings and diagrams are all superfluous. They are no more than nets and snares set up to catch fish and rabbits. [Preface 2]

If my findings should be confirmed by heaven and earth, my humble words would have merely done their work as nets and snares for catching fish and rabbits. [Reply to Taga Zenshū II 101]

Jōri kinds exist independently of the names used to ensnare them. This brings to mind John Wisdom's "Language is a net, cast into the blessed manifold", but Baien's net of *jōri* terms is not cast randomly. It is woven to a pattern that will catch fish only, and not other things.

When it turns out that nature is not how we expect it to be, we are forced either to coin brand new names, or, more often, to use old names with a different reference. "We show them by pointing to the traces - one subject corresponds to one word" [NST 492,29]. As we saw in Chapter 3, Baien revises old usage:

Because [the ordinary words] "images", "matter", "water", "fire", "yin" and "yang" have specific references, they could mislead the reader. We shall use the general names "light" and "humidity".

The original names "fire" and "water" refer to things that we find on earth. Therefore, when the sun is referred to as fire, this captures its substance, but the name is not accurate. [Core Text NST 396,1]

The theory of *jōri* kinds is a realist theory in the way that Western theories of natural kinds are sometimes realist theories. In such a theory of natural kinds, whatever is deemed to be a natural kind, such as dogs, or gold, are real subjects in the way that *jōri* subjects are. That is, to be a realist about the natural kinds, dog, or gold, is to say they are real as kinds. This is rather like the way we might say a family exists, such as the Kennedy family or the Miura family. Neither the realist about natural kinds nor the "realist about families" looks at the kind or the family as a bundle of common features of individual entities, but as an entity in its own right, the world comes already furnished with kinds, or families, as the case may be. On the other hand, a non-realist about natural kinds might say that kinds are merely convenient classifications of the common features of real individuals, particular dogs, gold rings, and such like, and nothing more. A "non-realist about families" would say that a family was nothing more than a group of people grouped together, more conveniently grouped by genetic origin, but for some purposes a partially different group classified together by surname would be more convenient, the only difference being in the individuals that comprise the groups. In Baien's case, of course, individuals are not real subjects at all. Whether or not a realist about natural kinds would say that particular dogs or gold rings were also real would depend on other details of that realist theory.

Natural kinds need not be animal or vegetable kinds, gold and water are often included in lists of natural kinds, and we might say that fire and water are *jōri* kinds, and if they are, so surely are <body and shape>, <*ki* and object>, and so on. Like names for kinds which are *jōri* kinds and correspond to word, (*sei*) of the <word and subject> relation, names for real natural kinds are not descriptive terms, which could describe imaginary things, but names governed by kinds already in the world. Translators are aware that descriptive terms in different languages are seldom exact synonyms, hence the occasional intrusion of "quaint" expressions in the speech of those whose mastery of a foreign language is otherwise excellent. On the other hand, names of natural kinds, and any other names that take a different form in different languages, would correspond exactly. Because there is no kind corresponding exactly to "whales and sharks", if there were a language that had a word for that combination, that word would not be a name because it would name nothing. The non-arbitrariness of kinds makes it clear what a mistake consists in. For example, Kaibara Ekken is said to have mistakenly classified a fish, the *kawappa*, as a beast, and the salamander as a fish. [Minamoto 1970 4] These were mistakes if they were the result of misinformation. But they were not mistakes if they were the result of the classifications he had chosen, unless Ekken also held them to correspond to real kinds.

Now that we see what it has in common with the more familiar idea of realism about natural kinds it becomes more meaningful to call Baien's theory of *jōri* kinds "realism". Yet Yamada Keiji describes Baien's realism as "realist conceptualism", a term used of European scholastic theories of universals, and particularly that of Abelard who held a middle position between extreme nominalism and realism about universals. Abelard specifically addressed questions about universals, one of which was "Do genera and species, as long as they remain such require that the subject they name have some reality or, if all the things they designate were destroyed, could the universal consist simply in its significance for the mind, as would be the case with the name "rose" when no roses are in bloom which it could designate in general?"; Abelard concludes that in such a case "rose" would no longer be a name although it would still have meaning "for the mind." [Wippel and Wolter 190] If this does resemble Baien's view, as it

seems to in some respects, it is all the more strange that Yamada should persist in translating Baien's "name" as "concept". For we conceive things which do not exist, and never have existed, imaginary, fictitious or illusory things. Baien, like Abelard, is explicit that there are words which have no referents, and in Baien's case these cannot be the "words" of the *jōri* pair, <word and subject>: "The mouth can utter even when there is no subject.... A subject must be real if a word is to match it appropriately." [Volume of the Small NST 491,35;39]

"Realism" is a vague term, depending heavily on the philosophical context in which it is used, and many very different philosophical doctrines are given that name. The term "realist" as it is frequently used of Baien's system in this essay has little in common with European scholastic realism which is opposed to "nominalism", and directly concerned with universals. Admittedly, it is appropriate for some realist theories of universals to deal with natural kinds, witness Abelard and the rose, but there is no necessity for a natural kinds theorist to be concerned with the scholastic nominalist-realist debate about universals at all. Baien does not have a theory of universals, nor, as I have argued in the previous chapter, is it helpful to speak of him as concerned with universals, with "abstract" concepts, or even with "concepts" at all.

The word "*ru*" means both "kind", and similarity or likeness. Baien uses it to refer to biological kinds, such as the "feathered kind" and the "reptile kind" [Volume of the Small NST 540 15], and he is speaking of biological classification when he says "We must divide according to kind." [Preface 14]. But in Preface 8 he uses it of non-biological members of *jōri* pairs such as *ki*, object, body, heaven, spirit and so on. Consistency with his general project demands that he is using "kind" in exactly the same way in both types of case.

His *jōri* kinds would seem to involve numerical identity, not similarity:

Heaven and earth are always constant and unchanging. The fire in my fireplace is the fire that is ten thousand miles away, the water in my bowl is the water of a thousand years ago. [Reply to Taga, Zenshū II, 88]

The real fire in his fireplace does not resemble the fire ten thousand miles away, it *is* that *jōri* kind, fire. English "kind" need not imply similarity either. We speak of "one's own kind", or one's "kin". Kinship literally implies not similarity at all, but the numerical identity of some genetic origin, not similar people, but the very same family.

When Baien uses the word "same" ["*onaji*"], interpretation is complicated by the fact that the Japanese word, just like the English "same" is ambiguous between numerical and qualitative identity. This is to be expected. When we say "Since he found a job he's not the same person" do we mean literally that he is qualitatively different, or are we using a contradiction for rhetorical effect, as someone might say, "He's not the Bill I know." (That is, he's someone else)? Although the notions of numerical and qualitative identity are clearly distinguishable, there are notorious problems in determining which cases they apply to.

The system of *jōri* kinds was put forward by Miura Baien when he reflected on the discoveries of science with which he was acquainted. Just as dogs, gold, or physical particles are natural

kinds in some theory or other, one might say that biological species, fire, snow, shape and body are natural kinds in Baien's theory. In the end, Baien should be pressed to answer the question of what it is that makes some things postulated as natural kinds more likely to be so than others. Although he gives the vague answer that the pair that leads to the best theory is likely to be a *jōri* pair, he has not analysed in great detail what it is that makes one theory more likely to be true than another. As I suggested earlier, interested as he was in the methods of science, alternative theories and controversies about scientific method were quite outside his experience.

biological classification

Baien was by no means alone in his interest in naming the elements of the natural world. Ekken's *Yamato Honzō*, Hakuseki's *Tōga* and Sorai's *Narubeshi* have already been mentioned, and these are just three of many scholars. In his attitude to naming he was unlike Ōgyū Sorai, who urged a return to Chinese classical names, and also unlike the later nativists who opposed the Sorai school and promoted a return to ancient Japanese terminology. But he was happy to leave the choice of names to pragmatic considerations.

Within the vastness of the universe, objects and events are so profuse and numerous that they are interpreted sometimes accurately and sometimes mistakenly, they are sometimes grasped and sometimes lost. These days, some scholars of natural history choose to take the Chinese names as the correct ones. Because they are already using Chinese characters, the policy of taking Chinese names as correct is a good one....

Now, people who wish to study natural history should recognise the truth about the real world. Names should follow the usage of local experts. But one object appears in several places, so we could hardly expect agreement in naming. [Preface 14]

But Baien was quite unlike anyone else in that he insisted that natural phenomena be reclassified according to *jōri*.

Baien distinguishes between classifying according to *jōri*, that is discovering the classifications in the world, and "mere" classification which is quite arbitrary. Iwami Teruhiko tells us that in the manuscript of the 12th version of *Gengo*, in which the term "*jōri*" is introduced for the first time, Baien emphasises the difference between *jōri* and "*hai*" 配, mere classification, saying that if we wish to avoid confusion in our writing we should abandon *hai*, and seek *jōri* pairs. [Iwami 1984 66]

Thus in applying the relation of <word and subject> to cosmological or biological subjects, Baien distinguishes mere classification on the one hand, from a nomenclature properly dictated by its subjects on the other. He contrasts the pair <man and woman>, which is natural, with "husband and wife" which is mere classification. (When Baien uses "*hai*", "distribution" or "arrangement" for "classification" here, he makes a pun that is lost in translation. "*Hai*" has also the meaning "spouse", and also "pair". But the word that I have translated as "pair" in the

sense of a *jōri* pair is not "hai" but "gu".) Baien echoes Shao Yung [Birdwhistell 117] and others with his example of husband and wife, but he makes a very different point. It is <man and woman> not "husband and wife" that reflects the binary system of the universe. Likewise, the divisions <animals and plants>, <sun and shade> and <fire and water> are dictated by nature.

Man and woman is a pair, but "husband and wife" is a classification. The classification of man and woman as husband and wife is good as far as classification goes, but its value is man-made. Thus "husband and wife" is variable but man and woman does not change. This is the distinction between heaven and man.

If a good classification is variable, how much more so is a bad one! According to the doctrine which assembles the ten thousand things and classifies them according to the Five Elements, they say "east is wood, west is metal, east is green, and west is white". This is confusing word and subject. East is east, wood is wood, west is west, and white is white.

The subject accords with the name and there is no misunderstanding. The pairs must be true pairs. Through the ills of false classification, learning leads us into darkness.

Therefore, if we want to understand how objects and events really are, when we see water we must make it water, when we see fire we must make it fire, when we see dimness we must make it dimness, when we see brightness we must make it brightness. [Preface 10]

Even "the fine system of anatomy", which he claims to have skipped over in *Gengo* but dealt with in *Zeigo* [Preface 12], is a good illustration of his confidence that *jōri* will yield detail and accuracy:

The fluids of the human body have numerous meanings. In "*ki* and fluid", "fluid" contrasts with "*ki*", and within the body is called the "synovial fluid" The "fluid" [serum] of "blood and fluid" contrasts with "blood" and is found at the surface in the skin. That which lies beneath is murky and red, and is called "blood". That which is found at the surface is clear and pale, and is called "fluid". Hence the fluid separates as fluid at the surface, and as blood beneath in the flesh. The *ki* in the veins and the fluid in the arteries are called "*ki* and fluid", but this is something other than the *ki* and fluid of flesh and bones. [Preface App. IX]

Biological classification would seem to give Baien considerable encouragement. The pairs, <beasts and birds> and <fish and reptiles> are divisions of the two kinds, <land animals and water animals>. These classifications are quite traditional. He admits to being short on detail, but remains confident that his binary method is the correct one. In *Zeigo*, he says:

The analysis of living things in *Gengo* is not exhaustive. I have given only one corner, the beast kind, you must supply the other three corners. [*Zeigo Zenshū* I 541]

In Section 14 of the Preface [p. 12], Baien discusses the naming of biological natural kinds at some length, giving some examples of his own classification according to *jōri* kinds.

Although Baien did not know that the symmetry of animal bodies derives from the empirical fact of meiosis, which has little to do with any cosmic duality, he did recognise that this particular symmetry was a feature of animals in contrast to plants. "Although we have left and right, front and back, the directions are random in the case of plants." [Volume of the Small NST 490,23]

Nevertheless, the relentless search for symmetry to satisfy *jōri* is often very contrived:

Animals have their roots above and their extremities below, their limbs hang down separately, and are of a determinate number. Plants have their roots below and their extremities above, they divide into branches which reach upwards, and are of an indeterminate number.

Animals are hollow inside, so they take in food and drink to nourish themselves inwardly. Plants are substantial inside, and take up soil and water to nourish themselves outwardly. When animals take nourishment they take it downwards from above, whereas plants take it upwards from below. Animals attract one another as male and female and store their seed within them, whereas plants do not respond to each other, and their seeds are formed on their heads....

In opposition to things with internal bones, we find turtles and crabs with external bones, and in opposition to things with limbs, we have shellfish and clams as undivided lumps. In opposition to the plants on dry land that grow in soil, we see plants in water that grow on stone. [Reply to Kō Takaoki p.342]

The move from classification for convenience to a *jōri* ruled nomenclature puts a strain on the system when it comes down to fine detail. His usual fresh realist approach is somewhat tarnished also by the degree of his indebtedness to his predecessors. In Huai-nan Tzu the cosmos was ordered by divisions of binary oppositions: "The furred and feathered are the kinds that fly and run, and therefore belong to the Yang; the shelled and scaly are the kinds which hibernate and hide, and therefore belong to the Yin", and so on. [Graham 1989 333] Echoes may be detected here of passages such as the following from the despised I Ching:

In ancient times when Fu-hsi reigned over the world, looking up he observed the models in Heaven, looking down he observed the standards on earth. He observed the markings on birds and animals, and how things fit together on Earth, and took comparisons near at hand in himself and far away in other things. Then he invented the Eight trigrams, in order to fathom the potency of the daimonic and clear-seeing, in order to arrange the essentials of the myriad things according to their kinds." [Great Appendix A 12, trans. Wilhelm, quoted in Graham 1989 362]

All considered, there is some justification for Yamada Keiji's vehement criticism of Baien's attempts at biological classification:

In the vast ocean contrived by a crafty spirit, like a creator of the universe, to a somewhat more intricate design than that of binary division, the little boat of Baien's philosophy trembles like the leaf of a tree, and founders pathetically. [1982 258]

Viewed as an effort to further the study of biological taxonomy we must agree with Yamada that Baien's contribution is dismal (and the *jōri* system itself, apart from Baien's actual teaching, probably did not help much with astronomy either). In Baien's defence we might reply that Baien could claim that his failures do not show that no *jōri* analysis is possible, merely that he has got it wrong. He is always aware of his fallibility.

But surely the reason his system looks so weak is that we are looking at it in the wrong way. In fact, even in his contrived biological classification Baien realises that binary division does not work as straightforward binary branching. In the Preface he recognises that the pair <grasses and trees> "crosses" with the pair <creepers and vines> : "Creepers and vines can be found in both grasses and trees." [Section 14].

One function of biological classification, including the classification of the old Sino-Japanese pharmacopoeia, is to sort things. *Jōri* does not sort things at all. (Theories about the reality of natural kinds are not primarily about sorting things either.)

A comparison of *jōri* kinds with the kinds of theories of real natural kinds shows some points of resemblance. But the comparison we now need to make if we are to defend Baien's project in its context is a comparison of classification according to *jōri* with practical biological classification, out in the field, so to speak. We can infer this comparison from what he tells us of *jōri*, aided by the small clue he gives us about the crossing of the pairs <grasses and trees> with <creepers and vines>.

Naming *jōri* pairs and naming species correctly do have one thing in common; neither enterprise concerns the differences between this plum tree in my garden and that plum tree in yours (the same variety of plum). But otherwise they are quite different enterprises. When we look at a single tree in the garden we may see before us members of two distinct *jōri* pairs, tree, from <grasses and trees>, and creeper, from <creepers and vines>. This is quite different from knowing the Latin name of the specimen.

If Baien's biological "classification" should be indeed according to *jōri*, then his project could not be in competition with the work of the biologists in any way. It would not conflict, for example, with Kaibara Ekken's 1362 sorts of objects in thirty-seven groups. To write Gengo Baien would not need to explore the garden of medicinal plants established by the Tokugawa family at Nagasaki, or any other of the famous botanic gardens established by the botanists of the period. [Shirai 1926 219] In principle, at least, pointing to specimens in the garden and naming *jōri* kinds could be as uninformative as pointing to objects and saying "this is body", "that is *ki*". For he could point to the same plant and say both "that is tree" and "that is vine", and yet point to another and say both "that is grass" and "that is vine"; just as he could point to the water pot and say both "that is coarse *ki*" and "that is fine *ki*".

Nevertheless, from the general tenor of Section 14 of the Preface, for example, we get the impression that he hoped that what we nowadays see as his "philosophical" analysis might serve to advance particular sciences. If his analysis fails, however, this is primarily because it is faulty, and not because it is philosophical. Realist theories of natural kinds do have a bearing on some issues of taxonomy, so why should a theory of *jōri* kinds not have a bearing?

Section 14 does not make his attitude clear, but in his discussion of the names of various biological species, these species are not real subjects according to *jōri*. And from his letters to Asada Gōryū it is clear that he believed that Asada could do the most brilliant astronomy without the benefit of *jōri*. Baien's discussion of names of plants and creatures in Section 14 is interested and enthusiastic rather than critical. We can only infer then, that unless he was very confused, his message was not that the biologists should give up classifying specimens in order to sort them into groups, but that the classification should derive from some sound theoretical principles if biology is to advance, that is, it should not be "mere" classification. We can endorse that today. To take one example, although Baien knew nothing of evolution, zoological classification on the basis of good theory can tell us something about the evolutionary story; to take another example, botanical classification on the basis of good theory can be supported empirically by the results of DNA tests. Our disagreement with Baien should be that *jōri* does not seem to provide good theory, and not that it is a poor way of sorting things, for it cannot be a way of sorting things at all.

Summary of Chapter 6

1. The Tokugawa period was a time of great cultural variety which included many independent thinkers with scientific interests. Curiously, from the time of open access to the West at the end of that period until the present day there has been a constant belittling of that scientific endeavour, and some outright denials of its existence, despite the fact that without recognising that scientific work the rapidity of later Japanese adaptation to modern Western science and technology is difficult to explain.

2. Baien's interest in science was stimulated by Chinese and Japanese books and scholars, and only derivatively by Western sources. The Chinese 17th century encyclopaedist Fang I-chih had a very definite influence on Baien's later work.

He placed a high value on observational evidence as support for scientific theory, and was very critical of purely speculative theories, "*kiryu*". It is certain that he saw *jōri* as a realist theory that was consistent with this approach, but on the positive side the *jōri* system itself does not contribute much to the practical promotion of scientific method.

Although the *jōri* system does not have much to do with causal laws, the injunction to "follow the correct signs" has some connection with causality in that the signs are "traces", and the pair <motive power and traces> operates rather like "cause and effect". In the case of human agency the pair is <heaven and destiny>.

Baien's main message concerning science is that we cannot expect to understand it easily, if at all. This may have been a fairly new idea in that specialisation in scientific fields was relatively new, and the old theories that Baien regarded as pure speculation were comparatively easy to understand.

3. The subjects of *jōri* pairs, especially those most likely to be objects of scientific study, resemble the "natural kinds" of some Western theories. Like the names of kinds in these theories, the reference of *jōri* terms is not arbitrary, but fixed by the real things that they name.

Baien is drawn to biological classification as a promising field for the binary *jōri* system. When it comes to biology, the similarity of Baien's system to conventional taxonomy can be very misleading. Classification according to *jōri* cannot be a way of sorting specimens.

Chapter 7: YIN AND YANG

In this chapter we shall look first at some aspects of traditional yin-yang theory; then we turn to see how Baien uses "yin and yang" and why vertical listings of yin-yang pairs have limited application to *Gengo*. We see that although Baien's yin and yang are not dynamic in their main role, his universe certainly is. In their main role the terms function as variables of a kind. We shall look at his attitude to Five Element theory and discuss "correlative thinking" in general.

Introduction: "attributes" in Chinese tradition

Before considering what sorts of things might be organised in pairs of opposites, a few remarks are needed about the relation to Chinese philosophy of terms like "attribute", "quality", "property" or "predicate".

The question of "attributes" in Chinese philosophy is not a question about how the Chinese thought, they thought the way any other people think. The question is about what Chinese thinkers thought about. (To use the loose analogy of dancing, we should not be asking how Chinese danced, they danced how any people dance, but what kinds of dances Chinese dancers danced.)

Neither are we asking whether or not they thought about those things that we think of as attributes. Of course they thought, philosophically, about white, hard, good, etc. If these are attributes they thought about attributes. But we cannot assume that they thought about them as attributes.

Some kind of substance-attribute distinction must be one of the most common assumptions in Western philosophy, but it is a philosophical assumption and we cannot assume that the Chinese shared it. It is arguable that it is absent from early Greek philosophy. It is also arguable that a philosophical theory that has developed without that particular distinction is not for that reason inferior to the lines of thought begun, most notably, by Aristotle.

In whatever way we use the words "attribute", "property", and "quality", they lose all meaning if they are not contrasted or matched (*jōri* fashion!) with something, technically "substance", in which they might or do inhere, or which they are the properties of.

Logicians do not confuse a grammatical distinction between noun and adjective/verb with a philosophical distinction between substance and attribute. But when interpreting Chinese philosophy it is dangerous to use the grammatical term "substantive" for "noun", in that the connection with "substance" could easily mislead. For instance, Hansen says: "... Chinese theories of language tend to treat adjectives as terms denoting mass substantives; for example, red is the stuff that covers apples and the sky at sunset." [1983 35] One is immediately tempted to generate a vicious regress here by asking, what attributes does this stuff, redness, have? Is "covering", or "spreading" an attribute of red, or is covering another "mass substantive"? By "adjectives" Hansen means terms that have the grammatical role of adjectives in English. He has a significant philosophical point about the notions of mass and countability

in regard to some Chinese theories, but the grammatical term "mass substantive" does not imply the philosophical notion of "stuff", as we shall see in the next chapter [8.3].

In the early Chinese cosmogonies the primary "attributes" were commonly referred to in pairs, such as square and round, hard and soft, cold and heat, light and dark, a binary approach which lent itself to be expressed with the terms "yin and yang". These "attributes" were dynamic phenomena, and dryness and darkness were presences, rather than absences, of water or of light, as with the early Pre-Socratics.

In the West, theories of universals offer solutions to the problem of handling common attributes or properties, that is, the problem of how the "same" attribute could occur in different places at the same time, but such a problem hardly arises if these "attributes" can be dissociated from discrete entities, one will not theorise about the relation of the paleness of Socrates to the paleness of Plato unless one has accepted the individual entities Socrates and Plato as basic items. I shall signal this difference by modifying the term "attribute" to "attribute*". "Attribute", "quality", and "property" are all technical terms in Western philosophy, and however they are used, these words imply a general doctrine in which they are somehow "of" something else. By our new definition, "attribute*" will not imply a host substance. Richard Smith uses the term "aspects" when speaking of "yin and yang" as they were taken into 17th century Chinese cosmology, saying that yin and yang represent aspects of things. [1991 52] Alison Black speaks of yin and yang as "modes of ch'i" [1989 61]. These terms suggest dynamic phases rather than attributes adhering in substances, but "aspects" are still aspects of things. In the case of "modes of ch'i" we are nearer to attributes* in that ch'i itself is omnipresent and dynamic, thus not obviously differentiated by its "modes" which have some kind of being in their own right.

If these reified attributes had been said to inhere in individuals, relative terms would have become a problem, how could heat and cold, or hard and soft, be in the same place? Because a thing is both hot and cold, hard and soft according to what it is compared with (the worm in Chapter 3 would have both length and shortness), two opposite attributes would inhere in the same place (in the same worm).

However, when attributes*, and not individual objects, are the basic realities, they do not adhere in anything; yin and yang come and go in a constantly changing universe without entering or leaving things. Even with the common garden notion of grammatical predicate, the question "Could there be more properties than predicates?" would have no meaning in the Chinese contexts concerning attributes*. (Some Chinese writers did consider the inherence of attributes, for example, the Neo-Mohists Canon B 37: "A stone is one, hardness and whiteness are two but in the stone" [Makeham 1989], but it is doubtful that they have had any direct influence on Baien. Ōgyū Sorai does mention this classic example, but dismisses it as hair splitting. [Lidin 1970 91] When Baien wishes to split hairs he does it in his own imitable way.)

Without arguing the historical niceties, it sometimes helps the student of East Asian thought to see yin-yang theories as side-stepping the need for a substance-attribute distinction.

Short or long, large or small, square or round, strong or brittle, light or heavy, bright or dark, these are called "li".

This frequently quoted passage from Han Fei Tzu, (possibly 3rd century BC) employs the term "li", (the "ri" of "jōri"), which Harbsmeier translates as "attribute" [1989 138], and Graham as "pattern" [1989 287]. Organised as pairs of opposites, attributes* have a clarity that attributes of substances lack. When we take the precisely locatable individual, Socrates, as the given substance, there are philosophical problems with his shortness. But organised in pairs as attributes* or as yin and yang, the pairs short and tall, bright and dark, and so on may be taken as given. The notion of attributes* is not necessarily primitive or pre-scientific, in that yin and yang are essentially dynamic, and a dynamic universe is scientifically acceptable. In the final Gengo system this physical dynamism is expressed in the pair <in and un> ("yin force and yang force"), and the terms "yin" and "yang" are used for a completely different purpose.

7.1 old yin-yang theory

The items "yin" and "yang" are first seen in I Ching. However, their sense there was sometimes the Way, sometimes the Forms, and sometimes the Lines. Although I Ching is an account of divination, to look at heaven and earth through that text is like scratching an itching foot without taking off one's sandal. With the *kozato* radical they represent the earth facing or turning away from the sun. Because I have borrowed them to convey a different meaning here I do not use the *kozato*... three talents, four masters, five elements, six *ki*, nine mystic markings, ten mystic diagrams, this is all the wisdom of the blind ... People speak of yin and of yang, but they do not see the bodies of yin and yang. Therefore people stick to the old theories of yin and yang. [Letter to Yumisaki Yoshitada 349]

Baien criticises yin-yang theories, and these lines from Letter to Yoshitada state his decision to use the terms quite differently. To understand why he retains them at all, first we should look at relevant aspects of the traditions from which the terms come.

It cannot be said too often that phrases such as "Chinese thought", and "Chinese philosophy", indispensable as they are as historical and geographical locators, are extraordinarily vague. A civilisation, or group of civilisations spanning well over two thousand years, involving many millions of people, and dominated by institutions which saw education as one of the finest achievements of humanity, contains immense variety. It would be presumptuous to suggest that any philosophical idea or interest was entirely absent from that vast scene. We are concerned here with some aspects only of yin-yang theory.

Not only do "yin" and "yang" persist as key terms from early cosmogonies, through I Ching and into Neo-Confucian thought (even into Edo Japan) and on into 17th century Chinese texts, yin-yang theory also persists in popular thought. Medicine and geomancy are two examples of fields in which yin and yang touch people in daily life. Ideas from intellectual theories filter into popular thought and take root there, and popular ideas are caught up into intellectual theories.

Understandably, in Western commentaries we sometimes find confusion between what we might call "proto-science", an intellectual activity, and what we might call "folk science", what "ordinary" people think, or rather, what people, including "proto-scientists", think unreflectingly as they go about their daily tasks. Some unreflecting thought is scientifically sound, and many "ordinary" beliefs are incorporated into science or proto-science. Further, the distinction between proto-science and science depends upon an academic theory about what science is. A further complication is the arbitrariness of sorting studies into disciplines, into philosophy, religion, science, psychology etc. These will differ from tradition to tradition to the extent that the traditions have developed in isolation from one another. In other words, when for instance, the interplay of yin and yang is used to explain the origin of the universe, we might call this proto-science. When a modern Chinese landowner uses geomancy to choose a site for his new house, this is more like folk science. Nevertheless, neither of these need lack a genuine scientific content. The boundaries between folk science, proto-science, and science are inevitably blurred.

The words "yin" and "yang" ("in" and "yō" in Japanese) are embedded in the Chinese and Japanese languages. "Sanyō" and "sanin" ("mountain yang" and "mountain yin") refer to the sunny and shady side of the mountains, "taiyō" and "taiin" ("great yang" and "great yin") refer to the sun and the moon; and in chemistry "yōkyoku" and "inkyoku" ("yang pole" and "yin pole") are technical terms for electrically positive and negative poles, anodes and cathodes.

"Yin and yang" is often translated as "the negative and positive principles", and nowadays the negative principle, yin, might seem to be associated with absence. Dark is the absence of light, cold is the absence of heat, ignorance is the absence of knowledge. But although we now see dark, cold and ignorance as merely absences of their yang opposites, it is important to remember that both members of yin-yang pairs were seen as presences in early Chinese cosmogonies, as were both members of the pairs of opposites of the ancient Greeks. In fact, in the case of dryness and water, water is yin, and its absence, dryness, is yang. (We are not surprised that dryness is the "positive" yang, as it is associated with other yang attributes such as heat and fire. Correlative thinking will be discussed later in 7.3.)

Moreover, some pairs on the ancient lists, such as male and female, or sun and moon, could never be regarded as opposed in terms of presence and absence. Graham [1989] says instead that yang is "superior" to yin. Other commentators refer to them as the male and female cosmic principles, the male being superior [e.g. Elvin 1973].

The use of yin-yang theory is so pervasive in the Chinese tradition, that no general interpretation can be ruled out altogether. However, here we are concerned with any broad features of the theory that Baien may be using, or have explicitly rejected. Graham's discussion of yin-yang theory in Huai-nan Tzu (2nd century B.C.) is as appropriate a source as any in which to find examples for comparison. Huai-nan Tzu was a major source of the tradition that Baien inherited. For instance: "It says in Huai-nan Tzu that the circle is heaven and the square is earth." [*Zeigo Zenshū* I 294] (Chapter 3 of Huai-nan Tzu says: "The way of heaven is round, the way of earth is square" [Graham 1986 30]) Some pairs from the cosmogony of Huai-nan Tzu are as follows:

Yang	Yin
heaven	earth
hot	cold
fire	water
sun	moon
round	square
shines	is dim
expels	holds in
scatters	congeals
furred or feathered	shelled or scaly
rises	sinks

Under some interpretation, all of these oppositions are found in Gengo, with the notable exceptions of sun and moon, and round and square, which Baien replaces with sun and shade,

and circle and line. But Baien's use of the terms "yin" and "yang" in the final version of *Gengo* is completely different from the traditional uses.

The alternative interpretations just mentioned might be briefly summarised as follows:

	<u>Yin</u>	<u>Yang</u>
(Graham)	negative	positive
(Elvin)	inferior	superior
Baien	female	male
	- same status, unordered opposites -	

7.2 Baien and "yin and yang"

We should take seriously passages like the one from Letter to Yumisaki Yoshitada quoted at length in the beginning of 7.1. This passage was written in 1776 after the completed Gengo.

Yin-yang theories run through hundreds of schools of Chinese and Japanese thought, from 2000 years before the time of Miura Baien. An inventory of all those features of yin-yang theories that he abandons would be tedious. Instead, we shall look briefly at some of their features that might bear on Baien's theory, and at the use that he made of the features he retained.

In the traditional theories, yin and yang are exactly two because they are opposites and no third thing is suggested. This elemental twoness may be one reason why Baien saw fit to retain the old terms "yin" and "yang". When Baien "discovered *jōri*" he had come to the conclusion that although the old yin and yang systems fell miserably short of representing reality, there is opposition in nature of a complex kind, and with diligence this is expressible. There is not the slightest doubt that Baien's reflections on traditional yin-yang theory are a major source of his theory of *jōri*.

At the age of twenty-nine I first recognised *ki*, and finally understood that heaven and earth possesses *jōri*. At that time the way people explained heaven and earth, and the way they explained yin and yang, was like scratching one's foot through one's sandal. [Reply to Kō Takaoki p.340]

Baien finally took a firm stand by removing the left-hand *kozato* radical when he wrote the characters for "yin" and "yang". In that passage from Letter to Yumisaki Yoshitada, he complains that people will stick to the old form of the characters because it does not require the effort of comprehension that his radical reform of yin and yang requires.

Baien's yin-yang pairs are opposites or complements of some kind, as are all the traditional yin-yang pairs, such as light and dark or male and female. But there are striking differences between Baien's groups of pairs and the list of pairs above from Huai-nan Tzu.

Firstly, Baien rejects some of the traditionally popular pairs, such as sun and moon, circle and square, which under *jōri* become <sun and shade>, and <circle and line>. And a great many of his own are novel or initially obscure: <light and humidity>, <turning and revolving>, <contain and dwell>, <door and room>, <house and path>, <arc and chord> and the pair <concealed and manifest>, which is distinct from <invisible and visible>, as we shall see in Chapter 11. Baien has revised some of the pairs. Fire on earth and the moon in heaven are relatively ineffectual, and not the opposites of the cosmic greats, water and sun:

Sun and shade make day and night, winter and summer, but the effect of the moon is slight. Water and dryness make aridity and moisture, turbidity and brightness, but the effect of fire is slight. [Volume of Earth NST 473,5]

Secondly, as we have seen in Chapter 5, in Baien's hands the very notion of opposition is quite different from that of Chinese yin-yang theory. The aphorism "One is one and one" summarises not only balanced oppositions between the "one and one", but also the "opposition" between the One, and the ones of "one and one". Furthermore, the "opposition" of some *jōri* pairs, such as <*ki* and object> or <circle and line>, is a kind of necessary interdependence. To convince ourselves of the difference of Baien's usage we need only try to place ~~placing~~ his <*ki* and object> or <path and house> on a table of opposites headed "Yin" and "Yang"!

Thirdly, a general difference is that weak as they might be, the grounds for Baien's revision of the lists are empirical and corrigible. He claims to have discovered both *jōri* opposition itself and specific *jōri* pairs by examining the world. As heaven and earth is the final arbiter, it is possible for us to make mistakes about them. Graham describes passages like the one from the Huai-nan Tzu as "proto-science". Baien's passage is not proto-science but science proper, false or naive as it may seem. He claims to base his findings on evidence, and they stand to be corrected by further discoveries.

Fourthly, Baien uses "yin and yang" in two ways. In Genkiron yin and yang are often specific, and this is still found in Gengo where they refer to warm *ki* and cool *ki*, derived from a traditional application and related to their non-philosophical sense of sunny and shady. But in the final version this specific reference is subordinate to their fundamental use as the names of one and one, applying to the whole *jōri* system.

Fifthly, while the role of yin and yang may be a very general one, the pair is not the starting point, the universe has no starting point. In the "Yin and Yang" chapter of Core Text, the first chapter of Gengo, the phrase "yin and yang" begins to appear only after many of the pairs that are themselves principles of the *jōri* complex have been introduced. This is consistent with the design of Gengo discussed in Chapter 1. Baien speaks of yin and yang as differentiation of "the One primal *ki*", but my translation of "gen" as "primal" will be misleading if it suggests ontological, logical or temporal priority. "Primal" in "the One primal *ki*", ("ichigenki"), is a translation of "original", ~~but~~
and refers rather to the point at which analysis must stop.

listing pairs

Take now a selection from the pairs extracted by Graham from the Huai-nan Tzu [1989 333] and compare it with a list of pairs from the section on "water and dryness" in Baien's Volume of Earth, "The Manifest" [NST 472-481]:

<u>Huai-nan Tzu</u>		<u>Baien</u>	
yang	yin	yang	yin
hot	cold	hot	cold
fire	water	fire	wetness
sun	moon	sun	shade
expels	holds in	dispersing	binding
shines	is dim	fire	ice
scatters	congeals	dryness	water
rises	sinks	warm <u>ki</u>	cool <u>ki</u>
furred or feathered	shelled or scaly	heaven	earth

Baien's list here resembles the list from Huai-nan Tzu because he is using "yin and yang" in the physical sense.

In both lists the members of the columns are connected with at least some of the other members, which in turn connect with sun and shade. For example, in the list from Huai-nan Tzu, shining, scattering, and rising connect with heat, and hence with each other, likewise congealing and sinking connect with cold.

Parallel columns of yin-yang pairs are common in Western commentaries on Chinese thought. But are there many such representations of yin and yang in Chinese texts? If there are not, we should take care with any analysis that involves the physical arrangement of left and right columns, and make certain that we are not adding ideas that are absent from the original. But this is not much of a problem in the case of Baien's texts. A close examination of Gengo shows that an overall arrangement of pairs in two columns, headed by "yin" and "yang", or any other terms, is impossible anyhow.

When we do try to make lists from the *Gengo* texts we find two very significant differences from the lists found in commentaries on Chinese philosophy:

1. Insofar as we are able to make lists at all, we can make no master list, under "yin" and "yang", or of any other pair of terms. In the very general diagram "Warp and woof, division and contrast" given in Chapter 2.4, there is no basic distinction between the left and right of the pairs, such as that one is yin and the other yang. Any such distinction will depend not on yin and yang, but on the realm the *jōri* paired terms apply in. [See Chapter 3.3].
2. Two terms found in the same column on one list, may occur in different columns in another. This is because the other terms they apply to in one realm are not ~~but~~ the terms they apply to in another. For instance, in most lists in which both the pairs <hollow and substantial> and <movement and stillness> apply, hollow aligns with movement and substantial with stillness. But in a passage from the "Heaven and Earth" chapter of *Core Text*, in discussing <fine and coarse>, hollow is aligned with stationariness, and substantial with movement:

Pure, hollow, stationary and dispersed things are fine. ... Impure, substantial, moving and binding things are coarse. [*Core Text* NST 395 24, 34]

We could make a list from this passage and compare it with a list from elsewhere in *Core Text* [NST 394 15]:

hollow	substantial	hollow	substantial
stationary	moving	movement	stillness
fine	coarse	fine	coarse
pure	impure	<i>ki</i>	matter
dispersing	binding	dispersing	binding

The *jōri* shift and the whole pair shift preclude the tidiness of the Chinese yin-yang lists.

dynamic yin and yang

Unlike its role in some cosmogonies, Baien's yin-yang theory offers no explanation of evolutionary processes. In *Kuroi Kotoba no Kukan*, Yamada claims emphatically that Baien's method of seeing opposites as one derives from Shao Yung. There is no doubt that they both have links with *I Ching*. Yamada gives an account of Shao's evolutionary theory and states that the significant difference between Shao Yung and Miura Baien is that for Shao, yin and yang are in constant interchange, constantly "becoming" one another, whereas Baien rejects the idea of yin and yang interchanging in this way. [1982 182]

This may be what has led Yamada to his false conclusion that Baien sees the universe as static [1982 143]. From the first pages with the image of the interweaving of warp and woof, Baien's picture of the universe in *Gengo* is unintelligible if it is not seen as physically dynamic. In Chapter 2.2 I have suggested that to view the brush stroke as a Baienian "object", we need to

see objects as dynamic, that is, Baien is speaking of the movement of making the stroke, not the static shape on paper.

However, the physical basis of the dynamism in Baien's system is not <yin and yang>. It is the distinctly different pair, <yin force and yang force> ("in and un" 糸 罔 糸 罟):

The intermingled yin force and yang force form the spirit that makes heaven active. Heaven and earth as the concealed and the manifest, form the object that makes earth stable. Stable things are made active by the dynamic flux of spirit, active things are made stable by the chaotic content of object. [Core Text NST 390,6]

Because capacities are active, nature is visible as yin and yang, because bodies are stable, objects are manifest as heaven and earth. The intermingling yin force and yang force are the conveyors of spirit, the concealed and the manifest are the stability of objects. [Core Text NST 391,31]

Within the combined four, heaven, motive power, nature and body, the intermingling yang force of light and yin force of humidity are visible. [Core Text NST 394,6]

Thus each object has the intermingling yin force and yang force ... [Core Text NST 397,26]

Through the intermingling yin force and yang force we are aware of the shining and hollow, and the turbid and humid. [Core Text NST 398,31]

The spirit of dynamic flux within this stimulates the intermingling yin force and yang force, ... [Core Text NST 398,36]

The intermingling yin force and yang force act to create and destroy, motive power and traces have being as heaven and destiny. [Volume of Heaven NST 423,30]

Because heaven and earth is active, from the clashing and intermingling yin force and yang force emerge two kinds, one of them animate, conscious, warm and moving, the other inanimate, unconscious, cold and motionless. [Reply to Taiga Zenshū II 100]

These are just a few of many possible quotations from passages in which Baien envisages a dynamic universe.

From Genkiron into the final Gengo, one gets an impression of a shift from the physical sense of "yin and yang" to something more like a general philosophical principle. Although, as we have seen, Baien does use "yin and yang" with a specific physical meaning in the "Manifest" section of Volume of Earth, the pair is used much more often in a philosophical sense. The physical "yin and yang" of Genkiron is supplanted by <yin force and yang force>. However, it is a moot point to what extent this pair, or Baien's "motive power", are physical, and to what extent philosophical. Baien does not make a clear distinction of this kind in Gengo. The conflation of the physical with the philosophical is a fault when it stems from a genuine

confusion of thought, as it may sometimes do, but we are not entitled to impose disciplinary boundaries such as "physical" and "philosophical" on his system merely because we are accustomed to those boundaries.

As in the case of Shao Yung, physical dynamism itself is no departure from yin-yang tradition. But Baien's philosophical system might also be described as "dynamic" metaphorically. To use a visual analogy, it is in the nature of Baien's universe that to apprehend it we must be constantly shifting our viewing angle. As it happens in this world, we may look at a scene in changing light, but we must always see it in some light, and we take clear daylight conditions as the norm for most objects.

But not only can we imagine conditions so variable that there is no such standard; even as things are, this standard is not always appropriate. For example, how do we answer the question "What does the moon/Saturn/the red star Antares really look like?" Taking this question at face value as an analogy with a question about Baien's view of the universe, the reply might be that the shapes and colours on a clear night, through telescopes, and from spaceships, all provide different answers, yet might all be taken as equally real descriptions of the objects in question. We do need norms to distinguish the real from the unreal. The "stars" one "sees" in concussion do not conform to any norm for real stars, but it does not follow that those norms give a unique answer to every question about the real. [See Chapters 9 and 10]

Ogawa Haruhisa makes the same objection to Yamada's curious oversight in a different way:

Yamada Keiji interprets and criticises Baien's yin-yang theory as follows: "One does not become the other, yang never becomes yin and yin never becomes yang."

The nature of the "cross" of opposition and comparison tells us that comparison is found within opposition and opposition within comparison. ... for Baien himself, opposing and contrasting objects are found everywhere, and because it is clear ... that the contrast of yin and yang is within all contrasting and opposing objects, it must be understood that the original yin-yang relationship is the yin-yang relationship of opposition. As Yamada says, Baien's yin and yang is never fixed, and this may well be understood as mutual becoming. The one-sided view in which we stipulate that something is yin but we cannot see yang is not Baien's kaleidoscopic apprehension of an existence in which all parts are simultaneously present. The "crossed" nature of one and one requires us at least to change our viewing angle by 90°. If we try doing this difficult thing, what we have thought of so far as up and down becomes left and right. If we change our viewing angle by 180°, up and down become down and up, and left and right become right and left. Existence does not change according to the angles from which we view it. Although existence itself contains all manner of mutual relationships, because human beings have only a fixed way of seeing them we must try to find variety in this fixed existence by changing our viewing angle from its first position. [1983 32]

The "kaleidoscopic" effect that Ogawa describes is enhanced by the pair

<concealed and manifest>. The concealed and the manifest "dwell in the same place", as do the raw and finished sides of the brocade. <Concealed and manifest> will be discussed in connection with Baien's shifting realms in the concluding chapter, Chapter 11.

yin and yang as empty places

The suggestion has been made that in many traditional yin-yang theories, the terms "yin" and "yang" assume the logical role of variables. This is definitely true of Baien's yin and yang:

Yin and yang are hollow places. They are names for one and one. [Zeigo Zenshū I 385]

Although they may function as variables, in the traditional theories there is more to their logic than that, they indicate an ordered pair. This is definitely false of Baien's theory in the final version of Gengo. In Baien's philosophical use of the pair, order makes no difference. Beyond saying this, it would be misleading to represent this or any other aspect of Baien's system in the symbols of formal logic, as it would involve subscribing to assumptions about sets, classes, membership, mass terms or suchlike. Baien's tight organisation sometimes tempts people to do this.

In saying that where yin and yang are an ordered pair they have the role of variables in Chinese philosophy, all that is meant is simply this: yang is to yin as positive/ male/ bright/ etc is to negative/ female/ dark/ etc. It is interesting that if we were to present somebody who knew nothing of yin-yang theory with no more than these three correlations, together with a jumbled list from a table of yin-yang pairs, we should expect them not only be able to sort them correctly into pairs, but to order all or most of them correctly as yang or yin in each case. For example, reordering the following brief alphabetical list as a yin-yang table would be a very easy exercise: black, clear, moving, murky, still, strong, weak, white.

Some of this order is apparent when Baien uses "yin and yang" in a physical sense, as he does in Genkiron: "the *ki* of yang is warm and bright, the *ki* of yin is dark and cold" ["Yin and Yang" Zenshū I 745]. In Gengo, however, in their dominant sense they become pure variables.

One is yang and one is yin, thus one and one acquire different names ... [Core Text NST 390,4]

They can no longer be regarded as an ordered pair, as an ordering principle would give to the terms, or to their relationship, enough content to prevent them from becoming interchangeable. Names are needed, we can assume, to make it clear that one and one are distinct entities. When Baien says, in Letter to Yumisaki Yoshitada: "The number of heaven and earth is simply one. We meet it as one and one" [p.350], it is obvious that the ordering of the pair is irrelevant.

Yin and yang may be purely variables, but the pair "heaven and earth", though sometimes used very technically, has content. The meaning of "heaven and earth" varies from context to context, but it always has a quite determinate meaning. Earlier in the Letter he has said:

"One and one" is the name for "yin and yang" before they have those names. Yin and yang are one and one once they have names. *Ki* and object are one and one.

One and one are called "yin and yang", and *ki* and object are called "heaven and earth". Those who do not understand that one and one, which are "hollow", divide from *ki* and object, which are "substantial", take them as unconnected. That is because they do not understand clearly what *jōri* is. [p.350]

In contrast to yin and yang, heaven and earth are no more interchangeable than are *ki* and object. Furthermore, in Gengo "one and one" is more general still than "yin and yang", in that "one and one" also involves the separation of heaven and earth. In other words, <*ki* and object> are "one and one", but "one and one" applies to both <yin and yang> and <heaven and earth>. Baien says: "The names of one and one are "yin" and "yang", and the natures of heaven and earth are also yin and yang." [Preface 8], but the natures of <heaven and earth> are more than <yin and yang>, which expresses only their *jōri* relationship.

7.3 the Five Elements

The briefest history of Chinese thought will include an account of not only yin-yang theories, but also theories of the Five Elements, which may even predate them. Many writers nowadays substitute "Processes" or "Phases" for the traditional translations "Elements" or "Ways", to convey the notion that water, fire, wood, metal and earth are dynamic, and that their name, "*wu hsing*", 五行, is more literally rendered "Five Goings". [See Graham 1989 325] Here I shall merely use capital letters to confine the meaning to this specific use, but "element" is appropriate in Baien's case as he compares that theory with the Western theory of the four elements, which had entered China with the Jesuit missionaries and for several centuries seems to have represented the backwardness of Western thought.

Although Baien comes to use a radically revised notion of yin and yang, he has no truck at all with Five Element theories. In the following passage from *Genkiron*, he attacks the cyclical theory of generation and destruction according to which the Five Elements "conquer" each other in turn, and in one direction only: water → fire → metal → wood → earth → water → Now, in contrast to *Gengo*, *Genkiron* is very derivative, despite its absence of direct references to previous writers. This passage is very similar to one by the Chinese scholar Hsieh Chao-che (1567-1624) [Elvin 1994], and we do not know how many other writers may have said the same. Baien says:

In the Five Element theory the function of the elements is explained as the interplay of destruction and generation. The thousand affairs and the ten thousand things are all accounted for in that way.

On the contrary, by destruction and generation the end of one is the beginning of another. It is simply the reciprocal coming and going of the one yin and the one yang that gives rise to generation and decay. Water conquers fire, but fire also dries up water. Fire conquers metal, metal also resists fire. Metal conquers wood, wood also has metal carve it. Wood conquers earth, earth also rots wood. Water makes wood grow, wood also holds water. Wood makes fire, fire also warms the air to make wood grow. Fire produces earth and earth contains fire. Earth produces metal, and metal rusts to become earth. Metal is produced by water but water contains metal.

If the only things on earth that form bodies are wood, fire, earth, metal and water, and things with spirit, one might as well say that there are six elements. Or if animate things are said to possess the five elements, why not say that the five elements themselves are provided with the five elements? The five elements are insensitive, but sensitive beings are also said to consist of the five elements. If they consist of the five elements, the cyclic theory of destruction and generation must be abandoned. Furthermore, if the five elements are assigned to the four directions and the centre, they can only apply between the north pole and the equator ... ["Water and Fire" *Zenshū* 1 750]

Perhaps Baien's criticism of Five Element theory was directed more against doctrines of his own time, than against the theory at its fullest development in Chinese thought. In the *Gengo Preface* he condemns Five Element theory as false or merely speculative: "Blindness and

deafness delude people. Speculative explanations have power over people, and speculation has lured them into the school of the Five Elements." [Preface 6] and "It is not surprising that people who are confused mistake hacks for good horses. For example, the school of Five Elements merely classifies things, but yin and yang doctrine is a theory of contrast." [Preface 10]

We cannot say that Baien did not appreciate the classificatory function of Five Element theory. His criticism of it was that mere correlative classification is not science, and science should supersede it. In 1778 he says in Kizanroku (the record of his second visit to Nagasaki):

The Chinese books, Tien-ching huo-wen, Hun-yu wai-chi, and others, deal with the Western theory of four elements. The Chinese have five elements: wood, fire, earth, metal, and water; the Indians: earth, water, fire, wind, and air. The theories are different in form but the same in essence, each of them is nothing but a scheme by which natural phenomena are explained. [Zenshū I 1065]

Nevertheless, this later criticism that Five Elements theories are "mere classification" is less severe than the charges he laid against them in those earlier passages from Genkiron. In the descriptive catalogue, Yamato Honzō ("Plants of Japan"), by Baien's predecessor, Kaibara Ekken, and intended throughout to have a bearing on pharmaceuticals, Volume III uses the headings "Water", "Fire", "Metal (precious stones)" and "Earth (ordinary stones)" in that order. The omitted Wood, of course, was no doubt too broad, as the other nine volumes and the appendix all deal with herbs and trees. Ekken follows Li Shih-chen (1518-1593) in this to some extent, but revises Li's classifications where they seem impractical. [Inoue 1970 501] In Li's Pen-ts'ao kang-mu ("The Great Pharmacopoeia"), the first of its fifty-two volumes deal with water, fire, earth, and metals, followed by precious stones and ordinary stones before proceeding to the numerous volumes on the vegetable and then the animal kingdoms. In Wu-li hsiao-chih ("Notes on the Principles of Things"), which was a direct source of material for Baien, Fang I-chih discusses the triviality of the whole issue of how many "elements" there are. [1967 Ch.1 10] Notwithstanding, Fang too finds it convenient to follow his discussion with a page or so on water, fire, wood, metal and earth, in that order. The obvious disadvantage of the Five Element system of classification was practical rather than theoretical, that is, its very limited usefulness for extensive botanical classification, and its quite obscure relation to the animal kingdom, the "spirit" and "sensitive beings" that Baien mentions in the passage from Genkiron above.

correlative thinking

Today, a discussion of yin and yang as the basis of an ordered pair of columns of terms, and classification according to the Five Elements, may bring to mind Graham's essay Yin and Yang and Correlative Thinking and his revised discussion of this in Disputers of the Tao [1989 319]. The correlations that Graham has chiefly in mind are binary classifications according to yin and yang, and five-way classification according to the Five Elements. Graham talks however not of correlations but of correlative thinking, and compares this with analytic thinking. This suggests that our reflections on the world involve two distinct processes, two kinds of thinking, rather

than aspects of the schematic presentation of ideas. Elsewhere Graham himself denies the suggestion that thought processes were different once, to be gradually replaced by better more "scientific" thought processes, rather late in the case of the Chinese. [Graham 1989 317]

However, when they use them as schemata, followers of traditional yin-yang or Five Element classifications might be equally well described as "associating". Anything can be associated with anything: some associations are individual, such as the synaesthetic association of colours with pitch; and some are institutionalised, the name "Archimedes" is widely associated with the cry "Eureka", whether or not Archimedes ever uttered it.

Instead of correlative and analytic thinking, it is more straightforward to speak of correlating and analysing. Ironically, Graham finds examples of "correlative thinking" in Gilbert Ryle's Concept of Mind, but Graham does not notice how close he comes to suggesting two ghostly "mental" processes, a suggestion of which Ryle would have strongly disapproved. For example, Graham says: "... before we begin to think analytically in sentences we may already be said to "think", in the broad sense that we are already patterning experience and expecting the filling of gaps in the pattern." [1986 17] We are on much firmer philosophical ground if we confine ourselves to presenting ideas schematically, by correlation and by analysis, rather than speculating about the mental processes that have brought this about.

In contrast to merely associating them together, when it comes to "correlating" some phenomena as yin, and the opposite phenomena as yang, correlation implies association on the basis of some grounds. Where correlation is grounded association, then analysis also is required to uncover those grounds.

The above is an objection to Graham's terminology only, derived from Granet. Graham himself corrects Granet's assumption that "the mode of cosmological thinking in China was the mode of all thinking" [Graham 1986 8] by offering overwhelming evidence from Chinese philosophers who did not correlate at all. Further, Graham points out that causal explanation was no more foreign to the Chinese ancients than to any other group of people.

Correlation can be an aid to causal thinking, a brief reflection on the phenomena listed in the Yang column from Huai-nan Tzu, [p.157 above] will show this, for example: hot, fire, sun, shines, scatters, rises, etc, modern laymen at least know there are causal connections here, whether or not they can state them. Graham says that correlative thinking is not illogical, it assumes something like a principle of induction: "The more the similarities within and differences between parallel structures, the more there are likely to be." Graham gives the example that if two species of lobsters resemble one another and differ from two species of frogs, all "unopened", we can expect them to resemble and differ in the same way "opened". [1986 38] From this I take it that we might expect a scientific analysis of fire, heat and rising to reveal further connections among them, and further differences from water, cold and sinking. For us, biological classification goes hand in hand with uncovering the evolutionary story. And Graham's observation that what 'proto-science' lacks and needs to become science is not causal explanations, which have always been around, but some understanding of empirical testing, makes good sense:

Our position however is that there never was a serious prospect that piecemeal causal explanations would interrelate in a completed order until the "Discovery of how to discover" about 1600, when the West suddenly stumbled as though by accident on the winning combination of mathematised laws of nature with testing by controlled experiment. Up to 1600 the choice was between the cosmos of correlative thinking and no cosmos at all. That all schools of Chinese philosophy of the classical period refrained from pushing correlative thinking beyond the limits of verified experience by no means released them from this choice. They had to remain content with the barest outline of a cosmos, not much more than Heaven and Earth (or, at the very end of the period, the Yin and Yang) generating and destroying the ten thousand things through the cycles of the four seasons...." [1986 18]

Graham's attempt to match Saussure's "syntagm and paradigm" (via Jakobson and Derrida) with yin-yang lists does little to illuminate "correlative thinking". Nevertheless, it would be difficult to disagree with his general statement about a resemblance between sentences and his yin-yang lists when he says: "Any sentence, in Chinese or in English, is floated on a sea of unformulated similarities and contrasts." [1986 23]

Summary of Chapter 7

The terms "attribute", "property", "predicate", can hinder understanding of ancient Chinese cosmogonies in general, and yin-yang theories in particular.

1. Yin-yang theory occurs so widely in the Sino-Japanese tradition that as a single doctrine it is very vague. As cosmic principles yin and yang have been variously interpreted as negative and positive, inferior and superior, and female and male. The "negative and positive" interpretation cannot be interpreted as presence and absence, yin and yang are always equally present in the universe.

2. Baien retains the terms "yin" and "yang", but considers his own theory to be radical. He revises some of the old Chinese pairs of opposites via *jōri* criteria, on empirical grounds.

Baien's pairs cannot be written out in two vertically parallel master lists, headed with "yin" and "yang" or any other pair of terms. In his effort to reflect the real universe he found he needed the much more flexible devices that I have called the *jōri* shift and the whole pair shift..

Yamada is right that in their main sense, Baien's yin and yang are not dynamic. But he is wrong in concluding from this that Baien's universe is static. On the contrary, it is fundamentally dynamic, and the terms "yin force" and "yang force" play a large part in this dynamic picture.

Baien uses "yin" and "yang" in two senses. In one sense they play a fairly minor role in *Gengo*, associated with the physical sense of "warm *ki* and cool *ki*". In the other sense they pervade the *jōri* system, standing as names for "one and one", and functioning as an unordered pair of pure variables. "One and one" also applies to "heaven and earth", but this pair always has a determinate content. For example, when applied to <*ki* and object>, *ki* is definitely heaven and object is definitely earth.

3. Baien rejects Five Element theory altogether. In the Preface to *Gengo* he describes the theory as "mere classification", and hence inadequate for scientific method.

The phrase "correlative thinking", in contrast with "analytic thinking", is often used to describe the yin-yang and Five Element doctrines, but "thinking" can be a misleading term in this connection. The correlation involved is association on determinate grounds, and to appreciate these grounds analysis is also required.

Chapter 8: THE DIFFERENTIATION OF *KI*

A line, a circle, a warp, a woof,
man's work follows the weave of the primal *ki*.

[Reply to Taga *Zenshū* II 95]

Introduction

Baien has been placed, with good reason, towards the end of a stream of thought identified as "philosophy of *ch'i*", the Japanese *ki*. Loosely speaking, *ch'i* is the stuff of the universe. From 11th century China on, scholars debated vigorously about its nature.

In Baien's thought the traditional Sino-Japanese term "*ki*" is even more fundamental than yin and yang. Yin-yang theory contributed to the binary pattern of *jōri*, and it is tempting to add that *ki* is the material on which that pattern is imposed. But this would be quite inappropriate as a description of Baien's *ki*. Just as *jōri* turns out to be a complex of principles, in his hands *ki* becomes very complicated indeed. The word "*ki*" was well established in the writings of Japanese scholars, but none can come near Baien in the subtlety of the purposes it served. In this he was aided by the machinery of the *jōri* shift. Minamoto Ryōen says:

Although *ki* is extremely important in Baien's theory, unlike Chang Tsai and Itō Jinsai, Baien does not have a theory of *ki* as primary. And because he separates *ki* from object we cannot take his *ki* itself as life. We can go as far as to say that *ki* has the vitality of "the spirit of dynamic flux", and this is to be thought of not as being in any place, but as moving freely. In opposition to "the spirit of dynamic flux" we have "the object of chaotic content", which makes object the basic raw material. [1970 225]

Many of Baien's contemporaries and predecessors included in their writings some account of the role of *ki* in the cosmos. Living a whole century before Baien, Kaibara Ekken is the most often mentioned of these. He is quoted on *ki* by Arthur Lloyd:

When *ki* goes forth we call it yang, when it comes back we call it yin, but whether it go forth or back it is but one *ki*. All the heavenly bodies, the four seasons, the gods and spirits are produced by the one *ki* energising in these two opposite ways. [1907]

In the first chapter of *Yamato honzō* Ekken refers to the generation of all things from the interchange of *ki*. [Kaibara 1932 40] This would seem to have little to do with the meticulous classification of plants and other substances that is the purpose of the book. Nevertheless, many writers attribute Ekken's interest in the natural world to the so-called "materialist" *ki* philosophy he derived from the Chinese Lo Ch'in-shun (1495-1547). I should like to suggest that the reverse causal story is equally plausible. Already having a keen interest in the natural world, (from early childhood, according to him), a subsequent and typically Neo-Confucian desire to unite all fields of intellectual endeavour under some governing theory made *ki* philosophy particularly attractive to Ekken. Intellectuals of his time and place were polymaths

rather than specialists, and it seems to have been the convention to include in their works a reference to some ultimate principle, and the postulation of primal *ki* as the ultimate stuff of the universe is one way of doing this.

Ekken's equally famous contemporary, Itō Jinsai (1627-1705) says in *Gomō jigi*:

Take six boards and make them fit together so as to form a box. When closed with the lid, then it is naturally replete with *ki*. When there is *ki* within the box, then mould forms naturally. When this mould is formed, worms also come naturally into being. This is the law of nature. Now, heaven and earth is one great box. Yin and yang are the *ki* inside the box; the beings are the mould and the worms. They are the *ki*! There is no being from which they are produced and no place whence they come. Whenever there is a box, there is *ki*; when there is no box, there is no *ki*. Therefore one knows that in the universe, there is nothing but this one original *ki*. It is evident that it is not *ri* which comes first while *ki* is produced later. What I call *ri* is, on the contrary, nothing more than the pattern within this *ki*. [Spae 1948 12]

Even Andō Shōeki (1703-1762) who was a radical and very independent political thinker, felt compelled to give some account of the universe in terms of *ki*. E.H.Norman says of him:

While he made a heroic attempt to break away from the Sung cosmogony he remained to some residual degree a prisoner of it. Casting about for some ultimate explanation of matter in motion he fell back on *ki*, ... [1949 197]

It seems that none of these Japanese writers really required this notion of *ki* to establish the soundness of the arguments and discussions for which they are renowned. This is just as well, because much of their account of *ki* is both philosophically and scientifically naïve.

It was almost a convention for 17th century scholars to have some position on the debate about which is prior, *ri*, "principle", or *ki*, "material force", an opposition derived from Sung Neo-Confucians. This debate will be mentioned again in the next chapter. Jinsai, Ekken, Shōeki and others were declaring their stance in favour of *ki*. If we can say, and it had better be said lightly, that it was not Baien's "*ri*", but his "*jōri*", that took the place of the Neo-Confucian "*ri*", then we can also say that it was "primal *ki*" (in Baien's own sense of "primal"), and/or the pair <chaotic content and dynamic flux> that took the place in Baien's system of the Neo-Confucian "*ki*". This left the word free for him to use much more subtly in different *jōri* pairs controlled by the *jōri* shift and the whole pair shift described in Chapters 3.2 and 3.3.

Although "*Genkiron*", the title of a very early version of *Gengo*, means "On Primal *Ki*", the letter translated as *Reply to Taga*, written as an exposition of *Gengo*, begins: "You ask me the meaning of "chaotic content and dynamic flux" (*konron utsubotsu*), and indeed, as heaven and earth is the house of man, scholars should make heaven and earth the first object of their study." In *Gengo* he says:

Because it belongs to action, *ki* is moving, because it belongs to stability, object is still. When there is stability, the positions outside and inside have being, when there is activity, *ki* and body form objects. Their *ri* are still and stable, their *ki* are moving and active. Thus *ki* spreads according to *ri*, and shapes are visible by means of *ki*. If there were no *ri*, the activity of dynamic flux would not be conveyed, if there were no shapes, the bodies of chaotic content would not have being. [*Volume of Earth* "The Concealed" NST 447,19]

In this passage *ki* and *ri* are but two of the terms subsumed under <chaotic content and dynamic flux>, along with <active and stable>, <*ki* and object>, <motion and stillness>, <outside and inside>, <*ki* and body>, <*ri* and shape>. They are all derived in some sense from <dynamic flux and chaotic content>, but it is important to note that what Hall and Ames describe as "the transition from Chaos to Cosmos" [1987 200] is not evolutionary here, but, we might say, analytic.

More importantly, the fact that it is an analytic progression points to Baien's objective in the whole enterprise, one that marks him off from most, if not all, of the philosophers of *ki*. This objective is to become ever more detailed, fine-grained and accurate, not to dig down or climb up to some single origin, mystic or otherwise.

In this chapter we shall begin with the history of the example of a water vessel, made with two openings so that air can escape or enter as water is poured in or out. This example has been used differently by different writers. It has been said that Baien was influenced in his choice of the example by Fang I Chih's *Wu-li hsiao-chih*, but his later use of it in *Gengo* shows a considerable development from its simple message in Fang's work. Next we shall look at the picture of the cosmos that we find in *Gengo*, by looking briefly at its account of motion, space and time, all of which are functions of the dynamic differentiation of *ki*. The *jōri* pair <circle and line> are fundamental here. I shall suggest that the very fact of the roundness of the earth was more meaningful than it is to us, and very significant in Baien's system, in contrast to heliocentric theory which was much less fundamental to his thought. Finally we shall turn to Baien's use of the term "object" and its relation to the notion of a physical object. I shall then discuss a distinction between things and stuff, its relation to the use of mass nouns and count nouns, and the relevance of this to interpreting East Asian thought systems.

8.1 the water pot

Baien's use of the water pot example depends on the simple observation that one cannot pour water into or out from a narrow opening in a vessel without employing some appropriate technique for allowing air to escape, such as making another hole, or making the flow of water narrower than the opening.

The water pot with two holes appears often in the works of Baien from the earliest drafts of *Gengo* on. The example seems to have entered China in the 16th century with the Jesuit missionary Manuel Diaz, and Miura Baien is said to have taken it from *Wu-li hsiao-chih*, "Notes on the Principles of Things", published by Fang I-chih in 1660. Moriguchi Masahige [1983] and Takahashi Masayasu [1981 249] have traced the history of the water pot and allied examples back to ancient Greece, where it is found first in Empedocles in a poem about a girl with a clepsydra, a kind of pipette:

A girl plays with a klepsydra of gleaming brass. When she puts the mouth of the pipe against her shapely hand and dips it into the fluid mass of shimmering water, no liquid enters the vessel, but the bulk of the air within... holds it back until she uncovers the dense stream; but then, as the air yields, an equal bulk of water enters... [Kirk and Raven 1957 341]

Less poetic examples are found in several subsequent texts, and interesting as it is that it can be traced through to Fang I-chih in 17th century China and Miura Baien in 18th century Japan, the difference in the uses to which the illustration has been put is even more striking. For instance, Empedocles was illustrating the incorporeality of air, and Anaxagoras the non-existence of void. Aristotle, on the other hand, was analysing the ideas of place and motion. In the 9th century, Rhazes used the same example to demonstrate not the impossibility, but the existence of void, on the grounds that there could be no motion unless there were an empty space for the exchanging substances to pass through.

As it happens, a mistake that Kirk and Raven attribute to Burnet in his interpretation of Empedocles use of the example is very similar to a lapse that Sakade Yoshinobu makes in his discussion of Fang I-Chih's use of the example. In neither of the original texts is it quoted as a scientific experiment, the testing of a hypothesis, it is merely a conveniently instructive illustration. Kirk and Raven quote a comment of Burnet's as follows:

"The rise of the experimental method dates from the time when the medical schools began to influence the development of philosophy, and accordingly we find that the first recorded experiment of the modern type is that of Empedocles with the klepsydra." [1957 342]

Burnet elsewhere refers to Empedocles' observation of the displacement phenomenon as "this important discovery" [1914/1961 72], but Kirk and Raven deny that Empedocles was engaging in deliberate research, and certainly not "of the modern type". Be that as it may, in Sakade Yoshinobu's commentary on the thought of Fang I-Chih, a similar misinterpretation occurs when Sakade is referring to the water vessel example. He says that Fang I-chih is

reported as "having carried out the following experiment". [1970 121] But the Chinese text says nothing about an experiment, Fang is merely reported by his son in an added note as having cited the example. This is a very minor slip on the part of Sakade, but the interpolated phrase about carrying out an experiment runs against the general drift of Wu-li hsiao-chih, in which the more philosophical comments are readily mistaken for weak scientific speculation. Fang was not trying to establish new scientific facts, and he certainly would have appreciated that good science does not depend on the scientist's holding a particular philosophical theory. Baien's use of the example has sometimes been exposed to a similar misunderstanding. He writes not as a scientist, but as a philosopher of science. He takes the case as a familiar experience, not "an important discovery":

Consider the water pot that is made with two holes. *Ki* passes through one hole, and water through the other. If one gill [*shaku*] of water leaves, one gill of *ki* enters. When it is empty of water it is full of *ki*. If the *ki* does not leave water will not enter. This is something which people are familiar with. [Zeigo Zenshū I 303]

In Fang's Wu-li hsiao-chih, the example occurs in the first rather general chapter, in a section entitled "On *Ch'i*":

When a pot with two holes is filled with water, if one hole is closed the water cannot enter. It is full to the brim with ch'i. Also when the pot is inverted the water will not come out and ch'i cannot enter. Even when pelted with stones, not a single drop of ch'i can be forced into it. When ch'i has left it altogether it is completely closed. [1967 3]

Although Fang I-chih's use of the example probably derived at one or more removes from Western texts, his point is that the visible and invisible alike are ch'i, both should be subject to scrutiny if principles are to be discovered.

In Baien's early works the main point seems to be very similar to Fang's, that *ki* is omnipresent. Nothing much is added. But in Reply to Taga the content is much more complex. To see the distinctive features of Baien's thought, the comparison to be made here is not between Miura Baien and Empedocles, or even between Miura Baien and Fang I-chih, but between Miura Baien in 1753 and Miura Baien in 1777. He is much more philosophical in this passage from Reply to Taga, which is an exposition of the final Gengo:

Consider again that blue sky, like lapis lazuli, and those vast piles of rough stones and soil. This describes a very coarse heaven and earth. There are fine *ki* and coarse *ki*, and concealed objects and manifest objects. First we must explain the states of fineness, coarseness, concealment and manifestation, whether we are considering the blue sky above us or the rough ground beneath our feet.

Taking "fine" and "coarse", coarse *ki* has a concealed body, but nevertheless holds a place. Fine *ki* dwells within objects, but does not hold a place.

To illustrate holding or not holding a place, take a water pot. A water pot is made with two holes, what are these for? If the pot is made to hold two litres [*shō*] it will hold

just that much water and no more. Even when there is no water in the pot, it is not really empty, it is filled to the brim with *ki* whose body is concealed, so that when water is poured in this *ki* comes out of the other hole, and when water comes out *ki* enters by the other hole. The reason for this is that a place cannot be void for a single moment. Wherever there is no earth, heaven is in that place. A place must exist for sun and moon to hang within, for mountains and rivers to be arranged within, for wind to blow and rain to fall within, and for ourselves and all things to dwell within.

A thing with shape we call a "manifest" body, and a thing without shape a "concealed" body. That which holds a place although its body is concealed is heaven within the coarse. If we look at heaven from within the fine it is just the same as earth. [*Zenshū* II 93]

A full discussion of any of the *jōri* pairs referred to in this passage would be very long and involved. The whole pair shift described in Chapter 3.3 would require a close study of every context in which a pair occurs. Here I have selected some of the typical *Gengo* themes that are apparent in the passage from *Reply to Taiga*:

1. Firstly, the old doctrine of the omnipresence of *ki* is preserved here in the principle that the terms "space" and "place" entail that space is occupied. The pot "holds a place". Baien is sensitive to an ambiguity in the word "nothing", and in *Core Text* distinguishes carefully between the sense of absence from a place, the opposite of presence in a place, and the sense of nothing which is the opposite of "existence" itself, the one term that is not, and cannot be, a member of a *jōri* pair:

Suppose it to be the case that existence exists in the manifest, and "nothing" exists in the concealed. But nothing is nothing, and will always be nothing. So existing as "nothing" is really existing concealed. Even though the word "nothing" might be the same, it refers differently. "Deficiency" would be rather more appropriate. Although we might say that when they are merged they have swallowed one another, "one another" already implies ejection. Thus, whereas concealment is merely failure to manifest, nothing is failure to exist. [NST 392,2]

Nothing is not something one can find in nature, so it cannot be part of the *jōri* system. In contrast to "existence", the "being" of <action and being> has a locative sense. This fits with the use of the term "*shu*" for "real subject", as the character also has the reading "*mushi*", a presence in a place. [See Chapter 4.2] "There is nothing here" is always false in the sense that *ki* is always there. The term "nothing", like "everything", varies as regards whether or not it is restricted or unrestricted in its application. For example, there is the restricted sense of "everything" and "nothing" in the sentence "She took everything and left nothing behind". This is different from the unrestricted senses of "everything there is" and "not anything at all". In sentences like "She left and took everything", the scope of "everything" is very narrow. But it could be argued that "there is nothing here at all" could never makes sense for Baien if the scope of "nothing" were unrestricted, because "here" requires something to define the place so designated, that is, for there to be a place.

2. Secondly we have the pair <fine and coarse>. It is easy to understand that the air in the pot is concealed. The difficult point is that it is also coarse.

Fine *ki* is the basic stuff of which things are constituted, it has no shape of its own. Coarse *ki* is defined by the shape of the objects which bind it, it fills a place, defines a place, one might even say. The *ki* in the pot holds a place, which gives particularity to that coarse *ki*. Only the most particular things occupy a specific place. When Baien talks of "heaven within the coarse" he means the particular great body of *ki* that contrasts with the object, earth. An analysis of what he calls "fine" *ki* obliterates the particularity and separateness of heaven and earth, which he refers to as "coarse". Today he might say that earth and sky is not a dichotomy of atomic physics. Although in one sense earth is coarse and sky ("heaven") is fine, by the whole pair shift they are both coarse, and contrast with the fine realm of <heaven and motive power>, a universe devoid of shapes, consisting of the constant motion of physical particles, for example.

3. Thirdly we have the uses of the term "body". The "body" that is manifest here is paired with "shape", and it would seem that the "concealed" body is paired with "*ki*". Elsewhere he speaks of a lump of iron as a body, whose shape differs according to whether it is made into a kettle or a spear, which would be useless artefacts if the body were a lump of wood instead, even though they should retain those same shapes. [Chapter 3] The "concealed" body that is paired with *ki* is more like the "stuff" that the pot is made of, or the lump of iron itself, whose shape is irrelevant to it.

4. Lastly we have the pair <concealed and manifest>. In the case of the water pot they coincide with <invisible and visible>, but that is not always so. As I shall admit in Chapter 11, although here, at least, <invisible and visible> seem to have something to do with sense perception, I can offer no clear interpretation of them. It is clear, however, that the pair are quite distinct from <concealed and manifest>. From the early days Baien has his own theory of sense perception, a simple one involving primary and secondary qualities. But <concealed and manifest> has little to do with this. The pair plays a very special role in the *jōri* system. It refers to the feature of reality that underwrites the *jōri* shift and the whole pair shift, giving *jōri* the flexibility that enabled Baien to continue with the pairs as his thinking about the natural world developed. This pair will be discussed further in the final chapter.

8.2 circle and line

In several of his works until well after the completion of *Gengo*, Baien emphasises the importance of learning the shape of the earth. He lived in the 18th century, and the discovery that the earth is round had been introduced to Japan almost 200 years earlier. At first I dismissed this seemingly childish fixation as part of a teaching programme for his less educated pupils, and was surprised that Takahashi Masayasu, the author of a sound and scholarly annotation of *Gengo*, had elsewhere chosen the round-earth theory as the focus for his exposition of Baien's philosophy. [Takahashi 1981] But what Takahashi says is true, the roundness of the earth, the geometrical properties of the circle and its relation to the straight line, the applicability of straight line and circle to the structure of the universe, not to mention scorn for the traditional Chinese notion of pairing the circle with the square, are close to the heart of Baien's system.

the round earth

As late as 1780, we find the following passage in Motoori Norinaga's *Kuzubana*:

Is the earth hanging in mid-air, or fixed on something else? In either case it is a marvellous thing. If it is fixed on something, what underlies the latter to support it? This is inexplicable... in China there is a theory which says that the earth is a globe, hanging in the sky. This sounds most plausible, but in view of ordinary principles it seems that however full the sky is of the ether, it is impossible for the land and the oceans to remain suspended and motionless in the sky. Hence, even with this theory, we still cannot help feeling wonder. [Matsumoto 1970 96]

It may be unfair to Norinaga to see him as simply naïve. Firstly, when he says: "Even the things of the human age are wondrous. We do not feel them to be wondrous, simply because we are used to their present form and have always lived in their midst", he is very close to a theme of Baien's, less poetically expressed in the Preface:

People who spend their time amidst a confusion of odours cease to recognise the smells, just as a butcher does not notice the smell of meat. [Section 1]

Secondly, for Norinaga everything is an act of the *kami* and therefore miraculous, he was expressing an aesthetic, if not a religious attitude to the facts described. "This heaven and earth and all things therein are without exception strange and marvellous when examined carefully. Even the sages would be incapable of comprehending all the principles of these phenomena."

Such remarks are tangential rather than contrary to Baien's views, but they illustrate the special impact of the global theory. It is not easy for us to appreciate the impact of the discovery of the roundness of the earth. Consider how often Shakespeare uses phrases like "the round world", "put a girdle round the earth", "the little O", "the great globe itself", "quail

and shake the orb", especially vivid in Antony and Cleopatra. Yet this was written 100 years after Columbus's voyage.

In East Asia it had meant that neither Japan nor China was the centre of the world in any absolute sense. The Chinese had been greatly in advance of Europe in early ocean exploration, but if the general public of China or Japan had any mental images of the world, they would have placed their own countries very definitely in the centre. In the case of the Japanese, at least, when knowledge of the rest of the globe began to come in they were only just beginning to think of the Japanese islands themselves as a whole country, that is, as the land of a single nation.

To put ourselves in Baien's circumstances one has to imagine holding three beliefs at once: that it was a proven fact that the shape of the earth is discoverable, and also a proven fact that it is round; while at the same time taking it only as an interesting but inconclusive theory that the earth turns around the sun.

When we learn about the roundness of the earth in childhood, we almost simultaneously learn that the earth orbits the sun. But in Baien's youth, and later, although it was taken as a fact that the earth was round, heliocentrism was no more than an interesting speculation. In contrast to Europe, where heliocentrism had been a religious heresy, it had no such religious or political significance in China and Japan. The theory was gradually gaining ground among the scientists concerned, including the astronomer Asada Gōryū. As we have seen already, in one letter Baien admits to Asada that he cannot understand the theory, but from the later letter to Asada translated here it does seem as though he had grasped the essentials. [Chapter 6.1] At the very least, he bows to the superior understanding of the expert.

Having devoted much time to astronomy in his youth, constructing star charts and a celestial sphere on the geocentric assumption, heliocentrism would indeed be a difficult turn around for an amateur astronomer. But in later years, why, as a mature scholar, was he not more shaken by the possibility that his geocentrism was mistaken? The answer must be that it did not matter all that much. Baien writes not as a boy scientist, but as a philosopher. In Gengo "heaven" and "earth" are philosophical terms, as they often are in the works of his predecessors. In studies of Baien's detailed theories about the movements of the earth and the heavenly bodies, both Gotomaru Noboru and Yoshida Tadashi have come to the conclusion that the question of whether or not Baien subscribed to Copernican theory is meaningless in terms of the *jōri* system. [Gotomaru 1978; Yoshida 1982 98]

In contrast with his non-committal attitude to heliocentrism, the roundness of the earth was of immense significance to him. It underwrote his stress on objectivity, his focus on the *jōri* pair <circle and line>, and of lesser importance, his criticism of the "*kiyu*" of the Five Element theory which held the five "directions", north, south, east, west and centre, to be absolute. I use "round" deliberately here, because like the word he often uses, "*en*", 圓, it is indiscriminate between circles and spheres.

a) objectivity:

The flatness of the earth could not have been held anywhere as a virtually universal belief in the way the roundness of the earth now is. Many people would have had no conviction about the shape of the earth at all. The discovery that it was round gave a general message that facts such as the shape of the earth were empirically discoverable, a boost to scientific enquiry. Takahashi goes so far as to claim that Baien gets his objectivism solely from the global theory. [1981 285] We can at least agree that the facthood of the roundness of the earth would have strengthened Baien's realist commitment. The structure of heaven and earth is already there before us, how much of it we may discover is limited only by our intellectual and technical shortcomings. The roundness of the earth was no longer a mere conjecture, however well argued. It is how things are, whatever anyone thinks. This convinced Baien that uncovering the structure of nature as a philosophical system was not a matter for mere conjecture either.

b) <circle and line>:

Baien also derived a realist system of a very specific kind from facts such as that the earth is round. He takes the *jōri* pair, <circle (or sphere) and straight line (as a radius)>, as the pattern for a conceptual scheme of the cosmos. Other shapes are artificially constructed from straight lines or arcs. The interdependence of this pair is crucial, and it is to be found in nature. He uses the example of a chestnut, round because its straight burrs grow out at equal length from the centre, and also the shapes of earth, sun, moon, ripples, smoke rings, and bark rings. He also uses the circular motion of the straight arm of a well-sweep. This is an artefact, but because it is straight, the principle still applies. I once heard a former physics professor describe how he had helped some school-children to overcome their difficulties with the mathematics of the circle. He said that those children had thought of a circle just as a flat shape, a blob. He asked them to imagine instead that they had to "invent" a circle, by taking first a bundle of straight sticks, spokes, stalks, spikes or whatever of equal length and laying them out with one end at a common point. He showed them circular objects that are made that way, wheels, dandelions, sea-eggs and so on. This may seem very elementary to us, but it shows the necessity of the relation that made Baien see <circle and line> as a *jōri* pair. The Chinese had taken the square as the proper opposite as the circle, but for Baien the square was an artificial shape. (There are few opportunities for pointing out squares in nature.)

c) relative directions:

Another bonus from the roundness of the earth was that it established beyond doubt the absurdity of taking the four directions, north, south, east and west, with an added fifth, "the centre", as absolute, as theories of the Five Elements were wont to do. [See Chapter 7.3] The symmetry of North and South Poles fitted well with *jōri*. [Takahashi 1984 35] Baien says in *Genkiron*: "Man is not forced to arrange things in terms of north, south, east, west, up and down. Without them he could not now understand the working of the sun, with them he cannot penetrate the mystery of the One primal *ki*." ["Heaven and Earth" *Zenshū* I 745] He says in the Preface:

In the scale of the whole heaven and earth there are north, south, east and west, and if heaven and earth are divided vertically or horizontally, there are also north, south, east and west in each half. [Section 8]

It is no accident that his diagrams are all in circles, sometimes intersected by straight lines, sometimes consisting of concentric rings, and sometimes a combination of both.

motion, space and time

Baien's accounts of motion, and of space and time, depend on <circle and line>.

Motion:

There are two constant motions: revolution of *ki*, that is, circular motion; and rising and falling in straight lines. It is just one of the many functions of the pair <heaven and earth> to express this, in that revolution belongs to the realm of heaven, rising and falling to the realm of earth.

Baien's initial sketch of the cosmos is of a universe ceaselessly revolving around the centre of the earth. In the earliest drafts of *Gengo* he may have meant this literally, but by the final version this geocentrism becomes abstract. "Heavenly" phenomena revolve, "earthly" things rise and fall along lines from the centre of the earth. "Heaven" undergoes several *jōri* shifts, and <heaven and earth> is subject to whole pair shifts. [Chapter 3] *Ki* is heavenly *ki* just because it revolves, or earthly *ki* just because it rises and falls in straight lines.

Other things being equal, the lines along which stones fall and smoke rises, are themselves ever present and real, but the complex make-up of stones and smoke, and the atmospheric conditions which interact with them, interfere with this motion in particular cases.

The *ki* of the universe is in constant motion, in the broad picture as the "intermingling yin force and yang force", but in the detailed picture as many different kinds of *ki*. So far from its being the case that Baien's *ki* was simply a form of "matter", one differentiation of *ki* is the *jōri* pair that requires translating as "*ki* and matter", or something very similar in meaning. In the pair

<ki and matter>, *ki* rises and matter falls, but by a *jōri* shift, matter itself may divide as fine *ki* and coarse *ki*. Things such as smoke and dust rise because of the *ki* that they have within them, but they contain more matter, so in the end they fall to the ground. Baien focuses on this pair in the didactic *Kishitsu mondō* ("Questions and Answers on *Ki* and Matter") about the more physical aspects of the cosmos, which he wrote in 1769. He says in the "Heaven and Earth" chapter of Core Text:

To talk of matter in terms of *ki*, matter is substantial, and *ki* is hollow. To talk of *ki* in terms of matter, *ki* is fine and matter is coarse. That which is fine in terms of *ki*, is hollow in terms of matter, that which is coarse in terms of *ki* is substantial in terms of matter.

Ki becomes finer with each layer upwards, matter becomes more substantial with each layer downwards. To illustrate, because fire is a hollow body it rises away, because water is dense matter it sinks inwards.

Ki is unobtrusive, we cannot detect it by sound or smell. To the extent that *ki* includes earth, ~~earth~~ is fine and hollow. Matter can be pointed to, it is gapless and dense. To the extent that matter includes *ki*, ~~ki~~ is coarse and substantial. [Core Text NST 394,15]

ki
matter

Space and time:

Many of the words we use in ordinary language to refer to time are spatial metaphors, such as "before", "after", "behind", "forward", "backward", "long", "short", "around", "about". Other time words contain spatial references, such as "passing". Time has been notoriously elusive for philosophers, too. By contrast, space as we ordinarily think of it seems relatively unproblematic.

In *Gengo*, however, space and time are a *jōri* pair, or at least they are accommodated by *jōri* pairs. To convey Baien's theory of space and time we need several pairs of words. To begin with there is <space and time> that are the preconditions of what we usually think of as space and time; and <place and hour> to express dimensional space and time.

The preconditions of space and time are represented as <filling-up and passing-through>, also expressed as <all-pervading and the perpetual-ongoing>, modified by the untranslatable Japanese "onomatopoeic" adverbs "ō-ō" and "kon-kon".

Space is an infinite sphere, defined by lines of infinite length radiating from a central dimensionless point. The temporal correlate of this central point is the present time. As the point is "infinitely small", the present is of infinitely short duration. The present is constantly changing and the centre of space is constantly the same.

Many *jōri* pairs have oppositions that are parallel to, and associated with the opposition of <space and time>, such as the following:

SPACE

space
place
filling up
all pervading
ō-ō
centre point
never changing
object
object

TIME

time
hour
passing through
perpetual ongoing
kon-kon
present time
always changing
node
season

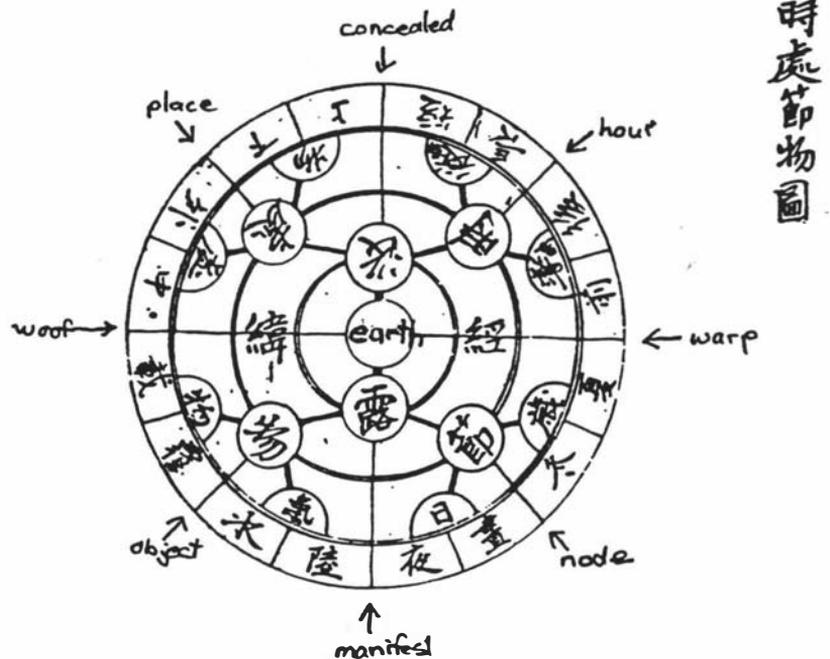
As a brief illustration of the finer details of his quite elaborate theory, I shall take just one of these details and offer some tentative suggestions for the interpretation of his term, "node". In the discussion of the *jōri* shift in Chapter 3.2 it was seen that "object" undergoes a *jōri* shift to pair with many other terms, such as "*ki*", "nature", "spirit", "event" or "man". In the realm of HEAVEN, "object" shifts to give <object and season > and in the realm of BODY "object" shifts to give <object and node>. We might say that for Baien space is defined by what occupies it, and things that "hold a place" define the portion of space that they occupy. The challenge for the interpreter of Baien's system is to make sense of the temporal correlates, "node" and "season", with the clue that each pairs with "object" in one of its senses.

Nodes are not mentioned much, but where the term does occur it provides a good illustration both of the lengths to which Baien was prepared to go to find *jōri* parallels between space and time, and also of his attempts to analyse the features of the natural world, an exercise with which we can have more sympathy. "Node" is my default choice for the character "*setsu*" in the "Heaven and Earth" chapter of Core Text:

The revolving axis has nodes from which hang the arcs of the sun and moon. Once the radii and arcs are provided, the earth dwells at the centre of the radii of the turning sphere, where the sun hangs within its own arc. [NST 396,20]

The bodies of objects are bound together as heaven and earth, the *ki* of nature radiates forth as yin and yang. Nature and body are on the same level, branches shoot forth from the nodes, as twins from the same womb. [396,21]

One meaning of the character "setsu", 節, is "joint". I have chosen "node" to indicate a point of intersection, and Shimada Kenji also interprets the term in this way ("fushi"). In the "Manifest" section of Volume of Earth, nodes occur in the diagram "Hour and place, node and object", with hour in the Concealed hemisphere as the correlate of node in the Manifest hemisphere, and place likewise as the correlate of object; and <hour and place> and <node and object> as *jōri* pairs:



In the following lines from Volume of Earth, nodes appear as cosmic events causally necessitating and/or causally necessitated by other cosmic events.

Thus shade as yin, and heaven as yang, become one globe. The fixed stars are the stars of shade, the planets are the stars of sunlight. In the revolving sphere, stars, planets, sun and moon divide into nodes where the axis accelerates or slackens.... In the course of revolution, there is continual separation at every node, with slackening below and acceleration above, this is forced to happen. ["The Manifest" (realm of BODY) NST 453,38; 454,22]

In the "Concealed" section of Volume of Earth, he pairs object with "period" at much greater length. This is represented by another character which means those periods that are marked by the four seasons. [Shimada 1982 147]. One should never discount the possibility that Baien changed his mind, in this case that he gave up "node" in favour of "season". However, the fact that the pairs belong to different realms, nodes to BODY and seasons to HEAVEN, suggests otherwise, as does the following passage in which both terms are used:

Directions and places are recorded by north, south, east and west; brightness and darkness, cold and heat have being as nodes and order by means of slackening and acceleration, expansion and contraction. Heaven and earth have being as objects, nodes and order have being as seasons. [(realm of HEAVEN) NST 435,5]

For <object and node>, my suggestion is that the "object" of this pair is object as a juncture of space, a relation to adjacent things, and "node" as a juncture in time, relating causally to events contingent on it. For <object and season>, we might well take object as an extended unit of space, and season as an extended unit of time, also real *jōri* subjects.

Return now to his general account of space and time. In space, circles and lines are the only natural "shapes", all the others are artificial. Baien says in Genkiron:

If a cube is made from squares it has eight corners and six faces, which is not natural. But the straight line alone can furnish all four corners, or all eight corners and six faces.... Circles have no sides but squares have sides, circles revolve but squares do not revolve. Things which have sides and do not revolve consist of straight lines. It is impossible to imagine a circle with sides or which does not revolve, or to imagine a square which revolves or has no sides. ["Motive Power" Zenshū I 748]

And in Gengo he says:

If we look at the creation of heaven in terms of the creation of man, turning and holding are separated by means of the shapes of circles and straight lines. However mountains and seas are irregular. [Volume of Earth NST 447, 15]

Mountains and seas are irregular in shape like many artefacts, the creations of man, but those shapes ultimately derive from circles and straight lines.

There is cyclical time and linear time. Celestial phenomena, most notably seasons, months, and days, all alternate in cyclical time; earthly events, such as birth and death, generation and decay, and the making and destruction of artefacts, all take place in linear time:

The fine things, heavenly objects, and the substantial things, earthly objects, conceal the limits of generation and decay. The coarse things, water and fire, and the hollow things, plants and animals, manifest the limits of generation and decay. [Volume of Heaven NST 429,32]

We do not see the beginnings and ends of things in the atmosphere, nor of ~~solid bodies such as~~ ^{*} ~~rocks~~, these are "fine" and "substantial" things. The beginning and end of any water or fire (e.g. drying up or being quenched), and of plants and animals, is determinate, these are "coarse" things and "hollow" things. (Incidentally, in these two realms, one CONCEALED and one MANIFEST, we have a whole pair shift in <hollow and substantial>, so that here "substantial" is applied to "fine" and "hollow" to "coarse", whereas the reverse is more often the case, as in both the lists compared in Chapter 7.2.)

* heaven and earth as *Objé*

His cosmic picture in the final *Gengo* becomes very elaborate, until in some passages it does look as though he was dazzled by symmetry. The picture is compounded by a theory of two spheres, revolving on different axes, one with the earth as centre, and one with the sun as centre. This theory seems to have been all his own, and as such, I have assumed that unravelling its exceedingly complex details would not repay the research effort required. Nevertheless, it is an excellent illustration of Baien's confidence that *jōri* methods would yield scientific as well as philosophical results.

Time and space, and all the various *jōri* pairs associated with them, are of course real.

Circles and lines are necessary for these pairs of time and space, except for the basic pair of realities that are their preconditions. To convey these, the very roots of space and time, Baien invites us to try the following thought experiment:

If we were to shut our eyes and imagine this heaven and earth to be swept away, we could not extinguish the hours, the perpetual ongoing which passes through, surging on (*kon-kon*). Nor could we extinguish place, the all-pervading which fills up everywhere (*ō-ō*). The perpetual ongoing would flow on like water with neither beginning nor end in sight. And even though the sun, moon, stars and planets, the earth on which we tread, the heaven at which we gaze, would all be swept away, so that we could neither point to south, east, north or west, nor distinguish up from down, the boundless all-pervading would remain. [Reply to Taga *Zenshū* II 95]

Circle and line are real indeed, but now we are beyond the realm of circle and line. The precondition of space is a filling up, the all pervading. The precondition of time is a passing through, the perpetual ongoing. These are so undoubtedly real that they cannot even be thought away. At this point we find *ki* subject to the most fundamental pair of all in the physical world, <chaotic content and dynamic flux>.

8.3 "object" and "objects"

Of all the pairs in which "*ki*" occurs, <*ki* and object> is one of the most fundamental. The *jōri* term "*butsu*" which I have translated as "object" in order to preserve the word "thing" for general use, is one of the most difficult terms to interpret in *Gengo*. For instance, we have to deduce, and often merely guess, whether to translate "*butsu*" as singular or plural.

"Object" is not a typical *jōri* term. Compare <*ki* and object> with <body and shape>, for example. Depending upon whether it is a kettle or a spear, a lump of iron has the same body but a different shape. When we look at the kettle or the spear, we see the *jōri* subjects body and shape, but we are not expected to identify the kettle or the spear, or even the lump of iron, with body or shape. In the case of <*ki* and object>, however, Baien does seem to apply pairs of "things" to <*ki* and object>, especially to object.

By means of the body of an object we can point to any object and discuss it. Objects have bodies, so we can point to a yang image, and we can point to a yin image. Without bodies, how could objects have shape and content, how could we point to them? Yet in our own understanding we are able to distinguish quite naturally, "This is yang, that is yin". [Letter to Yumisaki Yoshitada p.351]

These things that are applied to object must be real subjects in the same realm. [See Chapter 3.3] And as real subjects under *jōri* they must each have an opposite. So we have heaven (air, sky etc.) as *ki*, and earth (the physical globe) as object. No opposites are suggested for kettles and spears, for of course these are not proper *jōri* subjects.

However, because of the *jōri* shift and the whole pair shift, it is only in some occurrences of "object" as a *jōri* subject that "object" comes near the notion of a discrete physical object. Should we expect Baien to be interested in the idea of a physical object? I think so, for two reasons.

1. The first reason for expecting to find the notion of a physical object in Baien's system is the term "*butsu*" ("*mono*") itself. Not only is it the usual word for "thing", it is also the "wu" of Fang I-chih's Wu-li hsiao-chih, "Notes on the Principles of Things"; and "wu-li", Japanese "*butsuri*", is the modern word for physics. Because Baien chose to use such a common and useful word for his philosophical purpose, it is reasonable of us to expect that purpose to have some connection with its everyday meaning.

2. Baien desired to find an analysis of the universe that would include not only the subjects of specialist studies such as astronomy, medicine and biology, but one that would also include everything else, including artefacts such as boats, carts, kettles, spears and well-sweeps. We should expect him to tell us how to revise our habit of seeing these as discrete things.

We could settle for <body and shape> as a good start in this direction, as with the case of the kettle and the spear. In fact "shape" is seen not only in domestic artefacts, but is also a *jōri* subject on a cosmic scale:

There are but two things. I say there are two, for although we see heaven and earth as profuse diversity, however many things we seem to see, there is the one thing with shape, the one thing without shape, and nothing else whatsoever. The thing with shape I call "object", and the thing without shape I call "*ki*". [Reply to Taga II 91]

This passage is not from *Gengo*, but from an exposition of it in simpler terms and everyday language. Here we actually find the word "object" used for that which has shape, in contrast to *ki*, and to that extent it is certainly relevant to our everyday notion of a physical object.

In *Gengo* he gives us some examples of discrete things that he is prepared to refer to as "object", again in contrast to *ki*:

The one includes everything that exists, animals and plants are within it as objects, essence and spirit are within it as *ki*. By taking from objects, plants are rich in their essence, by taking from spirit, animals are rich in their spirit. Although plants and animals separate as members of a pair, they also have the power to combine as one being, so things that take from object also have spirit, things that take from spirit also have essence. [Core Text NST 391,27]

Heaven is hollow and *ki*, earth is substantial and object. [Core Text NST 392,6]

And he says further in Reply to Taga:

Insofar as the sun, moon, stars and planets are hung within it, and we and other objects dwell within it, heaven is indeed a hollow body. [Zenshū II 91]

The following lines are about mistaken pairing, but it does suggest that even when they are correctly paired according to *jōri*, sun, moon, fire and water are all properly "objects".

Because the human eye is fundamentally coarse it sees objects but does not see *ki*, it picks out the pairs which it can see, sun and moon in heaven, and fire and water on earth. But even if people contrast the sun with water on earth instead of with the moon, to contrast it with water they should call the sun in heaven "fire". Thus one might say that light and humidity are the "fire and water" of the combined heaven and earth. [Core Text NST 396,13]

Because "object" is always a *jōri* term in *Gengo*, anything Baien refers to as "object" must be a real subject, and must have an opposite. It would seem that some things we should call "physical objects" are real *jōri* subjects for Baien, and that he applies "object" in one or other of its shifts (for example in <*ki* and object> or <object and event>) to them. But so far these have all been natural things. This seems proper, because however many *jōri* pairs may be involved in a manufactured thing, the artefact itself could not be a real subject, because real subjects are interdependent with their opposites, yet we can make a pestle without a mortar or a boat without a cart.

Nevertheless, both in *Volume of Heaven* and *Volume of the Small* Baien uses "boat and cart" as a contrasting pair. Does he mean us to take "boat and cart" also as a *jōri* pair? Strictly speaking, the answer should be "no", boats do not depend on carts at all, and vice versa. Their opposition is derived from the pairs we observe when we observe both carts and boats. He contrasts them in *Gengo*:

Take for example, when boats and carts are made. If the *ri* of the boat precedes the boat clearly, then if the boat accords with the *ri*, it will in the end perform well the function of carrying and floating. If the *ri* of the cart precedes the cart clearly, then if the cart is made accordingly, in the end it will perform the function of turning and holding.

If the boat is light and hollow, in accordance with its *ri* it will carry and float properly. Nevertheless, what makes it carry and float well is *ki*. If the cart has straight lines and circles, then in accordance with its *ri* it will turn and hold properly. Nevertheless, what makes it turn and hold is *ki*. This is because *ri* precedes what man creates, but *ki* precedes what heaven creates. [*Volume of Heaven* NST 405,24]

In this passage we have the *jōri* pairs: <carrying and floating>, <turning and holding>, <circle and line>, <heaven and man> and implicitly, <hollow and substantial> and <light and heavy>. Earlier, in Chapter 4.3, we quoted a passage from *Volume of the Small* which included "A cart is a cart and a boat is a boat, the realities are precise, the words are terminology ." [NST 491,40] It is not obvious even here that "boat and cart" is a *jōri* pair, "<boat and cart>". Baien might merely be making a point with a conventional pair of "opposites". The focus of the passage quoted above is the pair <*ki* and *ri*>, which are very seldom mentioned in *Gengo*. This focus may explain why "boat and cart" are suggested as a pair of opposites. "*Ri* and *ki*" ("principle and material force") was a fundamental pair in Neo-Confucian thought, and debates about which of the two was prior to the other, or whether they were of equal status, continued for centuries in both China and Japan. [See Chapter 9] "Boat and cart" is an old Neo-Confucian opposition too. Chu Hsi said:

Question: principle is what is received from Heaven by both man and things. Do things without feelings also possess principle?

Answer: They of course have principle. For example, a boat can go only on water while a cart can go only on land. [Chan 1963 623]

Whether or not Baien's universe of *jōri* subjects is impoverished by the absence of boats and carts, he at least has much more to say about them in terms of reality than Chu Hsi says in the above passage. In observing or considering "boat and cart" we are observing and considering several real subjects, the members of various *jōri* pairs.

Putting aside this not very well resolved problem of artefacts and returning to "objects" in general, Baien does seem to be giving an analysis of a physical object, as a physical object. He does this with the foursome *ki*, object, body and nature which is dealt with at some length in the "Yin and Yang" chapter of Core Text, as well as in other parts of Gengo:

Heaven is *ki*, which is the trunk. Earth is object, which is the root. The visibility of that *ki* on earth is nature, which is the flower. The shape that heaven gives to an object is the body, which is the sap. [Core Text NST 393,13]

He uses a tree as a model, correlating the four with trunk, root, sap and flower. As a tree is a *jōri* subject in the pair <trees and grasses>, [see Preface 14], we should take this not as a metaphor but as a case of "taking one thing as an example of ten thousand" [Preface 3].

Note that the "object" among these four is not the object of, say <object and event>. The object of <object and event>, as well as the object of <*ki* and object> could be the object that he uses the four to analyse, that is, the Object that divides as *ki*, object, body and nature. [To avoid confusion I shall sometimes refer to this as "Object".] In fact all four are needed to individuate Objects, such as animals and plants, and the "great object" in this passage:

A man is a coarse object and passes through coarse objects, but he is caught within the fine. Therefore we see trunk, root, sap and flower only in plants, and we may not see that animals are also endowed with trunk, root, sap and flower. But by merely seeing plants and animals as having trunk, root, sap and flower, we are not aware that these are taken from the great object. Because there is nothing that is not formed of *ki*, object, nature and body, there is nothing that is not endowed with trunk, root, sap and flower. [Core Text, NST 391,9]

Trunk, root, sap and flower are correlated with a further foursome, control, conservation, conveyance and action:

<i>ki</i>	object	body	nature
trunk	root	sap	flower
control	conservation	conveyance	action

In the case of physical objects that are real *jōri* subjects, this goes further than <body and shape>, for example. We might take his idea here to be something as follows. There is one body in one place at one time. If body is dependent on a place and a time, how do we relate this static ("stable") body to the dynamic *ki*, and to the changes that we see in the tree? We need another term, "object". It is object that survives change, and bodies that are in a particular place at a particular moment.

As Yamada points out [1982 149], the characters for "trunk" and "root" are synonyms for "root" in ordinary language. However their association with "*ki*" and "object" makes it clear that they are not synonymous as *jōri* terms. *Ki* is the trunk, and perhaps he would say that this *ki* may continue its dynamic life when the tree has become a log of firewood. In contrast, Object is the root, the controlling principle. This makes sense in that the life of the root coincides with the life of the tree, (and in the case of animals Baien takes the central nervous system as the root).

With body-sap-conveyance I can do no better than suggest that as the sap is constantly conveyed through the tree as it grows, or perhaps as the sap conveys nourishment, the changing bodies convey the Object through time. Nature correlated with flower and action suggests the seasonal changes in the tree.

The Object, the tree, survives through time, but its body is constantly changing. Thus we have a fourfold analysis of a dynamic physical object. Nevertheless, when the four are taken together as "Object", by a *jōri* shift to the pair <object and event>, the Object is "stable", it has "being", in contrast to an "event", which has "action". (In <being and action>, "being" has the sense of "form", and is a completely different word from the one he uses for "existence".) And if this Object is paired with *ki*, *ki* too is dynamic in comparison.

Baien is sufficiently of the stream of "philosophy of *ki*" for his universe to be basically dynamic. This makes the philosophical analysis of a physical object as a dynamic changing thing, with a dimension in time, much more natural for him than it is in Western philosophy, where the addition of time as a fourth dimension of a physical object, and the use of phrases such as "time slices" and "temporal parts", are techniques established specifically for certain distinctive theories.

things and stuff, masses and countables

The account so far of Baien's shifting term "object" gives us some hold on the way in which our more ordinary notion of physical objects might fit, or not fit, into his scheme of things. Although this interpretation has still not given me as firm a grip as I would like to have on his analysis of "object", taking his own examples of objects, together with the fact that they are intended to be real *jōri* subjects, let us turn now to see how he stands on an issue that often arises nowadays in the interpretation of Chinese thought, that is the distinction between "things and stuff", and its relation to "mass nouns" and "count nouns".

In terms of grammar, English nouns may be sorted as "mass" or "count" nouns, and the Chinese and Japanese languages do not have that grammatical distinction. The Chinese or Japanese student of English must learn to say, for example, "some sugar" and "how much sugar?", but "a bag" and "how many bags?", and so on. In these phrases "sugar" is a mass noun and "bag" is a count noun.

The language of *Gengo* is the same in this grammatical respect as the language of the ancient Chinese scholars. Before considering the possible effect on logical reasoning and philosophy of using a language that does not distinguish mass nouns and count nouns, I would like to prepare the ground by discussing the distinction between "things and stuff" at some length.

Unexplained, "things and stuff" is a very vague distinction. I shall touch on several ideas that cry for further analysis, and much analysis has been done, such as in David Lewis's Parts of Classes, and many other texts on mereology (which Webster's dictionary defines as "a theory of extended individuals in their relationship of part to whole and of overlapping"). It would be foolish for any of us to imagine either that we should, or that we could, clear our minds of our own philosophical background when we approach a thinker like Baien from such a different tradition, we need all the help we can get from our training. Nevertheless, Baien did not have the benefit of such work, and it is our task to imagine fundamental questions that may have occurred to him, or fundamental assumptions that may have affected his thought.

Still at the vague stage of the "thing-stuff" distinction, I shall begin with some suggestions taken from Arthur Prior's article "Things and Stuff". This article was published posthumously, and is uncharacteristically tentative, but just because it is elementary and exploratory, it is useful in the context of finding out what may have been in the mind of Baien or anyone else exploring this area as a completely new field.

Without committing Prior to any of them, the following is a list of some of the points that he considers:

- 1) Things are said to be made of stuff.
- 2) If a thing is made of a certain kind of stuff, so are the parts of that thing.
- 3) To call a thing a horse, or a chair, says more than what it is made of, and may not even say what it is made of.
- 4) Parts of things are not usually, if ever, things of the same kind (a part of a snowball is not a snowball).
- 5) Bits and pieces of stuff are things.

The first two suggestions are indisputable:

- 1) Things are said to be made of stuff. We could add to this, that things, (in the sense of three-dimensional physical objects) are necessarily made of stuff. Usually things are made of more than one kind of stuff. To use Prior's examples, a horse is "made" of flesh, bone, blood, etc, and a chair may be made of wood, metal, fabric, etc.
- 2) If a thing is made of a certain kind of stuff, so are the parts of that thing. If the pot is made (entirely) of iron, its base, or its handle, is also made of iron.

And we have no difficulty accepting:

3) To call a thing a horse, or a chair, says more than what it is made of, and may not even say what it is made of.

3) fits nicely with 1) and 2) in that it indicates that the criteria for individuating a thing need not involve mention of its stuff. But if we accept that a snowball, or a ball of wool is a physical object there will be cases where the stuff is all-important.

We need to think more about Prior's points that I have numbered 4) and 5).

4) Parts of things are not usually, if ever, things of the same kind as the things they are parts of (a part of a snowball is not a snowball).

5) Bits and pieces of stuff are things.

At first glance 4) is inconsistent with 5). It looks as though we have to choose between them.

4) seems a good distinction. But if we accept it, what happens to 5)? If bits and pieces of stuff are things, then there is, actually or potentially, an astronomically large number of things whose parts are things of the same kind, namely, smaller bits and pieces of stuff. A part of a bit of apple is usually also a bit of apple, and a part of a piece of rock is often also a piece of rock. Or are these not parts at all? "Parts", and "bits and pieces" need to be clarified before we proceed.

"Parts": "Part" is a very vague word. We can talk of parts of a block of butter when it is cut in half, but this is not the same as talking of the "parts" of a block of butter in a solid block which is theoretically divisible in an infinite number of ways. And then there are "parts" in the sense that a wheel is a bicycle part.

When we unwind a ball of wool halfway, what we are left with is still the ball of wool, changed to the extent that it is now minus half of its original "stuff". But at any time we stop there is only one ball of wool. The big ball does not contain a huge number of smaller balls, as a block of butter is not a huge number of knobs of butter, or a loaf of bread a huge number of slices, (not an infinite number, as some size will be too small for the thing to still be a length of wool, or a knob of butter or a slice of bread). In this discussion I shall dispense with the complication of "theoretical" parts, and that includes overlapping parts, in the way that a part of a loaf that is five-eighths of it will overlap some part that is two-thirds of it .

When we normally speak of parts of three-dimensional objects we speak of either things like wheels of a bicycle that are things themselves, or of arbitrarily divided, cut, broken, or scattered parts which were previously together as a whole thing (it need not be possible to reassemble them), or again, parts that are now together but can be singled out as one part of a thing such that the complement of that part is the rest of that thing.

"Bits and pieces of stuff": The bits and pieces of stuff that Prior is speaking of are not parts. A piece of a new metal would still be a piece of that metal even if it were the only piece of it in the universe, and even if it had never been part of a larger piece.

Provided this is what we mean by "bit" or "piece", we could agree with 5), that bits and pieces of stuff are properly things. Under this interpretation 4) is a gross exaggeration. There are many things whose parts are things of the same kind. The parts of a lump of iron, of a drop of water, of a rock, and so on.

To pick out these homogenised objects, spatial differentiation from their environment is all important. If they change place, it is usually vital to trace the continuous path that they have followed in order to recognise them again. Although there are things we may recognise wherever they are and regardless of the route by which they got there, such as a particular person, pot or cart, other things, such as a quantity of pure water, or of iron, could not be assigned a continuous history unless we could trace their paths, in fine detail, from one place to another.

And on this topic of individuation, it is notable that these bits and pieces of stuff are unlike horses, carts, trees, pots and so on in that any "sortal" term used, that is, any term that refers to the sort of thing it is, as "horse" or "cart" might, does not involve the thing, the bit or piece, but the stuff that it is a piece or bit of, such as gold or sand. On the other hand, when sortal terms are used for things like horses and carts, the stuff they are made of could be irrelevant.

Prior says he disagrees with Quine's claim that stuff words refer to a single big broken up thing. For, says Prior, "when we want to say *which* things are part of the one big thing that is (say) water in Quine's sense, I don't see how we can do it except by saying that it consists of all the bits of water (the stuff), so we're back where we were." [Prior 1976 183]

Using Prior's points we can make two groups to which things might belong:

A. I shall put point 4) with 1), 2), and 3), which are about things made of stuff. So we can then say that such a thing is necessarily made of stuff, and is also necessarily distinct from that stuff.

B. This leaves just 5) for the second group, that of bits and pieces of stuff that may also be described as "things". We can say they are not "made of" anything, (except in the way that a compound stuff is made of other stuffs, as water is made of hydrogen and oxygen, or concrete is made of cement, sand and shingle.)

Stepping gingerly around a minefield of other issues, I propose to speak of two kinds of "things", giving those things in A above the temporary names of "regular things", and those in B above that of "mass things". "Mass things" is an awkward name, but I retain the word "things" for them, because despite the clear difference between mass things such as bits, pieces, crumbs, chunks, rocks, crumbs, showers, floods, and pools, on the one hand, and regular things such as horses, carts, trees, and pots on the other, mass things too can be individuated as physical objects whose life in space has a history. (For practical reasons, words for traceable quantities of liquid are scarce, it may be irrelevant to the water or blood we are

tracing that it is a "pool" only in some stage of its history. But singling out and tracing specific bits of contaminated water or blood is not an idle procedure.)

At this point I claim to have sorted things into two groups as follows:

A Regular things:

- Regular things are necessarily made of stuff (A chair is made of some stuff.)
- If a regular thing is made of a certain kind of stuff, so are the parts of that thing. (A wooden chair has wooden parts.)
- Parts of regular things are not usually, if ever, things of the same kind. (Part of a chair is not a chair.)
- The criteria for individuating a regular thing need not include facts about its stuff (We can pick out a thing as a chair without reference to what it is made of.)
- When regular things are grouped according to sort of thing, the stuff they are made of could be irrelevant. (To call a thing a "chair" is not to say what it is made of.)

B Mass things:

- Mass things are not "made of" stuff, they are stuff (A piece of gold is gold.)
- Parts of mass things, if they have parts, are things of the same kind. (Part of a piece of gold is gold.)
- Mass things cannot be individuated as mass things without some recognition of a stuff (We cannot pick out a thing as a piece of gold without recognising it as gold.)
- When mass things are grouped according to sortal terms, the stuff they are made of is all-important. (We cannot usually say what sort of thing a piece of gold is without mentioning that it is gold.)
- Continuity criteria that trace the paths of mass things through space and time are (usually) vital for their individuation. (To trace a piece (not an artefact such as a ring or coin) of gold we would usually need to know the route it took in order to establish that it was that very piece. A piece of coal would be a better example here.)

Which group does Baien have in mind with the foursomes, "*ki*, object, nature and body", or with his pairs, <body and nature>, <*ki* and object>, <body and shape>, <*ki* and matter>, <matter and image>, <body and function>, <contain and dwell>, <disperse and bind>, <float and settle>, <hollow and substantial>, and so on? We have already seen that the foursome and these pairs all seemed to be concerned to some extent with what we think of as physical objects. *Jōri* subjects that are Objects may be either "regular things" or "mass things".

A Regular things:

From his reference to plants, animals, the sun and the globe of the earth as "objects", it is clear that Baien considers some regular things as "objects". Our difficulty with Baienian objects is that "object" itself is subject to the *jōri* shift. It would seem that the foursome must apply to a Baienian object that is a regular thing. And such regular things must also be members of *jōri* pairs.

B Mass things:

However, mass things such as water or fire are also included as "objects" in Baien's system.

When one looks at a thing as the thing it is, heaven and earth alone is one object, water and fire are each single objects, and plants, trees, fish and animals, as well as human beings, are each independent objects. Ourselves and others alike are each objects.

[Reply To Taga *Zenshū* II 84]

Each thing is divided as spirit and object and assumes the forms and activities of a thousand different fashions and ten thousand different faces. Fire has the body of fire and the activity of fire, water has the body of water and the activity of water, fish and birds have the bodies of fish and birds and the activities of fish and birds, and heaven and earth has the body of heaven and earth and the activity of heaven and earth. [Reply to Taga *Zenshū* II 93]

The *ki* of images forms objects within the turning sphere, the *ki* of matter forms objects within the holding sphere. [Core Text NST 394 22]

Baien thinks of "images", (amongst which he places stars), as nebulous, but they are nevertheless objects. Members of both lists are "things" in that they are countable. Baien would say that the countability was "man". As "heaven", that is as reality, fire, tree, sun, and so on are each only one, paired with another one, its opposite.

Reluctance to think of masses as countable may be due to fear of counting the same thing more than once. The pieces of stuff we are counting may also be parts of regular things, as a piece of wood may be part of a chair. Or they may be isomorphic with them, as Baien's kettle was isomorphic with a lump of iron at one stage of its history. But if overcounting is a danger with counting mass things, it is a danger with counting regular things too. Parts of things may

be things in their own right. Should we count the shafts, tray, and wheels of a (two-wheeled) cart, say five things, or the cart, one thing, or all together, six things? Baien asks:

If we were to count only the shafts, tray, wheels and spokes, how should we understand a cart? [Volume of the Small, "Man" NST 492,30]

How indeed? Shafts, trays, wheels and spokes are each physical objects of some kind or other, and so are carts. The life of one of its parts is usually longer than that of the cart. Baien must have been well aware of the different counting strategies that can apply to the occupant(s) of a particular place, as in the following passage (which, incidentally, provides us with further examples of fourfold, rather than binary division):

To speak briefly of small objects, pine, oak, cypress and cedar furnish a room, and if the room has being it is as rafters, floor, posts and slates. Ki and liquid, bones and flesh furnish a man, and when there is a man, there are ears, eyes, arms and legs. [Volume of Heaven NST 404,11]

If there should be a counting problem here, there is a simple answer. Counting things is a response to the question "How many X's are there?" The prototype question that might lead to overcounting is "How many things are there?" Ask a silly question...

So Baien's analysis of "Object" applies, equally it seems, to both kinds of thing. And this should not be too surprising. In many natural kind theories and in the *jōri* theory, some "regular things" belong to a natural kind, as dogs do, or to a *jōri* kind, as trees do; and likewise, some "mass things" belong to a natural kind, as gold does, or to a *jōri* kind, as fire does.

Now, I have made this distinction between "regular things" and "mass things" for a specific purpose. One's natural language can affect philosophical thought, but we should not assume that this has actually happened anywhere without good reason. If Baien could have been asking language neutral questions (that is, neutral to English, Japanese or Chinese), we should look for these first, before attributing his questions to the peculiarities of his own natural language. I have deliberately taken this tortuous, if rather sketchy, path in order to isolate "regular things" and "mass things" as objects for our consideration in a way that overrides language differences. The language differences that might have been an issue here are the grammatical differences between European languages such as English on the one hand, and languages like Japanese and Chinese (and others such as Maori), in which many usages do not commit the speaker to either a singular or a plural form. This difference is often described by saying that those languages do not distinguish between "mass nouns" and "count nouns". With those languages in which the distinction is made, it shows not just in the forms of those nouns themselves, but pervasively in the grammar, such as whether one says "how much" or "how many", "a" or "some", and so on.

I have felt this difference very keenly in translating Baien's texts. Do I say "heaven and man" or "heaven and men", for example? (As it is, even in choosing "man" I have invited questions from a Western issue on which Baien's language did not force him to take a stand.) Most of all in the present context, do I say "object" or "objects"? I have had to feel my way on this, trying to keep to the singular, but allowing the plural when the singular seems just too strained.

In recent decades much has been written about the effect on Chinese philosophical thought, especially Chinese logic, of the lack of a distinction between mass nouns and count nouns. Chad Hansen's Language and Logic in Ancient China has been the prominent path-opener in that discussion. In constructing a system of logic, especially in the early stages of logical analysis, it is plausible that the natural language of the logician should have some unnoticed effects. Hansen is surely right that if we are to understand logic in ancient China we need to look hard at natural language in ancient China. But in the end, language does not prevent us from seeing those differences listed above between "mass things" and "regular things", nor from seeing the respects in which they may be treated alike.

The conclusion has sometimes been taken from this mass noun/count noun distinction that the Chinese thinkers, because of their language, took all nouns as mass nouns, and that this made a difference to those of their theories that correspond to, or replace, Western theories about universals, sets, classes, predicates, and so on.

Hansen's message should be heeded, namely, that when native English speakers are struggling to interpret the semantics or the tortuous logic of some ancient Chinese texts, we should remember that there was no mass noun/count noun distinction of a straightforward kind. Nevertheless, when Hansen suggests for instance, that in Chinese semantics individual horses are pieces of "horse stuff" [1983 36], it is difficult to assimilate these objects to my "mass things". For that would require that horses are not "made of" (fleshy and bony) stuff, they are fleshy and bony stuff. And we should then have to say also that parts of horses, such as hooves, are things of the same kind as a horse is, pieces of horse stuff, and not things in their own right; that horses cannot be individuated without recognition of their stuff; and that to identify a particular horse we would need to trace its history from the place and time in which we were first acquainted with it.

The obvious retort would be that Hansen's "masses" are not my mass things, because I have already prejudged the issue by calling both groups "things", and that his very point is that the ancient Chinese viewed them as "masses", as "stuff", not "things". We can count bits and pieces, rocks, crumbs, pools and so on, just as we can count horses, but the suggestion was that for the ancient Chinese (scholars or logicians, though it is not always clear whether or not illiterate language users are included), not even horses were fundamentally countables. But Chinese speakers did count both regular and mass things. For instance, in a dictionary of Chinese counting classifiers, fourteen different characters include among their meanings: a segment, a lump, a flake, a cut, a drop, a bit, a mass, a piece, a puff, a dose, a portion, a morsel, a chunk, and a supply, all of which can be counted. And with each classifier one can ask the questions "Where is the segment, where are the two lumps, the three flakes, etc now?" Even without these classifiers they could count "mass things" or "regular things", as these ideas need not be influenced by the absence of count nouns. They could think that way, whether or not they did so when they pondered their graphic symbols.

Baien's native language, like the Chinese which he read and wrote, has no regular singular and plural forms of nouns, but this did not prevent his speaking of countable "objects" distinguished from their surroundings in space and having a history in time. Admittedly it would be too swift to identify Baien's situation with that of the ancient Chinese writers. We do not know much about their spoken language, but we do know that Baien would have used counting classifiers frequently in his own spoken language.

Although Baien's treatment of "objects" and other *jōri* subjects is not one we are inclined to adopt, there is no denying that it is ingenious and sophisticated. And it prevents a gap in his system in that area of enquiry that leads Western thinkers to speak of universals, properties, substance and so on. If we look at heaven and earth with "far-sightedness", what we have before our very eyes are not kettles, chestnuts and disciples of Confucius, but real subjects, members of *jōri* pairs. Miura Baien is not the only philosopher who says that what we have "really" before us are not people, kettles, chestnuts and suchlike.

But not all *jōri* subjects are Objects and amenable to grouping as "regular" or "mass" things. In the case of some *jōri* subjects, Baien uses a notion of "fusion" or "merging" in contrast to those that are "individuated sharply":

What does it mean to point exclusively to a subject? When an object is manifest by means of a body, it is characterised sharply, as when we talk about heaven, earth, water or fire. Those terms are fixed directly to their subjects.

What is it to take one thing as an example of ten thousand? By means of nature [of things] we see *ki*, which is the merging and fusion of the ten thousand things. Likewise, "power", or "the Way", or "nature" or "capacity" fuse and merge the ten thousand things. [Preface 3]

We find both "regular things" and "mass things" among the things that are individuated sharply. These are "objects" in one or more of the *jōri* senses of "object". On the other hand, "power", "the Way", "nature" and "capacity" are not manifested sharply by bodies, but each applies to all things. The nearest one can come to pointing to "*ki*", or "capacity", is to point to various occurrences of *ki* or capacity. They may be found universally but they are not properties. To understand these terms we are asked to see that their instances "fuse" or "merge".

Let us contrast these "fusions" of "power", "capacity", etc, with a "fusion" in a more everyday example. When I began to learn Japanese, a Japanese friend with exceptional miming skills would speak to me in Japanese only. I asked her the meaning of "*shina*", 品, as in "Shinagawa". The word means "goods", "movable property". She pointed randomly and rapidly to all the household objects within her reach, and it was some time before I caught on.

"Goods" resembles Baien's "*ki*", "capacity", etc., in one important sense, and differs from it in another. Instances of "goods" resemble occurrences of "*ki*" in that they may also be said to display "merging" or "fusion". The objects have no common property in a simple sense, though one may certainly find a contrived one. Nor are they pieces of a finite collection or a recursive series. One minute we are looking at a television set, a sack of rice, a vase, a refrigerator, a skirt, the next we are looking at a fusion of these things, goods. We must refocus.

On the other hand, although "goods" may seem to resemble "*ki*", capacity, etc. in its merging or fusing function, one can infer from Baien's texts that "goods" is not a *jōri* subject, but "mere classification". A person may claim to have a thought so abstract that they can reflect on "goods" without any examples coming to mind. But they will not find goods *per se* in "heaven and earth". At least, this is the kind of thing we shall need to say if we are to distinguish between *jōri* kinds such as water, or fire, or dogs or trees, as *jōri* subjects on the one hand, and purely conceptual terms such as "goods", on the other. Nature does not oblige us to classify things as "goods", and we shall never stumble on goods as a kind. But Baien says that the classifications "power", "capacity" and so on are already there for us to come across. This is why *jōri* is a realist theory.

The distinction between what we might call real fusions and conceptual fusions raises another issue concerned with the idea of a physical object. That is what Lewis calls "the principle of unrestricted composition". [1991 7] Lewis says:

We are happy enough with mereological sums of things that contrast with their surroundings more than they do with one another; and that are adjacent, stick together, and act jointly.... We have no name for the mereological sum of the right half of my left shoe plus the Moon plus the sum of all Her Majesty's ear-rings ... except for technical terms like 'physical object' or blanket terms like 'entity' and maybe 'thing'. [1986 213]

Such a composite thing is of course not a "kind". And although it is consistent with my description of a "regular thing", it is not a physical object at all for Baien. For one thing, the foursome "*ki*, object, body and nature" cannot be applied to it, nor the pairs <*ki* and object>, <nature and body>. Neither would <body and shape> apply to it, its coarse *ki* does not "hold a place", and so on.

Baien would deny that the "principle of unrestricted composition" could be used in an account of reality. He uses Chuang Tzu's metaphor of the Cook Ting:

I rely on Heaven's structuring, cleave along the main seams, let myself be guided by the main cavities, go by what is inherently so.... However when I come to something intricate, I see where it will be hard to handle and cautiously prepare myself, my gaze settles on it, action slows down for it, you scarcely see the flick of the chopper - and at one stroke the tangle has been unravelled. [Chuang Tzu, Ch.3, Graham 1981 64]

Baien says:

If we recognise the return to *jōri*, for example, in the four limbs and hundred bones of the body, we apprehend their unity and understand how to divide them, as when using a carving knife, even the parts where the bones and meat join will separate of their own accord. Even when one comes to a difficult part, if one focuses one's eyesight and moves the knife slowly it will divide up easily. [Preface 5]

Jōri will not give us arbitrarily cut chunks of meat. The carcass of an ox is a regular thing, its parts are not little oxen. Some parts of them are also regular things, such as limbs and body organs, and other parts are just pieces of the stuff, meat, mass things. A world ordered by *jōri* is an ordered world.

Summary of Chapter 8

1. There is probably a chain of texts running from Empedocles to Miura Baien that links the uses of the example of a water vessel made with two holes, one for air and one for water. Baien seems to have acquired it from the Ming scholar Fang I Chih. Each scholar uses the example differently. In Baien's thought, there is a marked development from his naïve use of it in Genkiron, 1753, to indicate the omnipresence of *ki*, to his sophisticated use of it in Reply to Taga, 1777.

In the passage from Reply to Taga, firstly, with the notion of "holding a place", he conveys that space is not only filled with *ki* of some kind, but also that the notion of space is separable from the notion of what occupies it. Secondly, he uses <fine and coarse> to differentiate fine *ki*, which does not pick out particular things, from coarse *ki*, which picks out a body and defines a place. Thirdly, he distinguishes manifest and concealed "bodies", the manifest body has shape, but the concealed body does not. Fourthly, he uses it to introduce his pair <concealed and manifest>.

2. <Circle and line> is a fundamental pair in Baien's cosmos. This focus was encouraged by the impact of the discovery that the earth is round. The earth's roundness excited Baien as an example of a fact that might be discovered, in contrast to matters for mere speculation, such as the Five Element theory. But above all, the pair <circle and line> plays a vital role in his analysis of motion, space and time, all of which have both circular and linear aspects. Space and time themselves may be seen as a *jōri* pair, associated with numerous parallel pairs. The omnipresent *ki* conforms to the preconditions of time and space that emerge from his analysis.

3. Baien's "object" is a very difficult term to interpret, and the *jōri* shift makes it especially elusive. We should expect Baien to have some concern with the individuation of physical objects as objects, and we find that he does in the case of those *jōri* subjects that are physical objects. He analyses them in terms of a fourfold division, *ki*, object, body and nature, which he renames "trunk, root, sap and flower".

The distinction vaguely described as "things and stuff" comes up in the case of individuating objects. In particular, the grammatical interpretation of Chinese nouns as "mass nouns" has led to some very controversial theories about ancient Chinese philosophy, claiming that it is based on "stuff" rather than on countable things. However, a distinction between "mass things" and "regular things", both of them countable, can be made on language neutral grounds. Not only are members of both groups put forward as examples of natural kinds, Baien's *jōri* subjects too include both groups. Other *jōri* subjects belong to neither group, he says that these "fuse", or "merge".

The "principle of unrestricted composition", by which any combination of things might constitute an object, has no place in Baien's system. Whatever they may be, *jōri* demands that there should be definite sets of criteria by which objects are individuated.

PART III: REALITIES

Chapter 9: THE SAGELY NORMS

This chapter will consider Baien's place in the Chinese and Japanese tradition. First we shall first look briefly at the traditional Chinese concern with naming, and in particular the position on this of the leading Japanese Confucianist, Ōgyū Sorai. Next we shall consider the focus of the Sung Neo-Confucian philosophers who discussed the pair "li" and "ch'i", from which Baien's terms "ki" and "ri", and subsequently "jōri", are derived.

Against this background, I shall characterise Baien's system as a "realist" theory, and outline some key features of his realism. In particular, I wish to make the point that "real" is a normative term, and in Baien's theory it is not the sages, but heaven and earth that sets the norms, and hence they are the norms of reality, outside our power of arbitration.

Introduction:

With the exception of Gengo, references and direct quotations from other scholars are plentiful in Baien's works. In Zeigo he discusses other doctrines at length, and frequently uses the Confucian opener "So-and-so says". Baien was familiar with the Confucian Classics and Mencius, with Lao Tzu and Chuang Tzu, with Huai Nan Tzu and many other of the more ancient texts; with the Sung "Neo-Confucianists" including Shao Yung, Chang Tsai, the Cheng brothers and Chu Hsi; and at the very least with the more scientifically oriented works of late Ming and early Ching scholars. He was familiar also with ancient Japanese texts, such as the tenth century dictionary/encyclopaedia Wamyō Shō, and his reading notes refer to numerous Japanese works. We can only guess how many besides these he had either read and not recorded reading, or knew by hearsay or quotation.

Baien says in the Preface that in Gengo he has borrowed no words from the ancients, and that:

Quoting ancient writings, or examining their many doctrines, is like looking cross-eyed or walking with a limp, and should invite ridicule from the learned. [Section 12]

It is true that he does not mention any other thinkers by name, and influences of other scholars would have to be ferreted out from the dense lines, organised in a style that is entirely Baien's own. Nevertheless, many of the tokens of his system, specific words and sometimes quite long phrases, are derived from his extensive reading. It is as though he is saying to Confucianists: "These words and phrases have been your raw material too, but look what they become when we let heaven and earth be the teacher." Each time I have tracked down the apparent "origins" of these tokens I have been struck by their

irrelevance to Baien's use of them. Speaking of Huai-nan Tzu, Charles Le Blanc says "a same text, abstracted from its original field of meaning, can lend itself, like a word, a phrase, or a natural phenomenon, to radically different uses and intelligibilities." [1987 129] In the case of Gengo, words and phrases are certainly subject to radically different uses and intelligibilities.

For this reason tracking their origins can be carried too far. Pity the poor Baien translators who hope for relief for their hurting heads when they spot a little note number on the phrase "they (cannot) take the same path" as they occur in the lines: "Because yin and yang are endowed with the same thing, they cannot dwell apart, and because yin and yang are endowed with opposites, they cannot *take the same path*" [NST 290,24], only to find the notes cite the Analects, Book XV, Ch.39: "Those *whose courses are different* cannot lay plans for each other"; Mencius, VI b, 6: "These three men did not *take the same path*, but they were aiming at the same goal."; and Chuang Tzu, "The Way of Heaven": "If as well as the men below the man above did something, the man above would *share the Way* of the men below...". [Yamada 1981 688] "Path" is of course the Chinese character "tao", but in the above lines from Gengo it is a *jōri* term whose opposite is "house" or "dwelling", and the cosmic yin and yang have little to do with mankind. In the Gengo Preface, where Baien makes many explicit references to other works, and others which would be obvious to his readers, the copious notes provided by Yamada Keiji [1982], for example, are often very helpful. However the point of Yamada's remaining forty-five pages of notes, would seem to be that Baien has covertly broken his undertaking not to quote the classics. But the contrary conclusion, that Baien's thought owes little to them, is much more easily drawn from this evidence. ~~(On the other hand, Yamada's notes to the Preface, in which Baien makes many explicit allusions, are very helpful.)~~

Sometimes, however, a closer look^{aT} at his attitude to the work of his contemporaries and predecessors is instructive, especially where his departure from them contrasts some aspect of his system with the tenor of those other texts. His attitude to names, discussed above in Chapter 4, is one such departure insofar as it highlights Baien's realism.

Texts such as I Ching and Huai-nan Tzu contained fuller cosmological theories than other early texts, and echoes of these are strong in Gengo. In Chapter 5.2 I discussed the binary system of I Ching in relation to Baien's binary system. Interest in the notorious I Ching persisted for its philosophical content, quite apart from its function as a tool for divination. Its philosophical influence reached at least as far as Fang I-Chih in 17th century China, and to Miura Baien. Briefly, the attraction that I Ching holds for these men is its attempt to present reality as both elaborate and systematic. Joseph Needham denounces I Ching as "a cosmic filing system" [Needham 1956, Vol.II 336]. He may be right when he says that it was an impediment to Chinese science, but a cosmic filing system might well fill a philosophical need.

It is not surprising that Baien found these works a fruitful source of terms for his lexicon, furthermore, he shares with I Ching the idea that the universe is systematically ordered, ~~but~~ would scorn the idea that such a small number of patterns could represent its endless diversity. As he says in Letter to Yumisaki Yoshitada, to think in terms of yin and yang in the I Ching way, or indeed in terms of any sense of yin and yang used by his predecessors, would be, "like scratching an itching foot without taking off one's sandal". [p.349]

Le Blanc describes Huai-nan Tzu as a synthesis of Taoist tenets with the teachings of the school of Yin-yang and the Five Elements. [1985 197]. A great many of the terms in Gengo, and superficially some of the ideas, can be found in Huai-nan Tzu alone. But under Baien's brush the changes in the ideas are striking.

9.1 ancient Chinese naming

In the context of Sino-Japanese thought, the unqualified use of "realism" and "nominalism" is misleading, and makes no useful distinction. "Nominalism" here has nothing to do with universals. A rough definition of this nominalism, henceforth, "nominalism*", might be the principle that the way the world is depends on the way its contents are named.

Many Chinese texts discuss the naming of things, from Confucius until recent times. John Makeham has suggested, for example, that the events in T'ien An Men Square in 1989 were transmuted simply by the power of the authorities to redescribe them. [1989] Furthermore, the common practice in China and Japan of taking the family, rather than the individual, as the unit of intrinsic value, provides another example of nominalism*. It is often not the bloodline, but the patronymic that is of ethical significance, adopted children are included. On this overriding importance of names, Arthur Wright reports the case of the desperate Chinese pastor, who, anxious to prove that Jesus Christ was the son of God, pointed out that they both bore the surname of the Yeh family, "Yeh-ho-hua" (Jehovah) and "Yeh-su" (Jesus). [1953 258]

Although the sages were seen as arbiters in the partition of the universe by the force of names or words, this was not by intellectual default. Discussion and argument among Chinese thinkers about this arbitration was often complex and profound. Hansen says with Wing-tsit Chan:

Every major philosophical school in ancient China had a theory of names that lay at the heart of their social-political theories. (Chan 1963,40-41) Each had an additional common assumption that a system of names instils shared social attitudes via inclining people to discriminate in similar ways. [1985 505]

Hansen says further (of Chuang Tzu and Hsun Tzu):

Both presuppose that names *and* kinds are conventional aspects of language and that distinctions have regulative, social functions. Neither takes the claims of realism seriously. [1985 506]

Insofar as "conventional" means "arbitrary", as it usually does, we must agree with Hansen that this is certainly nominalism*. However, to look forward briefly to the account of realism in the next chapter, if "conventional" should refer to firmly embedded, non-arbitrary linguistic conventions, especially if failure to conform to them meant failure to survive in that society, realism might claim these for its own.

An extreme form of nominalism* is found in the famous metaphor from Lao Tzu of the "uncarved block".

With the nameless uncarved block there is no desire. [(Ch.37) Lao 147]

The Way is constantly nameless. Though the unhewn is small no one in the world is able to make it his vassal.... Only when it is cut up are there names.

When the uncarved block shatters it becomes vessels. The sage makes use of these and becomes the lord over the officials. [(Ch. 28) Graham 1989 221]

We might take from this the message that the real is the formless and infinitely simple block. The things of the world depend on the sage's discretion in naming them and are not real forms at all.

In contrast to the Laoist goal of "non-action" and "freedom from desire", the messages of the Confucian sages are much less mystic. But here again it is the sages who arbitrate, and the superior man conforms to their rules. The Confucian focus is of course on human conduct. Other texts, such as the Mohist canons, concerned themselves more directly with theories of naming, but it is not obvious that Baien paid attention to these. Baien's emphasis is on the folly of taking the sages, and not "heaven and earth" as the ultimate authority. Heaven and earth is what we have before our very eyes.

Ōgyū Sorai (1666-1728)

Baien repeatedly warns us that despite the respect that is due to them, we should never take the words of the sages as true without looking at heaven and earth for ourselves, without "far-seeing". It is plausible that this advice was intended as a counter to the followers of the Japanese Confucianist, Ōgyū Sorai. In Chapter 2.5 we saw what appears as a deliberate non-mention of Dazai Shundai of the Sorai school, from whom Baien derived both the important term "*jōri*", and the metaphor of the woven brocade. There would appear to be much positive "non-mention" of Sorai too in Baien's texts, unless the allusions were so familiar to Baien's readers that he did not need to identify them. For instance, there is a similarity in the following two passages in which they both use ideas expressed by the philosophical term "*tenmei*", normally translated as "heaven's decree", but which as a *jōri* pair I have translated as <heaven and destiny>. Baien is speaking of <heaven and destiny> in relation to his own life when he says in the Gengo Preface:

I am over fifty years old and already frail... Does this mean that heaven has lent me the years with which to complete this work? ("heaven"). Or does it mean that I have defied its challenge? ("destiny") [Section 18]

Sorai says:

I am already past fifty. If I do not exert myself now and should die as I am, what will be said about heaven's decree [*tenmei*]? [Lidin 1970 13]

Lidin points out that Sorai's line is a reference to the Analects, "At fifty I knew the decree of heaven" [1970 12], but Confucius does not make any reference to his own approaching death. Of the two, Baien is echoing Sorai rather than Confucius.

According to W. T. de Bary, Sorai with his constant pleas for a return to the ancient classics was radically opposed to the Sung Neo-Confucian idea of sagehood as something anyone could strive towards. Although for Sorai the sages were the only authority, they were long since dead and gone. It was the duty of scholars to study and interpret their texts, and others to follow the precepts that were found therein. [1979] The almost religious reverence for the sages that de Bary attributes to Sorai would not have found favour with Miura Baien. Sorai had complete confidence that there was one rational order governing the affairs of men. Right and wrong were absolute. Baien's criticism suggests that the reason for Sorai's confidence was merely because the rules were laid down by the ultimate authority of the sages.

But it is likely that Sorai was much more sophisticated than Baien's criticism suggests. In fact Baien may be addressing not Sorai and other prominent members of that school, but the less astute of their followers. Shiba Kōkan, (1738-1818) disparaged the Confucianists, with their Chinese textual studies, as "reading machines" [Takahashi 1981 296], but Sorai himself was a scholar of high calibre and there is much deep discussion in his works. He might even have agreed that the rational order was absolute not because the sages laid it down, but that the sages, being men of superior intellect and character laid it down because it was the one and only rational system. Sorai says: "The sole desire must necessarily be to bring peace and contentment to the world." [Lidin 1970 13]

Sorai is impressed with the very fact that there are rules, especially rules for conduct, but also rules for making judgments in general. The perfect person would obey these always, and the world would be in harmony: "The way of the early kings was the way by which all under heaven were brought peace and contentment." But this is plainly not how the world now is, and mankind does not obey the rational order. To justify continuing in the confidence that there is such an order, Sorai uses the "Utopian" model of a past age when things were otherwise:

The way is the Way of the early kings... a degeneration took place and the Confucian school arose which began to contend with the hundred schools. It can only be said that the Way was diminished... What Tzu Ssu had basically meant to say was only that when the sages established the Way, they did so in conformity with nature; he did not mean to say that every human being is in conformity with nature and that everyone is naturally united with the Way. [Lidin 1970 3, 5]

Thereafter came the Cheng brothers, and Chu Hsi,... and they were not acquainted with the ancient language and literature.... Discrepancies arose between things and their names, and thus later only righteousness and the *li* of things were taken an interest in. [Lidin 1970 7, 9]

Now, the early kings were the sages. For people to desire to manipulate the authority of the early kings means that one is either presumptuous or confused. It is the extreme of not being able to measure oneself. [Lidin 1970 21]

The Way of the early kings is the way of that which the early kings created. It is not the natural way of heaven and earth.... they produced this Way in order to have people in later ages act in accordance with it. How could heaven and earth by themselves have possessed it? [Lidin 1970 25]

Describing a Utopia is one way of presenting an ethical theory. Sorai cites the Six Classics as the authority, but one of them, the Book of Music, had already been lost by Sorai's time, a fact that supports the suggestion that the world of the early kings was Utopian, not to be taken literally as historical. Using the uncarved block metaphor, we might say that carving the block is not up to us, yet there is a rational order. So we express this with the myth that the carving was performed by superior, more rational men.

De Bary says: "To believe in the sage, man must make a leap of faith, and to do so is reasonable enough when he recognizes that his own rational powers fail to produce certain knowledge." [1979 167] But this alone does not show Sorai's reverence to be directed towards the divine in the normal religious sense. Many Western thinkers would argue that belief in the possibility of certain knowledge and the principles of reason requires a leap of faith on the part of the most irreverent thinker.

If this should be a correct interpretation of Sorai's doctrine, then it is not so far from Baien's realism. Briefly, I argue that Baien's theory is realist because it holds that the criteria by which the things of this world are defined and arranged are something over which we have no choice. The view that the rational order is absolute accords with this.

9.2 unity and pragmatism

Discussions of Chinese Neo-Confucian thinkers, and of many writers until at least the 17th century, are often hung on the li-ch'i (*ri-ki*) debate, that is, their position on which of the two, li, "principle", or ch'i, "material force", is primary. I have already said something about ch'i in Chapter 8, in relation both to Fang I-chih and to Baien's Japanese predecessors.

Chu Hsi is generally taken to have given li and ch'i equal status, but not consistently. Everything had its li, natural objects and artefacts alike. li and ch'i were usually seen as interdependent, principle could not exist without there being something for it to be the principle of. However the Supreme Ultimate was the unifying principle of everything. "The Great Ultimate is nothing other than principle." This gave principle an undoubted edge over ch'i. Emphasis on comprehensive systems was a characteristic of 11th century intellectual activity in China. [See for instance Anne Birdwhistell 1989 6]

This characterisation of li as a single unifying principle, or set of principles that would cover human affairs and cosmology alike, was a major problem for the Japanese inheritors of the Chu Hsi school. For another feature of Neo-Confucianism was its so-called "pragmatism" (*jitsugaku*). The requirement of oneness under a single principle is a difficult one to meet when pragmatism requires that the oneness should not be mystical. The Sung Neo-Confucianists spoke as though scholars were becoming too speculative, too metaphysical. What was needed, they said, was "investigation of things". With ch'i given status as material force, or prime matter, and combined with li, principle, the investigation of things promises a new respect for the physical world.

However, anyone who turns eagerly to the Chu Hsi school to find a fresh impetus to empiricism and scientific spirit in Chinese thought is soon disappointed. The "things" that are investigated are usually in the domain of human conduct. Investigations of human affairs are pursued vigorously. The numerous discourses and discussions lack nothing in depth and analytical keenness. So the pragmatism of the Chu Hsi school may have had some good practical effects, theories concerning how a country should be governed, how people should conduct themselves both socially and as individuals, received the attention they deserve. But although "li" may be plural grammatically, and each thing is said to have its own li, it seems that they also wanted principle as a great unifying element, embracing both human conduct, and everything else. And somehow, probably because of the difficulty of relating physical laws to virtue, the "everything else" becomes subordinate.

For example, when we reflect on a passage that is frequently quoted to show that Chu Hsi had an interest in practical observation of the natural world, we find that it does not show an interest in the natural world for its own sake at all, but in its benefits for mankind:

Master Ch'eng put it well when he said "nature is li". ... Take as an illustration the nature of drugs: some have cooling and some heating properties. But in the drugs themselves you cannot see the shapes of these properties. It is only by the result that follows upon taking the drug that we know what its property is; and this constitutes its nature. [Fung 1952 302]

Albert Craig is one of those who cites this passage to give Chu Hsi credit for encouraging active observation. [1965 139] But I do not believe that the passage puts Chu Hsi in the same league as the Japanese 17th century scholars Kaibara Ekken and Matsuoka Joan whose scientific interest in plants Craig describes in the same paragraph. Even bearing in mind that the Chinese alchemists had a habit of calling every product or reagent a "drug" [Zhou 1983 184], I would still deny that the above passage from Chu Hsi shows an interest in the natural world for its own sake.

Now if his main point had been a physiological one, about the functions of the body, this would indeed be some evidence. But Chu Hsi is talking about the natures of things, in this case of drugs. What sort of a thing is a drug? The "nature" we want in an empirical study varies with the substance in question. Here the nature that individuates the substance individuates not a plant or chemical compound or animal secretion, but an effect on human beings, a beneficial effect at that. A substance that has no such effect when ingested or applied is of no interest in the context of human well-being. In a letter to Asada, Baien criticises the ancients for their exclusive concern with human affairs: "They gave themselves an exalted position for their wisdom and intelligence.... They were confined by the tastes and smells of sake, vinegar, raw sake and sweet sake, and thought that these were the features of rice." [Letter to Asada 1785 p.335]

Chung-ying Cheng says:

Confucianism as a philosophy is practically motivated. It is *intended* to apply to practical life and to achieve the moral transformation of man and society. ... But if one asks whether traditional Confucianism was utilitarian or practical in the sense of leading to modern science or technology, or contributing to social progress and economic advancement, the answer would seem to be negative. [1979 37]

Chung says that despite Chu Hsi's emphasis on practical learning, the issue is "not that it does not include the subjects of practical learning but rather that it does not single out the subjects of practical learning for special attention." Chung thinks that although it was not Chu Hsi's intention, his theory of li and his integrated theory of ke-wu (investigation of things) and chih-chih (extension of knowledge) "yielded a conception of learning such that ultimately learning becomes a matter of seeking understanding of li, not a practice of life to yield useful results, as Chu Hsi appears to claim." [1979 48] An enterprise steered by a search for a unifying principle, as Neo-Confucian theory is said to have been, could not arouse in its followers curiosity about the natural world. The theory did not lead to

practical learning that would have advanced their general knowledge, because as an ultimate end, unification is an empty notion. Oneness divested of mysticism becomes simplification.

The failure of this Neo-Confucian pragmatism to encourage practical knowledge in the form of science or technology is similar to the failure of the current pragmatism that elevates the profit motive. As a single principle, the pragmatism endorsed by the slogan "maximise profit" will not make a nation prosperous because it is anything but practical, it leaves too many people unfed, unhoused, uneducated, unemployed and unemployable. This is because, as a governing principle for the conduct of human affairs, the profit motive is empty. "Deeds, not words" is another slogan that is often employed in a manner that commits the fallacy of confusing practicality with simplicity. Deeds without thought, and the words which are a necessary concomitant of constructive thought and learning from others, are notably ineffective. Reality, in the sense which excited Baien, is not simple.

Other Chinese intellectual movements responded to the limitations of the "investigation of things" by demoting *li* and elevating *ch'i*. This *ch'i* itself became, or remained, primal and mystic, but at least the move underwrote a turn towards the physical world. Individual as he was, Fang I-chih is an excellent example. [See Chapter 6.2]

These very brief and generalised remarks are not intended as a picture of the vigorous and varied intellectual activity of the Sung philosophers and their successors, but merely to point out a feature of Chinese thought at its most theoretical level which was inherited by the Japanese Neo-Confucians from the 16th century.

Minamoto Ryōen says that a tension eventually arose amongst those Japanese thinkers, between the search for an all-embracing *ri* and the specific discrete nature of knowledge gained from "investigation of things" in the scientific sense. As more meaning was given to *ki* because of its amenability to physical interpretation, the bonds with *ri* frayed with the strain, especially as *ri* was intimately involved with human conduct. Minamoto says that the major theoretical problem faced by the Tokugawa Confucianists when they turned to the tide of scientific interest and activity, was that the new research did not fit under the supreme principle, or principles, of virtuous conduct and the teachings of the sages. [1979]

This desire to connect new scientific theories to principles of human conduct extends to the use of the term "virtue" in the title of the book Visions of Virtue in Tokugawa Japan by Najita Tetsuo. One does not expect its subject to be the Kaitokudō, the merchant academy of Osaka, and centre of astronomy and other scientific activity. But this is not an error on Najita's part. "Kaitokudō" is a misleading name, "*kaitoku*" means "to cherish virtue", and it is important to Najita to make the point that the original objective of the academy was to provide instruction "of the highest scholarly standard that would confirm

the "virtue" of merchants as members of the human community." [Najita 1987 11] Albert Craig cites Yamagata Bantō as another thinker who tried to effect a Confucian style synthesis of principle by uniting the mind with the centre of the sun, as late as the early 19th century:

Just as the functions of man all came from his heart, as the duties of the family proceed from the father, the affairs of a country from its offices, and the government of the empire from the court, so the strange process of the creation of heaven and earth all come from the sun. [1965 143]

But this particular idea may also owe something to the ancient Huai-nan Tzu, which says: "the sun is the eye of the world". [Graham 1986 29]

9.3 Baien's position

As a thinker of his time and place, Baien had to address the *ri-ki* debate. Baien developed *ki* philosophy so that neither *ri* nor *ki* was his chosen focus, and resolved the tension between them by radically transforming them both. The Chinese school of thought called "philosophy of *ki*" had a strong influence on Baien. In his system, *ki* became intricate and complex. "We see *ri* within *ki*, but *ki* is not *ki* within *ri*" [*Zeigo Zenshū* I 653] *Ri* was replaced by *jōri*, the complicated set of principles by which this analysis was to be done.

Baien has been called a Confucianist, an empiricist, a rationalist, a rational empiricist, a positivist, a materialist, and a dialectical materialist. These terms are meaningful only in their contexts, and apt when the information they summarise is correct. Here I am calling him a realist. This too would be a meaningless way to describe him outside the context of the present discussion.

Confucianists and nativists

Edo writers are sometimes classified in two groups, Confucianists (sometimes "the ancient learning school"), and nativists. The Confucianists are depicted as holding up the ancient Chinese classics as the definitive model for scholars, the nativists as pressing for renouncing this in favour of Japanese language culture and tradition. The most famous of them, Motoori Norinaga, 1730-1801, describes his work as "dusting Chinese doctrine from the clear mirror of the age of the gods." [Matsumoto 1970 80] Insofar as there was a schism between the classical and nativist traditions, this was a division that could have no parallel in China. It was an issue in Japan because the Japanese scholars were necessarily bilingual [See Chapter 4].

I have been asked where Baien stands in relation to this division. No meaningful answer can be given. Firstly, the policies of either group have little bearing on Baien's main interest, natural philosophy, the work that concerns us here. He used *wabun*, the Japanese writing style, for his early work *Genkiron*, and *kanbun*, Chinese writing style, for the later drafts of *Gengo*.

Secondly, although he is often described as a "Confucianist", and was well read in Confucian literature, he certainly did not declare himself to be of the ancient classics faction. He was undoubtedly very influenced by the Confucian classics; when it comes to human affairs he often repeats Confucian precepts, particularly in *Genkiron*. Nevertheless, it became his explicit policy that the work of any predecessor should be critically examined before acceptance.

In *Zeigo* he compares the Japanese and Chinese imperial systems, and seems to prefer the Japanese one, because it is natural, as opposed to the "artificial" system of the Chinese. [*Zenshū* I 660] In a recent article Nagura Masahiro produces this and other evidence to show that Baien's Japanese heritage meant more to him than has been appreciated. [1993] Baien says that the Japanese system of determining rulership by heredity is less open to

abuse than is the Chinese one which was determined by power. (This argument is now used to support the continuation of the British royal family.) But even here he is more interested in showing how his method of opposition can be used in analysing the two systems of government which he subsumes under the opposites "natural" and "artificial".

The inappropriateness of placing Baien in either of the two camps, Confucianist or nativist, warns us to take care in applying this distinction. When we examine the works of other scholars of the period we are struck much more by their individuality than by their adherence to any alleged common cause. Peter Nosco and Kate Nakai both tell us that all the major seventeenth century proponents of Confucianism devoted a significant measure of attention to nativist concerns. It was not until the 18th century that nativists such as Kado no Azumamaro, Kamo no Mabuchi and Motoori Norinaga set up an adversarial relationship. [Nosco 1990 (a) 42, 11] Even then it is far from true that every scholar pitched his tent in one or other of the two camps.

Baien's realism

Baien knew well that he himself was not a scientist. In the construction of his *jōri* theory, however, he followed the example of his scientific colleagues by giving tireless attention to the detail that he found in the world before his eyes. This feature of his theory contrasts markedly with most of the cosmologies and systems of nature put forward by his predecessors in Japanese and Chinese philosophy. The elaborate theory of Shao Yung (1011-1077) does not lack detail, nor for that matter does the I Ching system, but in neither of these do the details uncovered have the realist corrigibility that Baien claims for his findings. Baien mentions Shao Yung in Reply to Taga:

There has been a proliferation of theories, like the theory of evolution from chaos of Shao Yung, in which heaven begins in the first epoch, earth in the second, man in the third, but in the tenth epoch heaven finishes, earth finishes in the eleventh, and man in the twelfth. These are all arbitrary notions and theories, and none of them show an understanding of *jōri*. They are false doctrines which confuse heaven and man. [Zenshū II 97]

Baien snapped the strained line between principle and practice. For him, the One is incomprehensible, but he is not a mystic because his focus is on differentiation. In his immensely complex picture of reality, human ethics holds a place without inconsistency. "Virtue accords with heaven and earth, and all things have their places". [Preface 16]

However, if the old tension was gone, a new tension took its place. This was the tension between his firm resolve to hold on to the *jōri* system at all costs, and his deference to observation and evidence from the natural world. Baien was committed to *jōri*, but he had another fundamental commitment that was equally compelling. That was his commitment to the realism. He says in Letter to Yumisaki Yoshitada:

When a person sets aside that which dwells in his self alone and pays attention to that which resides elsewhere, when he sets aside what the ancients have said, and when he follows the correct signs, then we can begin to speak together. [p.350]

The theory of *jōri* is a realist theory. "Realism" is a vague term, but when it is applied to Baien's theory, the meaning of "realism" is fairly central to its range of usages. This realism is in direct contradiction to the "nominalism*" described in 9.1, namely, the principle that the way the world is depends on the way its contents are named. In Baien's realism, if we are to speak of the world correctly, the way we name its contents must depend entirely on the way the world is already.

We might isolate some features of this realist theory:

- 1) The world is something we can find out about, in contrast to merely speculating about it. (Speculation is the "*kiyu*" mentioned in Chapter 6.2.)
- 2) If we are to find out what the world is like, we must be prepared to find out that we are mistaken.
- 3) A complex set of relationships, summarised as *jōri*, is one of the things we can find in the world. (In practice, Baien adheres to *jōri* throughout as a governing principle.)

Baien's error, a failing that he did not seem to have noticed, was that in adhering to 3), that the world is governed by *jōri*, he overlooked 2) He claims to have discovered *jōri* in heaven and earth, but when a postulated *jōri* pair did not match the facts he would look for another pair, or even propose an elaborate theory to explain the apparent discrepancy. He was not at all prepared to consider that his *jōri* theory itself might be mistaken. This may seem uncharacteristically arrogant of him, and he certainly took some pride in the "discovery" of *jōri*. But he would claim that he simply came across it as a consequence of taking heaven and earth as his teacher. Anyone who did this would find it too if they looked hard enough, with "far-sightedness":

Those who read Gengo well do not need to read Zeigo. Heaven and earth are there already. [Preface 12]

His admiration of Asada Gōryū [see the letters in the Appendix below] and his frequent mention of Kaitai shinsho ("New Book on Anatomy") show that he believed that others had taken heaven and earth as their teacher, with marvellous results in astronomy and medicine.

The strain of adhering to *jōri* in the face of evidence which would not fit is evident in his perplexity about the heliocentric theory which contravened his *jōri* cosmology. The postulation of "foursomes" rather than pairs, mentioned in Chapter 5.2, is another example.

Baien's success with realism was limited by his circumstances, namely, by the gaps in his scientific education, and by the limitations of being a pioneer in his kind of philosophy. *Gengo* is the result of years of labouring to analyse the universe in accordance with realist principles, "*jōri* is heaven, seeing opposites is man". As his commitment to it becomes stronger and stronger he humbly puts his failures down to his inadequacies as a scientist, particularly in astronomy and mathematics.

He does not support the claim that the universe has this *jōri* structure, that claim cannot be supported. It cannot be supported because the claim, that any particular pair of phenomena ~~is~~ an instance of a universal ordering of the universe according to *jōri*, cannot be refuted. Because we are not given any clear idea what it would take to refute the claim, it does no harm to his system of nature. This logical invulnerability may account for misinterpretations on the part of some fans and some critics, the fans who would like to see *jōri* as a mystic revelation, and the critics who see *Gengo* as an arcane scripture lending mystique to a triviality. Baien was no mystic. His theory is saved because *jōri* served him tolerably well as a linguistic tool in his searching analysis of the natural world.

As the system progressed, *jōri* became more and more a mechanism for generating terms. So it could be tempting see a tension between dependence on language on the one hand, and Baienian realism on the other. But I would disagree. There was no contradiction between his realism and the essential role of language in his system. The linguistic mechanism called here "the *jōri* shift" produced most interesting results when applied to his realist theory. This relation between language and reality will be discussed in the next chapter.

norms, sages and realism

The difference between the Confucian tradition and Baienian realism lies in a shift in the norms. Nominalism* might be characterised by saying that the sages set the norms. Baien would deny that the sages set the norms, but he would not deny that reality is normative. He says that heaven and earth sets the norms. When he says this, he believes that *jōri* and its complex linguistic mechanism sets the norms, because for him the norms of *jōri* are the norms of heaven and earth. Baien was not the only Edo thinker to look to heaven and earth, in 1730 Nishikawa Seikyū had said "Even the words of the ancient sages are useless when they do not fit the phenomena of the earth and sky." [Nakayama 1969 111]

Those of us whose Western background has accustomed us to distinguish "ought" from "is", and to mark off ethics as a separate field of enquiry, find we must readjust when we read the Chinese scholars. They seldom make such a distinction, but we learn very quickly that we cannot infer from the fact that they mix human affairs with other concerns that their thought is primitive or confused. When I say "the sages set the norms", this does not mean they set them by telling us what to do or by their own living example, although no doubt that is sometimes the case with the ancient Chinese sages. A simplified picture of the role of the sages, derived from reading Sorai and Baien, is more like this:

The sages, be they early kings, or scholars such as Mencius and Confucius, tell us what things are, how to name things correctly. They teach us what benevolence is, or loyalty, or filial piety, or the shape of the earth, or what thunder is. Likewise we learn from them that overindulging one's children is not benevolence, that flattery is not loyalty, that the earth is not square or that thunder is not the beating of a great celestial drum. When we follow the norms correctly, things go well.

Things will not go well if we do not recognise the virtues, and they will not go well either if we confuse the unreal with the real.

Baien's *jori* theory clearly supports the thesis that I shall discuss in the next chapter, that a clear distinction between the real and the merely conceptual is compatible with the fact that the way the world is not independent of language. We can still call this realism, because in the sense that matters, the cutting up of the world is determined for us. The brand of "nominalism*" that contrasts with this realism is the view that the cutting up the world with names is quite arbitrary. This only accords with the doctrine that it is the sages who arbitrate if it means that the sages are "only men" and there is nothing absolute about their ways of naming.

Baien's firm commitment to realism, and the resulting thralldom and benefits of *jōri*, tell us much about the real. In the next chapter we shall consider this notion of the "real world" in the light of features thrown into relief by Baien's system.

Summary of Chapter 9

1. The ancient Chinese texts were very concerned with naming the things of the world. The sages were those men, whoever they were, with the authority to decide how things were to be named. The Lao Tzu school is interpreted as saying that this cutting up is arbitrary, as only the mystical uncarved block is real. For the Confucians the focus was on naming conventions established by the sages to regulate society.

The Japanese Confucian, Ōgyū Sorai, identified the sages with the early kings of antiquity. From reading Baien one might easily receive the impression that the Confucians stipulated that the sages were to be followed regardless of what they said. Despite Baien it is very likely that Sorai was claiming the existence of an absolute rational order, which the sages followed because they were superior men, and that he did not maintain that the order was correct just because the sages laid it down. Sorai's antiquity was no less a Utopia because it lay in the "historical" past, and not in the future

2. The Chinese Neo-Confucians are characterised as debating the relation between *li*, "principle", and *ch'i*, "material force". To the extent that Chu Hsi, the most influential of them, elevated *li* above *ch'i*, it was because of the Neo-Confucian tendency to seek a unifying principle that would unify all aspects of knowledge. Another aspect of the doctrine of the Chu Hsi school was a call for a return to Confucian pragmatism. But although they spoke often of "the investigation of things", we find here neither the sort of investigation, nor the sort of things to be investigated that might have encouraged science and technology. The requirement of a single unifying principle inhibits practical science.

3. Baien's *jōri* is not a one-liner, but a complex guide for endless unfolding of the fabric of the universe, and much more fruitful than the vague unifying *ri* passed down from the Chu Hsi school. The *ri-ki* debate lost its significance in the intricacy of Baien's system.

Like many other Edo scholars, Baien cannot be classified as either Confucianist or nativist.

The distinctive feature of his system is his realism, heaven and earth is there to discover before our very eyes. In contrast to other system builders he concentrated on the details of the structure of nature, sometimes correcting his own mistakes, and standing to be corrected on many of his claims.

His realism was both hampered and helped by his *jōri* system. It was hampered because he did not allow that his *jōri* theory itself was corrigible. It was helped in that *jōri* provided a useful linguistic tool for an analysis of nature that had not been carried out before. I shall argue in the next chapter that language and reality cannot be separated, and that this interdependence is not only consistent with realism, but necessary for it.

Chapter 10: REALMS OF REALITY

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Introduction

In this chapter I shall take some of Baien's central ideas along a route we could take them without being unfaithful to Baien's realist commitment. Although Baien himself does not ~~say~~ state them in so many words, the Gengo system supports the premises:

1. There is a sharp non-arbitrary distinction between the real and the merely conceptual.
2. There is no unique schema of reality.

To create some order among the several points to be argued, and the several others to be suggested, the chapter is divided into two Sections. Much of the discussion in Section II depends upon the points argued in Section I.

In SECTION I, I shall discuss the consequences of adding to the first premise above as follows:

- 1.1 There is a sharp, non-arbitrary distinction between the real and the merely conceptual.
- 1.2 The non-arbitrary distinction between the real and the merely conceptual depends on language.

I shall argue that any theory that characterises the distinction between the real and the merely conceptual as non-arbitrary is properly called a realist theory, and also that it is not inconsistent with realism to assert further that the non-arbitrary distinction depends on language. On the contrary, a commitment to realism is strengthened by claiming language as its source.

In SECTION II my thesis is less conclusive. Again I add to a premise supported by the Gengo system, and in a similar way:

- 2.1 There is no unique schema of reality.
- 2.2 The non-uniqueness of reality depends on language.

Here, on the basis of SECTION I, I shall propose a rough outline of a theory of shifting realms of reality. I shall sketch out how such a theory might run, but it will not be presented here as a refined philosophical tool. The object of the discussion will be simply to make the point that a realist theory need not claim reality to be unique. The impetus to think along these lines was provided by the "realm shifts" of the *jōri* system which were analysed in Chapter 3. This suggested a way of seeing reality as non-unique without sacrificing the fundamental feature of realism, namely, that what is real, and what is not, are matters over which we have no control. The extent to which Baien relies on language to make his realism work, even though he did not fully appreciate it himself, offers a vital clue to the way a theory of shifting realms might run.

SECTION I

Baien would not have agreed with the bald statement that I have added to his realism, namely, that the distinction between the real and the merely conceptual depends on language. This is because language is subsumed under MAN, in the *jōri* pair, <heaven and man>, and man is a very small part of heaven and earth. However, as Chapter 3 shows, both the *jōri* shift and the whole pair shift do in fact depend on linguistic functions.

In Chapter 3 there was much about language by way of example, in connection with the *jōri* shift. In Chapter 4 the discussion of language was confined to Baien's own explicit but fairly rudimentary theory of the relation between words and the things they name. In outlining the present theory of realms of reality, the first task is to find a much broader definition of language.

Next it will be argued that among the wide variety of things that may be said to be given with language, and thus beyond our control, is the distinction between the real and the merely conceptual. I shall argue that not only does this distinction require language, it is also required by language.

I shall finally consider what is involved in a thing's being real, and what is not involved, insisting that at the heart of any realist theory lies the conviction that it is beyond our power to alter the reality of a thing.

10.1 reality is normative

Baien is right that we are not free to arbitrate about the distinction between the real and the merely conceptual. If we were to confuse them beyond a certain point we could not even take care of ourselves, and as he says, "heaven and earth is the teacher".

At the end of the last chapter the idea was put forward that reality is normative. The Confucians might have said that the sages set the norms for distinguishing the real from what is not real by giving names to the things of this world. This is not usually distinguished from the Confucian line on ethics in which the sages have set the standards whereby we can judge what is right and what is not. It may seem that Baien rejects Confucianism on the grounds that reality is not normative. Not so, Baien rejects the Confucian view by saying that it is not the sages that set the norms, but heaven and earth.

Although "moral" and "factual" judgments differ in the fields of experience to which they apply, the Confucians were not misguided in thinking that both kinds of judgment have norms, they do. They were misguided to the extent that they believed the norms to be the same for both fields.

The point that matters is that whatever their source, there is an important sense in which norms or standards are not within our power. Furthermore, this is so whether the judgments to be assessed are moral or non-moral. We can see this from a consideration of error, or failure to comply with norms. To be wrong or to be mistaken is to fail to meet some standard.

Mistakes in judgment have two aspects. Firstly, judging is a deliberate activity, that is, making judgments is up to the individual, that is why we are responsible for our mistakes. Secondly, there is an aspect of mistaken judgment that is not up to us. The norms by which judgments are assessed as mistaken are not a matter of choice, they are already "laid down". So whether or not we make a judgment is up to us; but whether a judgment is right or wrong is beyond our power, it is out of our hands.

Now, although a norm is "beyond our power", this does not entail that it does not originate with us. Even should the norms originate in ourselves, they are not within our power under the conditions that prevail when we make mistakes or judge correctly. In the extreme case of rules we make for our own behaviour, such as rising early, failure to observe them may be judged as moral failure just to the extent that we regard the rules as inviolable at the time. To break a rule we must be given something to break. In fact, standards or rules that are not "given" in some way are not standards or rules at all.

It will be argued here that the norms for what is real do originate with ourselves to the extent that they are given with language. But because the norms are given, the matter of whether or not our judgments about what is real are mistaken is not within our power, the matter is out of our hands. In the argument that follows, it is important to emphasise that even though the norms by which we judge things to be real originate with us, because they are part of our language, these norms are laid down with language and we, as individual language users, are not able to change them.

10.2 language

Natural languages are distinguished as "Japanese", "English", "French" and so on. From this we may begin with a general notion of "natural language", which people speak and write; and some useful general notions such as "word", "sentence", "word order", or "inflection", without claiming any of these to be free from controversy.

To find a working definition of "language" for this discussion it will help to use the metaphor of a plant with deeply and widely ramified roots. There will be limits to this metaphor, a more sustained and detailed metaphor would require a specific theory of language.

The plant is most clearly distinguished by what we see above ground, a rich community of branches, leaves, flowers, fruit and so on. When we learn a foreign "language", the rich garden of linguistic phenomena that we are taught, and that we find in grammars and dictionaries, is like the plant above ground. The well-known comprehensive Japanese dictionary is aptly named "Vast Garden of Words" (*Kōjien*).

But we know very well that the plant continues on beneath the ground. First we have thick taproots that are easily exposed. Without these the plant would die. In the case of learning foreign languages, for instance, although certain obvious differences between one language and another are noted and taught, such as word order, grammar, and of course vocabulary, the student learns more than this. Take word order, for example. The word order is not all taught explicitly, the student just "picks it up". Japanese students need not be told that English articles precede nouns, nor English students that Japanese particles follow them. Or again, the English grammar books do not tell us that size adjectives come before colour adjectives, so that we do not say "a red big truck". We cannot speak a language without observing some rules about word order.

Much of what is involved is beneath the surface. Even the very notion of a "word" may be the subject of a deep investigation, not to mention the different functions of words. In speaking, listening, or writing, words are ordered in time, but in many, if not all languages we also think very spatially. Very common usages of English prepositions are spatial metaphors: "in", "between", "at", "from", "on", "under", "by", "besides", etc. People mime spatial relations with their arms as they speak. From this it can be inferred that some tendency to spatial organisation is found in the roots of the language plant. The plant we see above ground would be very sickly and wilt without this subterranean spatial and temporal organisation.

Plants not only grow upwards from seed, roots and tubers, they put down roots too. Subsidiary roots ramify all over the garden plot, but there may be no clear point at which a base root becomes a subsidiary root, so that it is difficult to tell the point where it would

be safe to snap off the roots without killing the plant. The question of which features of language are universal, feeding vitally upwards into surface language, and which are the result of the roots put down from specific language usage, is one for investigation by the appropriate linguistic specialists.

For instance, is the sentence a necessary unit of language, or merely a convenience that most natural languages possess? It has been suggested that classical Chinese could function without sentences because it did not use the "concept of semantic truth". (See Chapter 4.3) Or to take another possible example, does the necessity for English speakers to inflect verbs according to tense mean that they come to think more temporally than speakers of Japanese or Chinese, in which tense markers are less mandatory?

The plant cannot survive without some of this network of roots, other parts of it are dispensable. Likewise, speaking requires some linguistic operations beneath the surface, and others are not always required. But dispensable roots are still plant parts, just as deep features of language that are not always required are still parts of language.

Thought is like the soil. The visible surface of soil is the thought that is apparent when we speak. But the soil is a living mass of substances constantly interacting through the work of enzymes. Once a plant is put into the plot the soil is never the same again. The soil feeds the roots, the roots themselves displace and enrich the soil. Once we have language, our thought is never the same again.

The marked difference between young children and those misdescribed as "in second childhood" is a vivid illustration of the permanent change wrought by the acquisition of language. Old people in states of mental deterioration so acute that they require constant care and supervision show little loss of their own natural language, and may show superb skill in linguistic performance, in contrast not only with a young child, but even with a fairly advanced child or young adult. Their reading fluency may be never better, and the freedom from the constraint of distinguishing fact from fantasy may seem to improve the flow of their spoken narratives. As we shall see later, what the child has already begun to acquire, with his or her first words, and the senile person is losing, is a certain knack, that of distinguishing between the real and the merely conceptual.

We cannot dig anywhere in the soil without disturbing the roots. Likewise we cannot inspect thought without inspecting language. From the tapering subsidiary roots grow thin hairlike fibres that intermesh with the soil directly. These become so fine that we cannot distinguish them from the mass of soil, there is no clear point where they cease to be part of the plant and become part of the soil. There is no clear point where thought does not involve language, the boundaries are indiscernible.

Whatever thought is, it is not silent speech. We do not find living leaves or flowers underground. We labour to find words to express our thoughts. There is an analogy with music here. It is said that when Stravinsky conceived of the Rite of Spring he did not know how he was going to write it down. Before he wrote it down, he had, to some

extent, composed the music. But it would be a great mistake to refer to this as silent or ghostly music, as from a secret transmitter playing or sounding "in his head". For example, we should not expect him to take exactly the time to run through it in his head that it would take to play it through. Likewise, speech is above ground, so to speak. We have thoughts that involve language vitally, but they should not be taken as mental speech. The parts of the plant below ground are on the whole very different in kind from the parts above.

Nor is thought to be identified with language in this broad sense. However intermeshed, the soil is not the plant and the plant is not the soil. There may be some soil unaffected by the plant, that is, some thought unaffected by language. For one thing, we may wish to use "language" to exclude communications or conceptions such as music, that cannot be expressed in words, in contrast to communications that are very cumbersome to express in words, such as mathematics. Music, but not mathematics, might count as thought without language. Again, there may be other forms of mental life, such as animal dreams, that involve some kind of languageless conception. Because we have language, when we are searching for something, our conception of the object of the search usually involves language. (We entertain at least a vague conception of the object, individuated in such a way that it will be in a place, that a single object will only be in one place at one time, that it is possibly in this place, possibly in that place, and so on.) But this need not mean that hungry polar bears could not have some kind of conception of food when they are hunting. Such conceptions, if they should have them, would not involve language.

No purpose is served here by marking off some features as "logic". The metaphor of a language plant should be vague enough to admit either the view that not just "syntax", but all lexical meanings have a logical structure; or the converse, that structural logical terms have meaning.

Because so much of the root system of language is deep and obscure, it is very possible that once one has language, everywhere that one could use language in thought, one does. This does not imply that if one did not have language one could not think at all, even in situations in which we now always think linguistically.

The range of this definition is very vague. If a phrase like "human rational activity" were substituted here for "language", we should then have to use some notion of "thought patterns underlying speech". "Language" seems a happier term for what is nowadays the subject of much linguistic research. I am using "language" here to cover a very broad range of phenomena: words, grammar, logic, ordering of words or symbols in space and time, and so on. So far as the present topic of realms of language is concerned, no claim will be made about language that does not fall clearly within these borders, that is, that does not involve something which is definitely at least a root of the plant.

At first sight, the thesis that reality depends on language may seem hostile to realism, even in this broad sense of language. I hope to show that in fact such a thesis offers the strongest support for realism that one could wish. It is never a matter of whim that a thing should be real, and not merely conceptual, for the reality of the thing is genuinely given to us with our possession of language.

To show this we must emphasise that when we use language many linguistic functions are given with the language, in contrast to other linguistic operations which we perform more freely and creatively. For example, we can decide, if we are competent, to speak either English, Japanese, or French, or a mixture of these such as "champon" or "Franglais". We can choose our words and style, we can invent words or use an "artificial" language. Yet many features of these languages, even the artificial ones, are given with language in general, if not with the particular language. If we invent a language, its specific lexicon, grammar, word order, etc, need not be given, but some things will be. These are the very things that make us want to call it a language.

Contrast, quantification, negation, modality, for example, are not within our power to invent, they are given with language. The capacity to use and interpret the voice is given, so is the capacity to make and understand signs. The notion of a word is given, but we may not choose even to use words, but to think or work instead with only the roots of language, such as when we perform wordless mathematical operations in our heads.

In Baien's case, his construction of *jōri* pairs, his lexicon, his decision to use contrast, and the *jōri* shift were all within his power. But the mechanisms of contrast and meaning shift are not themselves his invention, they are given with natural language. [Chapter 3]

In the account that follows of what it is for a thing to be real it is going to be very important that there are given linguistic functions that are outside our control as language users, that are unalterable and not up to us. The thesis I shall put forward is that among these "givens" of language are criteria for distinguishing the real from the merely conceptual. The criteria for the distinction are imposed with our language, which, by the very nature of language, must be shared. So necessarily, anyone using the same language correctly and confronted with the same object must make the same distinction.

Furthermore I shall claim that being real is nothing more than being distinguished as real. Consequently, as making the distinction depends upon the givens of language, which are not up to us, whether a thing is real or not is likewise not up to us.

10.3 reality

Frederick Copleston defines realism as the doctrine that "Knowledge is a relation between a subject and an object that makes no difference to the object". Although many realists would say that reality does not depend on language, the thesis that it does depend on language still falls within this definition.

My use of Copleston's definition may give the impression that the realism I am speaking of is basically a doctrine about knowledge, rather than a doctrine about the things themselves that we may or may not know. In other words, it may give the impression that I am talking about what it is to know, and in a way that then leaves unanswered a further question of how to characterise the things that we know. This impression is false even with the cases that Copleston's definition is most likely designed to cover, such as Western scholastic realism in comparison with Western scholastic conceptualism, and it is certainly not my intention here to discuss epistemology rather than ontology. Equally certainly it was not Baien's intention with his Gengo project either. Rather, by using Copleston's "subject" and "object", I wish to argue simply that when we speak of things being real, we are speaking of a relation between ourselves as thinking, language using subjects, and objects which we do not affect at all by having that relation to them.

For the theory of realms of reality outlined in this chapter we need to establish that:

1. reality and language are interdependent;
- and
2. the interdependence of language and reality is compatible with realism.

10.31 reality and language are interdependent

I shall argue for the interdependence of reality and language by establishing two separate points:

- 1) reality requires language;
- 2) language requires reality.

In putting the cases for each of these, there is much more to be said about 1). Once 1) is well worked over, the case for 2) can be made more quickly.

Reality requires language because a thing is not real unless it is distinguished as real by a language user. The argument for this will be presented as follows:

- (1) To be real is nothing other than to be distinguished as real.
- (2) Given: If a thing is distinguished as real, the distinguisher is able to distinguish it as real.
- (3) To be able distinguish a thing as real, the distinguisher must be a language user.

Therefore:

- (4) A thing is not real unless it is distinguished as real by a language user.

Therefore

- (5) Language is required for a thing's being real.

Premise (1): To be real is nothing other than to be distinguished as real.

In introducing the case for Premise (1), it is possible to examine, by means of contrast and comparison, what it is we do when we distinguish a thing as real, without discussing the role of language which will need to be examined later when putting the case for Premise (3).

Taking the negative case for Premise (1), let us begin with a single oversimplified example. We might say that one criterion for the reality of a visual object, a tree, is that other people can see it too. This criterion might be sufficient, or it might be one of a cluster, or a disjunction, or a priority list of criteria. The blind, for instance, would not be satisfied with our single criterion. But even to the sighted, establishing that a tree is real is not establishing what it looks like. What is observed when we see how it looks, or even that it is a tree, is not at all what is observed when we "see" that it is real.

As a grammatical modifier, "real" does not distinguish one thing from another as "blue" or "French" does. And this is not because the meaning of "blue" or "French" is fairly self-contained, whereas "real" depends on its immediate context. For the meanings of many modifiers such as "little", "foreign", and "same" depend heavily on their immediate context too, but they may nevertheless distinguish one tree or elephant from another, one country or food from another, or one place or person from another. "Real" does not, however, distinguish one person from another artificial, imaginary or toy person, because artificial, imaginary and toy people are not people at all, just as a dancer miming a robot is not a robot at all.

When we consider what we have not done when we have distinguished something as real, we could do no better than agree with some traditional accounts of what we are not doing when we say that a thing exists, most notably that of Immanuel Kant. Discussions of existence tend towards the truth of existential statements, rather than towards the application of terms to things. [See the discussion on names and truth in Chapter 4.3.] However, because knowledge of what it is for something to be real is not knowledge of some feature which that thing has in common with other real things, Kant's famous statement of what it is to say that a thing exists applies also to saying that it is real:

By whatever and however many predicates we may think a thing -- even if we completely determine it -- we do not make the least addition to the thing when we further declare that this thing is. [Critique of Pure Reason, trans. Kemp-Smith 1929 505]

Like "exists", "real" does not refer to a property that several things might have in common. And if so, as Thomas Bestor has pointed out to me, several things cannot have it in common that they lack that property. For instance, a remembered pain, a feared pain, an imaginary pain and a dreamt pain are not alike in that they all lack a property that a real one has.

It is all very well to show that the reality of things is not a property of them in this way, it still remains to be shown that their reality is nothing other than their being distinguished as real, that their reality lies entirely within this relation with the distinguisher. We could of course call this an "extrinsic property", or a "relational property" possessed by the thing, but that would be merely playing with words. The reality of things is a unique relation between those things and ourselves. And most importantly, it is a relation with which we are all very familiar.

Jonathan Bennett has criticised an argument in Locke's theory of perception on grounds that might be paraphrased in the terms of this, otherwise quite different, discussion. That is, Bennett says that it is not enough to say that there is a difference between one group of experiences, that we might call experiences of real objects, and another group, that we might call mere conceptions. The fact alone that the experiences are different does not show that one group are experiences of real objects and the other not. To use Bennett's example: "the mere fact that what is commonly called "imagining the sun" differs markedly from what is commonly called "seeing the sun" does not imply that the latter experience is, at least sometimes, a seeing of a real sun." [1971 65]

Bennett's argument is perfectly correct. In the present discussion we need to add that a certain unique relation is set up in the latter case, and not in the other. Against this particular point of Bennett's criticism, I believe that Locke in fact conveys this relation clearly, and does indeed say more than that the two groups of experiences are different.

For instance, he indicates the nature of the difference with the word "force" in these lines:

there is a manifest difference between the ideas laid up in my memory... and those which force themselves upon me... [An Essay Concerning Human Understanding IV:11..5]

Neither Locke's theory nor any other theory of perception is a major concern of our discussion. Nevertheless I would go so far as to claim for *the distinction between the real and the merely conceptual* what Locke claims for *perception* in the following lines (my italics):

What *perception* is, every one will know better by reflecting on what he does himself, when he sees, hears, feels, etc., or thinks, than by any discourse of mine. Whoever reflects on what passes in his own mind cannot miss *it*: and if he does not reflect, all the words in the world cannot make him have any notion of *it*. [II:9.2]

Locke is imploring us to inspect this difference by an act of introspection, and if we do this, how could we possibly see that there is a difference, and the same kind of difference every time, without being aware of the nature of the difference? The difference is clearly seen to lie in the content of that very awareness.

Because the reality of a thing is not a property of a thing we come to the negative conclusion that its reality is not a feature which distinguishes one thing, X, from other things that do not have that feature. So should we say then that to say "X is real" is not to make a distinction at all? We are not obliged to say this. On the contrary, the distinction is one we make constantly. We could rewrite the fake riddle in the Christmas cracker:

"What is the difference between a loaf of bread and a dictionary?"

"I don't know."

"I wouldn't send you to buy a loaf of bread."

For the new, serious version we change the first line to "What is the difference between a real loaf of bread and an imaginary loaf of bread?" And if it was actually true of any person that he or she did not know the difference we certainly could not send them to buy a loaf of bread. However, if the second version came up in the cracker, answering the question would turn the dinner table chatter into a philosophical discussion. That is because knowing a thing to be real, that is distinguishing it as real, is a special kind of knowledge. It is difficult to express this experience with which we are so intimately familiar because it is non-propositional knowledge, that is, it is knowing something that cannot be expressed precisely in a proposition or sentence that is definitely true or false.

Non-propositional knowledge: As with other linguistic functions that are so deeply rooted we do not normally examine them, it is not easy to convey in words what it is like to know that something is real. It will be a matter of bringing into focus experiences with which we are all intimately acquainted. In this respect to be able to distinguish a thing as real has significant parallels with knowing who we are, in a specific sense of "knowing who one is".

There is of course a weak sense of "knowing who I am" that is in principle what you know when you know who I am, my name and biography. But in the sense of "knowing who I am" that matters, both theoretically for this discussion, and vitally for unfortunate individuals who lose this knowledge, it is not a matter of being able to describe myself. In this sense, "I know who I am" is not isomorphic with "I know who you are". Knowing who I am is more like a faculty I possess.

Before she knows who she is, a person needs to identify herself with the person referred to as "you", "she", or by some name or description. This identification cannot be expressed in words without a vicious regress. (A little voice says: "Wait for me!" "Who's me?" "Me".) What we know when we know who we are is irrevocably personal. Suppose some people seated around a table are asked to speak in turn, starting from the left. Jack knows, as everyone does, that Jack should answer when it is his turn and that this will be when Jill, who is seated on his right, has finished. But Jack needs to "know" more than this. When he realises "It is my turn now", he needs also to make an identification that no-one else can. To say he knows who he is, is not to say he has a piece of knowledge that such and such is true, which others might share. Self-identification is not the sort of knowledge that can be expressed propositionally, "I am Jack" is only true or false relative to who says it, and it does not mean "Jack is Jack."

Self-identification is not the only kind of knowledge that has this affinity with distinguishing the real. There are other cases of knowledge that cannot be expressed propositionally, because they are acts of recognition. For example, realisation may fail when people put aside money for a rainy day, or the best silver for a special occasion, yet refuse to count any day rainy enough or any occasion special enough. They may accept both that the money or the silver is for the rainy day or the special occasion, and also that today is such a day or occasion, but they fail to recognise that today is that day, the time is now. In the film Being There, Peter Sellers plays a pathological television watcher. He knew well what a mugging was, but when he himself was mugged he looked first with delight and then with amazement at his attackers, because he failed to recognise that the mugging was "here". To him, watching someone being mugged was like watching a mugging on television, because he had yet to learn the sharp distinction between a mugging depicted on the screen and a mugging here, now, a real mugging. (Incidentally, this experience held an important lesson for him about the real, in that it was not within his power to alter the reality of the event by pressing the remote control button, or by any other means.)

These cases of failure to recognise the here-and-now of muggings, rainy days or special occasions, or to identify oneself with the person of whom something is required, are not gaps in propositional knowledge, they cannot be remedied by hearing or reading direct

statements of the missing knowledge. And such a remedy is not available either in cases of failure to distinguish the real from the merely conceptual. Someone might object that "this is not real" does provide a remedy in cases where "this is not real" means, not "this does not exist", but that this is not a real X, that this is a toy X, a fake X, or an imitation X. Is this a completely different sense of "real"? I do not think so, for in all these cases our conceptions are necessarily involved. Toys, fakes and imitations all involve the possibility of mistaking the mere conception of an X that the toy, fake or imitation is designed to produce, for a real X. They require us to have a conception of an X, and they require us to be able to distinguish between a mere conception of an X and a real X, whether we do so or not.

We might say, too, that distinguishing a thing as real is an act of recognition. We are apt to think of the pathological case of a person who firmly believes there is a loaf of bread on a bare table as someone who is doing something that we normal people would not do. But for the analysis I am making here we should see it as a person failing to do something which we do all day long, that is, failing to perform an act of recognition of the kind I call distinguishing the real from the merely conceptual.

I have already made the negative point that "real" does not refer to a property, such as "blue", "hollow" or "acid", that things might have in common, or differ in respect to. Next I have suggested that knowing, or distinguishing a thing to be real is "non-propositional" knowledge, in the way that knowing who I am is non-propositional knowledge. Knowing who I am is being disposed to make a certain kind of act of recognition, in this case, of self-identification. Distinguishing a thing as real may be described as non-propositional knowledge in that it is also an act of recognition of some kind.

Usually, but not always, this "act" is an automatic and unnoticed response. Nevertheless it is a reasoned one, somewhat in the way that many responses we make while driving are automatic and unnoticed, yet they are the result of quite complex judgments. We also make judgments when we distinguish the real from the merely conceptual by acts of recognition, no doubts we are making such judgments constantly all our waking hours.

In this respect, that the act of recognising things to be real is a judgment, it is importantly different from an act of self-identification (as opposed to merely identifying a person) which does not seem to be a judgement. In contrast, to make a distinction is to make a judgment, and we judge things to be real or not according to certain standards or criteria. Reality has norms. There certainly are sets of criteria by which we distinguish whether X is real or imaginary; although we seldom formulate them, and in practice usually apply them not only rapidly but quite unconsciously.

We need now to return to that "negative" comparison between properties of things and the reality of things. There are criteria for judging things to have certain properties, such as blueness, solidity or acidity. There may be more than one criterion or set of criteria for determining the presence of one of these properties in a thing; nevertheless, for example, certain light conditions will help to test equally well or equally poorly the blueness of paint, the blueness of a dress or the blueness of a flower, the sound when tapped will be

an equally good test for the solidity of a great many different things, and litmus will test any liquid for acidity.

Because "real" does not refer to a property at all, the criteria for determining the reality of things are not only immensely varied and complex, they are significantly different in that the criteria chosen for making the judgment will not depend on anything called "reality" as those other criteria depend on blueness, solidity or acidity, but on the thing itself that is judged to be real.

The criteria for determining whether or not there is really a voice calling one's name, "Jack! Jack! Jack!" in the next room are very decisive. The matter is settled conclusively when Jack finds no-one there, only a dripping tap. Yet these criteria, however we might articulate them (and it could be a long task), will be mostly quite different from the criteria that determine whether or not there is really a face at the window, and my mind is not playing tricks; and this of course is simply because faces are so different from utterances of names. Yet these cases both alike involve criteria for the reality of things.

The case for Premise (1): Now the significant feature of criteria for the real, is that they are absolute. It is up to us to apply the criteria, and we may make mistakes in applying them, but we cannot change the criteria themselves. In the contrasting cases of criteria that determine the presence or absence of properties of a thing, review is in order. We might discuss the appropriateness of those light conditions for determining blueness, we might explain why it is that we can tell a log is hollow by tapping it, and the more ignorant of us might well question the efficiency of litmus paper in sorting acids from alkalis.

It is not like this with criteria for distinguishing the real. The criteria by which we judge a face, or an utterance of a name to be real or not cannot be revised. Or more accurately, if they should be revised, because someone believes that water can speak, or that faces are not always attached to heads, the case is a pathological one, someone has lost to a serious degree the ability to distinguish the real. Because non-propositional knowledge is involved, we cannot teach people what is real and what is not merely by telling them.

In the case of the light conditions, the tapping, or the litmus we can test the test, so to speak. But we cannot question or revise the criteria for the real, there is nothing to test them against. It does not even make sense to question them.

And why does it not make sense to question them? Because satisfying the criteria is exactly what makes the thing real or unreal.

When the criteria for the reality of a face fit all too well the face of a real balaclava and black clad burglar, try as we might we cannot prevent the green light, as it were, signalling "this is real", with all the consequences that recognition has for our subsequent thought and action. We cannot say sensibly "perhaps the fact that all three of us can see and hear him break the window does not count towards his being real after all."

Satisfying the criteria for the reality of a thing, that is, those criteria appropriate for the thing it is, is exactly what makes a thing real. This fact is consistent with the other observations I have made so far about what it is, or is not, for a thing to be real:

1. The criteria by which we judge a thing to be real are not a test for the presence or absence of a property. When the burglar decided to set out on his exploit, or when he decided to become a professional burglar, he may have decided to use, develop or acquire certain properties, among them he might wish his arms and legs to be deft and nimble, his eyes to be sharp, but never would he wish or not wish his face to be real. No doubt the burglar too sometimes has conceptions of his face, but in our story here, the object, the face, owes its reality to being distinguished as real by ourselves, the frightened subjects, by a certain set of unalterable criteria, including perhaps that the face is witnessed in a consistent way by others.

2. The criteria for a thing's being real are indispensable for its reality. That is why, although, as Bennett says, merely to say that imagining a sun is different from seeing the sun is not to say that what we see is a real sun, when we reflect on the content of the difference we do recognise the act of judging a real sun to be distinct from an imaginary sun, we do see that there are criteria, perhaps peculiar to the sun, and largely unarticulated, that are just what make it a real sun.

3. Moreover, because there is nothing to measure the criteria against, they themselves are the standard, so they are absolute. Hence Locke speaks of ideas being "forced upon us". (This is one way in which the unnoticed responses we make when driving differ from our responses to criteria for the real. The former may be clever or stupid, because there is a latitude of choice. The latter are not clever or stupid, but normal or deviant/pathological, because the criteria are fixed.)

4. An act of recognition of some kind is required. Because being recognised as satisfying the appropriate criteria just is what it is for a thing to be real, the criteria themselves cannot be justified, it would make no sense to try. To distinguish a thing as real, that is, to "know" that it is real, all that is required is an act of recognition that the object in question satisfies those criteria.

This "act" is an act of relating ourselves, as subjects, to things as objects. The reality of a thing consists in this relation, that is, as Premise (1) states, to be real is nothing other than to be distinguished as real.

Taking Premise (2), that to distinguish a thing as real the distinguisher must be able to distinguish a thing as real, as self-evident, we now move on to Premise (3), that to be able to distinguish a thing as real, the distinguisher must be a language user.

Premise (3): To be able to distinguish a thing as real, the distinguisher must be a language user.

Having said that the reality of a thing is one's relation to that thing, I shall now claim further that it is to relate oneself as a language user to that thing, and that the reality of the thing is nothing other than the relation of language users to it. The nature of this relation becomes clearer when we consider two features of it. Firstly, as I have just put forward in support of Premise (1), when a thing is distinguished as real, knowledge of a thing's reality cannot itself be expressed by language, it is non-propositional knowledge. Secondly, as I shall now argue, despite the fact that it cannot be expressed propositionally, knowing (in the sense of distinguishing) something to be real involves language.

Among our conceptions, some relate to objects in the unique way that distinguishes them as real, and the others are merely conceptions. To make this distinction we require what I shall refer to as "modal thinking"; and modal thinking requires language.

When we say that butterflies are real but fairies are not, we entertain possibilities. Again, the meaning of the sentence "In reality, that is red" would usually suggest an idea very different from the simple "That is red". We might be choosing between alternative conceptions of a car, normally red, but appearing orange under a street light. Likewise, we might compare knowing what milk in a bowl is like, with knowing that the milk is real, not illusory or imaginary. It is possible that not only cats, but also we who have language, may know what milk is like without using language. And this case is quite different from knowing that the milk is real. For knowing what milk is like need not involve entertaining possibilities, that is, thinking modally, whereas knowing that the stuff before us is real milk and not imaginary milk does involve modal conceptions.

Let us look more closely at this modal thinking. Entertaining mere conceptions is entertaining mere possibilities. In English, possibility often surfaces in auxiliary verbs like "may", "might have", "would" and "could", or in the subjunctive mood. When we think about whether fairies, are real, we entertain some idea such as "there may be fairies", or "there might have been fairies".

Our thinking is thoroughly modal in this way; we entertain possibilities, not occasionally, but constantly. Jack wakes up in the morning in terror. Then with relief he realises he is not blind, he was only dreaming that he was struck blind. If he spoke his thoughts he might say, "It may rain today, I wonder if it will? I wish I didn't have to get up. If the milkman has come I shall have breakfast, otherwise I shall take a mug of coffee to the study. Bill might come today, but most likely he won't. He could have at least rung me to say whether he would or not."

To make the distinction between the real and the merely conceptual of the kind that Jack is engaged in, we require modal thinking. Further, modal thinking requires language. In this small stream of thought Jack has entertained numerous possible states of affairs.

Now, entertaining any of these, even without uttering a word, involves language. Even when we do express such thoughts in speech, much that is linguistic lies beneath the surface, such as those functions that enable us to handle the words and phrases that are underlined above. It is plausible that these linguistic functions underlie our modal thoughts, even when we do not express them. For example, the conditionality in "if the milkman has come", the necessity in "I have to get up", and the probability in "most likely he won't" are evidence of considerable facility with logical operations.

The claim that modal thinking requires language becomes more plausible still if we try to distinguish, by thought experiment, three states of affairs suggested by the statements:

"There may be fairies",
"There might have been fairies" and
"There would have been fairies".

The three phrases have different meanings. Reflecting on the difference between them is not like reflecting on the difference between "This is red", "that is blue", and "that is green". We can choose between and distinguish red, blue, and green without knowing the names of the colours, or even a word for "colour", and perhaps such a comparison need involve no linguistic operation at all. But could we really contemplate those three different states of affairs involving fairies without invoking some underground linguistic or logical operations?

To contemplate the differences between the ideas expressed with "may be", "might have been", and "would have been" requires us to distinguish linguistic functions involved in modal thinking, each of these ideas has a linguistic aspect. To distinguish the real from the merely conceptual in this way we must entertain possibilities, think modally. So we can conclude that to be able to distinguish the real from the merely conceptual we must possess language.

Being able to distinguish between the real and the merely conceptual, between a real godmother and a fairy one, for example, contrasts with being able to distinguish between acids and alkalis. The promise of a decisive result from a litmus test is made by chemical features of acids and alkalis. The promise of a decisive result from a reality test is made by language itself. This is because to speak of reality is to speak of ourselves, as thinking talking creatures, of our linguistic experience, in a way that speaking of acids and alkalis is not speaking of ourselves at all. The fairy godmother is entirely the result of a complex conception. If we are to distinguish her correctly from a real godmother, we must acquire at least an intuitive mastery of the rules that distinguish one kind of conception from the other, and these rules are embedded in language.

Furthermore, Premise (2), that only language users can distinguish a thing as real, is reinforced by the observation that the same thing holds for those analogous kinds of "non-propositional" knowledge that are acts of recognition.

Who one is, that today is the day, that this is a mugging, involve a kind of knowledge that cannot be expressed in statements that are definitively true or false. Nevertheless, in all these cases language is involved. Those cases where recognition or realisation is required, recognising the here-and-now of a mugging, a rainy day or a special occasion, or understanding the reference of "you", and so on, all involve language to the extent that without language there would be no conceptions for identification with "this", "today", "now", or "me". Using linguistic functions, we must already have contemplated muggings, the rainy day, the special occasion, before recognising that "this" is one; and to know who we are, we must speak about ourselves, or understand when others are referring to us, or think over our own history, however meagre. Without language there would be nothing to recognise ourselves as.

This is not just because those acts of identification require conceptions, and once we have language all our conceptions involve language, although that is very likely the case. Rather, it is because there is no sense in speaking of a being without language making these identifications at all. Of course, animals can, for example, act in turn. Cows in a milking-shed can master complicated routines, sometimes showing quite remarkable intelligence. Nevertheless, I should need considerable convincing that a cow performs an act of recognition of the kind that Jack does when Jill has finished speaking, when he thinks: "it's Jack's turn and I am Jack". I am not suggesting that specific strings of words are involved, such as "the rainy day", "a special occasion", "a mugging", or personal names, but that some linguistic operations must be involved when one deliberately saves money, puts away the best silver, or knows who one is.

In this sense a dog does not know "who he is" when he answers to his name. (It may be relevant that although fastidious grammarians forbid the use of personal pronouns for animals, I could not do without them in this example. "What it is" would not do at all.) Response to its name is a conditioned reflex. We have such reflexes too, but they are not what we rely on for self-identity. Self-identity involves language. With ingenuity there are many questions we can ask a dog: "Where is the ball?", "Do you like cake?", and so on, but "Who are you?" is not one of them. For example:

Bow, wow, wow!
Whose dog art thou?
"I'm little Tom Tinker's dog,
Bow, wow, wow!"

Beatrix Potter's rhyme derives its appeal not from the anthropomorphism of the dogs' uttering words, they utter very few, but because they do so to accomplish an act peculiar to language users, that is, an act of self-introduction.

So it is when we recognise the sharp unalterable distinction that tells us an object is real. Using language, we have already entertained the possibility or conception that has passed the test. Sometimes we are mistaken, but not too often. Without the need to distinguish mere ideas from reality, we should have no need to know the sharp distinction between them. And without language, the question of being able to recognise things as real does not come up, there is no fact to ask about.

From the three premises: (1) to be real is nothing other than to be distinguished as real; the given Premise (2), that if a thing is distinguished as real, the distinguisher is able to distinguish it as real; and (3) to be able distinguish a thing as real, the distinguisher must be a language user; Premise (4) follows, that is, a thing is not real unless it is distinguished as real by a language user. Hence, we can come to the conclusion, (5), that reality requires language.

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All things considered, it is not surprising that distinguishing the real requires language, because it is also a prerequisite of language. The two are inextricably related. (In the present discussion we can leave open the question of whether or not some kind of languageless conception is possible, so long as we assert that there is no conceptionless language.)

We have acquired the knack of seeing a thing as real and not merely conceptual, a skill of recognition, of "realisation", because we have language. Because we have language we have conceptions, and because we have conceptions, if we did not have that knack, toying with possibilities would be disastrous, as it is sometimes with people who lose the ability to distinguish the real.

Now, it is in the very nature of a conception that it does, or does not, apply to a real object. To put the case that language requires reality, we must now put aside those other analogous cases of "non-propositional" knowledge. They are all parallel in the way conceptions are handled, and they all require language. But the cases diverge at the point where we begin to consider the extent to which language requires them.

For instance, it is only some language users, on some few occasions, whose use of language requires them to identify a day as the rainy day they have been saving for, or an occasion as the special occasion for using their best silver.

Admittedly, the features of language that require me to know who I am are very pervasive, such as, when I am addressed as "you", when it is "my turn", the habit of identifying with a story I believe to be true about myself, and so on. Nevertheless, language does not always require me to use this skill. It is sometimes possible to understand and evaluate what others have said or written, and to speak intelligently, without calling into play the skill of knowing who I am.

In contrast with those cases, the very possession of language itself requires us to distinguish between the real and the merely conceptual. The relation of language to the distinction between the real and the merely conceptual is so intimate it is difficult to analyse. I would challenge anyone who doubted this relationship to indulge in a few thought experiments. Could you really imagine an entire language that had nothing to do with anything in the world, that is, could you imagine a competent language user who had

never applied words to the world? Could you imagine learning a natural language if most people, most of the time, did not speak the truth, that is, if most sentences like "Your red hat is on the table" did not refer to things correctly? (Your not my, red not blue, hat not coat, on not under, table not chair.) From the fact that there are some uses of language that do not require us to apply the distinction between the real and the merely conceptual, it does not follow that there is no such distinction, or that language could exist without it.

When it is said that language requires that things should be real, it is important to keep in mind that being real is being distinguished as real. It is nothing beyond that, for being distinguished as real is quite enough. According to a rather extreme theory someone might assert that being blue is nothing beyond being distinguished as blue. But even if this should be so, distinguishing a thing as blue is a very different case from distinguishing it as real. For we could possess language without distinguishing things as blue, but we could never possess language without distinguishing some things as real.

The distinction between the real and the merely conceptual is given with the very nature of conceiving, for us to apply when we are so moved. At times we fail to distinguish the real from the merely conceptual. The possibility of such errors depends on their being norms that are not up to us. These criteria are in our language, but beyond our control as users of the language. We must apply them if we are to distinguish the real from the merely conceptual. Those who make too many mistakes require the constant care of others for their survival. (We may be able to imagine a being whose only linguistic function was purely passive contemplation, something like reading the lexicon only of a dictionary. Such a being might never use the distinction. But we are not like that, even if all our survival needs were cared for, we should have had to distinguish between the real and the merely conceptual to learn language, and hence to read.)

So far we have made two points separately. Firstly, reality requires language, because the reality of a thing lies in nothing ^{but} its being distinguished as real in a way that requires language. Secondly, language requires reality, because the conceptions that are necessary for language demand the distinction between the real and the merely conceptual. This means that in the broad, but not uncommon, sense in which I am using the word "language", language and reality are interdependent.

10.32 the interdependence of language and reality is compatible with realism

Return now to Copleston's definition of realism as the doctrine that "knowledge is a relation between a subject and an object that makes no difference to the object". It follows from this definition that realism requires that there are cases in which having conceptions does not affect the object of those conceptions, and these are the cases in which the object is real. A realist doctrine must insist that objects are completely unaffected by our distinguishing them as real.

Not only do we not affect the objects, we have no choice as to whether or not we recognise them as real. Many philosophers have noted the involuntariness of recognising that a thing is real. Locke detects this involuntariness in "simple ideas":

... it is not in the power of the most exalted wit or enlarged understanding, by any quickness or variety of thought, to invent or frame one new simple idea in the mind ... nor can any force of the understanding destroy those that are there ... [Essay II:2.2]

Descartes sees it in "adventitious ideas", "the passions of the soul", in contrast to ideas of our own making, "the actions of the soul":

I am conscious that these ideas are not dependent on my will, and therefore not of myself, for they are frequently presented to me against my will ... [1637 Discourse on Method "Meditation III"]

When Dr Johnson kicked a stone, saying "I refute him thus", so far from refuting Berkeley, he gave a good illustration of how awareness of such an object depends on sensation, that is, in Berkeley's terms, on ideas, on the mind. Johnson did not appreciate that he was made to realise the reality of the stone not because the stone was "outside the mind", but because he could not avoid its resistance when he kicked it. For Locke the reality of the stone lay not in the fact that it was extra-mental, (and nothing was extra-mental for Berkeley), but in the fact that it was given. The point I want to take from Locke is that whereas some of our ideas are, as it were, within our control, others, like Johnson's idea of the stone, are forced upon us, they are unavoidable. This givenness of Johnson's conception of the stone was the feature that made it a conception of a real stone. The reality of the stone was a feature of its relation with Dr Johnson, as a language user who must distinguish between his conceptions. It was not having a conception of hurting his toe, his sensation, that made him realise the stone was real (that is, made him "realise" the stone), but recognising that this conception was not a mere conception, that it was something that others who shared his language might also recognise. Bodily resistance has come to be symbolic of reality, witness "hard" facts, "solid" evidence, nitty "gritty", or the gesture of thumping a table. We must keep in mind that it is the resistance, not the sensation, that gives this symbol its force. Vividness of sensations may be a sign that their object is real, yet the reality of the object does not consist in those sense experiences, but in the consequent recognition that the presence of the object is not arbitrary.

The famous reason that George Mallory gave for wanting to climb Mt Everest was "because it is there". Mallory never stood on the summit, that vision remained a mere conception, a dream or a regret that could disturb the bosom of only a modal thinker, that is, of a language user. But "because it is there" has become a cliché, and the popularity of the phrase derives from its meaning that Everest would not go away if he looked elsewhere, or if he did not think about it. Many things we could wish were not given are unalterably present. We wish we were merely dreaming about them, or that we could make them go away by not looking or thinking about them. The unalterability that signals their reality may be more keenly felt than the unalterability of the law of excluded middle

(every proposition is either true or false), which may be dispensed with if we are prepared to make enough logical sacrifices. (The theory in SECTION II will allow us to say that the law of excluded middle is indeed given, but some people, some of the time, may think from a realm of reality that does not contain it.)

When we say of all these things that they are real, the special kind of unalterability or givenness that "real" conveys is a feature of the relationship between the things and ourselves as language users. The essential powerlessness to affect objects by recognising them as real is no less absolute for originating with language, rather than with sensation. It is already determined by rules embedded in the language we are using that a thing is real or not, so it is not up to us as individuals to arbitrate in the matter. We are free to use words how we wish, we can choose what we say, and what we think about. Nevertheless we are always constrained by what has been given with language, these things are unalterable. Much of our language is not up to us.

For example, suppose I have a pear in my hand and entertain the two conceptions, "this is a ripe pear" and "this is a green pear", and the reality that I come to recognise is that the pear is somewhat ripe and somewhat green. Without language, without thinking modally, I could not consider that it might have been ripe, it might have been green, or it might have been neither one nor the other. I may decide to classify the pear as ripe or as green, that is up to me. Nevertheless, what is not up to me is the fact that "the pear is neither fully ripe nor fully green" is a more accurate description. I have no choice about which of these best describes the real pear, choosing words will not alter this.

To repeat, although as individuals we use language creatively, many of its features are already given. The significance of this point for realism should by now be very clear. Among the givens of language are the distinction between the real and the merely conceptual, and the criteria by which we make this distinction. These are norms that language has already laid down. As we have seen in this discussion of reality, not only does the distinction, and hence reality itself, depend on language, language demands that there should be such a distinction. Unless we should live in a world of pure imagination, we are doubly bound: first by the necessity to make this distinction, occasionally at least; and secondly by the norms for the distinction, which like many features of language, are beyond our control. It should be noted in passing that we could not ignore the distinction by choosing to live in a world of pure imagination, because this itself would be recognising the distinction. We should then be acknowledging that we have conceptions, and that it is a feature of conceptions that they may or may not relate to real objects.

Because without language there is no fact of things being real, it is a mistake to consider two things, language and reality, for separate consideration. In Baien's rudimentary theory of language, <word and subject> marks a division between words and the things they name. Nevertheless, both word and subject are real, because they are a *jōri* pair. We can agree with him about this, even though he himself may not have developed his theory from that point. With his choice of the term "*shu*", "master", for "subject", he certainly understood the peculiar unalterability of the given [see Chapter 4.2]. The subject is master of the word. And if we were to translate "*shu*" as "host", to be consistent with the *jōri*

pair <host and guest>, we should have to say that words that name real objects are guests of those objects, and other words, words that represent mere conceptions, have no lodgings.

10.321

how the real is often misrepresented

The sense of what it is for something to be real which I have been examining is not good enough for some philosophers. They embellish the notion of the unalterability of the given with various reasons for that unalterability:

1. The distinction between the real and the merely conceptual is sometimes represented as a distinction between the "logical" and the "empirical". Logical items, such as numbers, are sometimes separated from physical objects by saying that the members of one group are real and that the members of the other group are not, or else that although they are both real they are real in different ways. No-one would deny the usefulness of the dichotomy between logical and empirical facts which is embedded in much Western philosophy. In some philosophical enquiries our hands would be tied without it. For one thing, it explains the mistakes arising from confusing different sets of norms. But truths of arithmetic, and physical objects, are equally given.

The reality of objects lies in that unique relation of language users to them, which does not affect the objects in any way. If there is to be such a thing as discovery, one group of objects that we cannot affect are those we know nothing about, and this group must include a great many logical and mathematical objects, or logicians and mathematicians would be out of work. We discover the unalterable mathematical fact that the sum of the coins in a purse is less than the price of a coveted purchase, just as we discover the unalterable empirical fact that this is what the purse now contains, and that that is what the purchase requires.

Baieri may have been mistaken about the comprehensiveness of *jōri* principles, but we can defend him from the accusation of confusing the logical and the empirical. The sum of the first n odd numbers does $= n^2$, but an arithmetically unsophisticated person could believe there were exceptions to this. And there is a distinction between real features of the world and mere suppositions, (even though *jōri* at best provides only an incomplete set of criteria for making this distinction).

2. The difference between the real and the merely conceptual is sometimes represented as an "internal"- "external" distinction. We speak of "within" and "beyond" language. The world "external" to language is said to be real, as though the world "internal" to language were not. An empiricist using this imagery may set up a "veil of perception", so that the world of real things is beyond our reach on the other side of the veil.

The mirror metaphor by which language "reflects" reality, is misleading in just this way. We are not like the Lady of Shalott, forced to view the world indirectly:

And moving thro' a mirror clear
That hangs before her all the year,
Shadows of the world appear.

Reality is not an inaccessible Camelot. John Locke is one of many who explicitly uses the mirror metaphor, and so is Cheng I, in 11th century China. [See Chapter 4.2; in fact, the mirror image was a conventional Taoist and Buddhist metaphor, see Birdwhistell 1989, 183.]

The use of some spatial metaphor may be unavoidable, as are all the spatial terms we use to speak of time. But when we analyse philosophical problems such as the ones now at issue, we should watch for false inferences and assumptions generated by the metaphor. If we must use a spatial metaphor, instead of placing language "outside" the real, or "inside" the real, we might make more progress if we placed the real "within" language.

It was not his clear intention, but this is what Baien in fact did do with his *jōri* shift. Real subjects are the masters of our words, but they could not be masters if there were no words to serve them.

3. Sometimes reality is described as "mind-independent". However it is hardly sense to talk of mind-independent language or thought. "Mind" is the troublesome term we can do without here.

Like the term "external", "mind-independent" is uninformative. The term "independent" merely strives to express what it is for something to be outside our control, beyond our powers to bring in and out of existence.

4. In many cases distinguishing the real depends on sense experience, so visual or tactile sensations are frequently taken as criteria of reality (as they were taken by Locke and Dr Johnson). These criteria derive from what things are like, usually things such as everyday physical objects. Why then can we not say that what it is for a thing to be real depends on what sort of thing it is, so that in the case of things like trees, being visible and touchable are just what it is for them to be real?

Being visible and touchable does not capture the inexpressible difference between a merely conceptual tree and a real tree. We can say in words what a tree looks like, or what it feels like when we touch it. Saying in words that it is real does not add to this description, but instead, as we saw earlier, states that it can be distinguished from an imaginary tree by a special act, an act of realisation or recognition that requires the possession of language. Many tests for the real involve sensation, but it is language that has determined which these tests shall be. It is language which provides us with many criteria, or sets of criteria, for distinguishing the real.

5. Sometimes criteria for the reality of things can be arranged in hierarchies, and then reality itself is seen as hierarchical. Admittedly, a discussion of language and reality requires talking about talking. And if language is inseparable from reality, a discussion of the real will involve talking about talking, sometimes talking about talking about talking. A certain conceptual giddiness may ensue, the kind that some people hope to alleviate by speaking of "levels".

Nevertheless, if what is said should turn out to be mistaken, it would not be because of a confusion of "levels". There is no reason why the given might not be iterated, so that it is given that something is given. Iteration itself is given with language as a logical operation. For example, "It is true that it is true that snow is cold" is no more or less about "abstract" truth, or about "concrete" snow, than "It is true that snow is cold", even though their meanings differ in that "it is true that" operates on a different proposition in each case. We use language both to talk about language, and to talk about using language to talk about language. Although we are speaking of something different in each case, neither is "on a higher level" than the other, they are simply different. (The history of the history of philosophy is not on a higher, or more "abstract" level than the history of philosophy, they are simply histories of different things.) The number of iterations need not concern us, what is meant by saying something is given is still the same.

In conclusion, the distinction between the real and the merely conceptual is given with language, despite that fact that it is not directly statable in language. Being real is not a common feature of some conceptions. It is more as though a green light flashes when certain conceptions are entertained. The flashing itself, not the conception, tells us when to take a thing as real, when the object is not altered in any way by our conceiving it. This fact, that the reality of a thing is not part of the conception of it, but of the potential relation of language users to it, will turn out to be important in SECTION II of this chapter.

SECTION II

First I shall challenge the assumption that reality has a unique schema.

Discarding this assumption clears the way for outlining a theory of multiple realms of reality, from which we speak and think. The basis of this theory is that the realms are created by language, because the reality of things lies entirely in their relation to ourselves, as language users. Finally, I give some suggestions that may lend plausibility to the notion of shifting from one realm of reality to another.

10.4 is reality unique?

Reality is supposed by very many thinkers to have a unique structure or schema.

Realism characteristically involves not only the claim that there is an actual world with various prized properties such as externality and mind-independence; but it further involves the claim that there is only one such world, that the world is unique. The uniqueness claim is essential: otherwise Reality is not fully determinate, and the actual world cannot perform expected realist functions of determining truth, correctness and the like, in a way that is single-valued and entire.

Richard Sylvan denies the uniqueness claim that he describes in this passage from an essay entitled "Radical Pluralism". [1988 253]

We may be indebted to Baien, too, with his realms and spheres, for throwing into doubt the notion that reality has a unique schema. Admittedly, at times he suggests that a pair as one whole should pair with another whole until everything is embraced. But in practice his pairs did not relate together in this way. Instead of the hierarchical structure he would have needed to portray reality in a single diagram, he uses the techniques of the *jōri* shift and the whole pair to shift from realm to realm.

In the diagram of *Gengo*, the Volume of the Small is not connected to the total *jōri* pattern (although in the Preface he tries to remedy this by saying that Volume of Heaven and Volume of Earth taken together are the "Volume of the Great" [Preface 3]). The 160 odd diagrams for *Gengo* seldom fit together. His *jōri* pattern simply does not give us a unique picture of reality, in fact it suggests that as a single schema, the structure of nature is systematically incomprehensible, or inconsistent.

Two related factors led Baien away from uniqueness: 1), his respect for painstaking detail, and 2), the flexibility of his system of terminology.

1) In Chapter 9 I discussed the apparent preoccupation of Neo-Confucian thinkers with the construction of a unified schema. But as the lines from Sylvan suggest, this is also a Western preoccupation. Statements like "Understanding nature consists of achieving a unified vision of it" lead to the assumption that there is a unique schema of reality. It has been suggested to me that trying to find a unified schema can sometimes be meant as a methodological rule rather than a mere assumption. But if so, we must ask whether the rule works, and how we are to distinguish in practice between seeking a broader theory and seeking a unique schema.

It is true enough that a scientific theory which unifies previously disconnected theories has more power. It is one of the marks of progress that scientific findings have increasingly wider application, and previously isolated lines of research come together. But in some cases several small theories may be better than a unifying theory. As seen in Chapter 6.1, this is precisely what got science off the ground in the Edo period. Curious scholars devised their own methods and did not wait for philosophers to tell them where their findings fitted into the total scheme of things.

Furthermore, "unity" is not enough to give power to grand theories. Old unifying theories of the Chinese or Greeks were dismantled from within by smaller more detailed theories. For example, the Five Element theory weakened as bits and pieces of scientific knowledge about fire, water, wood, metal and earth came to hand, not to mention information about the phenomena with which they had been correlated. The unified schema may be seen as an ideological goal. Baien would call it a "habit of mind", which must bow to observational evidence. There may be a tension between seeking a unified schema and being faithful to observation. Nevertheless it is well understood that there is no such thing as pure observation. Baien himself points out that rare experiences in strange lands were a wasted opportunity for the sailor Magotaro because he had "no objects in mind" [Reply to Kō Takaoki p.347].

Admittedly, to say that lines of enquiry begin piecemeal is not enough to discount the possibility of a grand unifying theory. The fact still remains that the discovery of successively wider theories does not imply that there is a grand unifying theory to which they all tend, that is, that reality has one all-embracing schema. As Baien would say, and Confucius before him, heaven and earth is vast. Many pictures of it may be far too narrow, but even the broadest picture may not be "single-valued and entire".

A more telling complaint, discounted by unificationists but supported by normal language habits, is that as things are grasped by broader principles, small realities fall out of the system. Not for Baien. Large and small realities simply belong to different realms or spheres. For instance, the realm of MAN, and with it all the attendant ethical issues carried by the huge Confucian tradition, belongs to the realm of the SMALL, which is not

a section of the realms of HEAVEN and EARTH to which the other two volumes of *Gengo* refer. Small though it may be, the realm of man is real.

If we had a grand theory, as we might find in physics, for example, which had in principle a description of every event in the world, there would be no term for man, or for animal, or for death. Should we then say these things are not real, that they are just convenient shorthand ways of referring to the fluid behaviour of particles? A great many true things that we might wish to say could not be said in a technical language. Should we say that things do not really die, they merely change? Sometimes we do. Yet even though we may quibble over the criteria, when we distinguish the really dead from the merely feared dead, we know the dreadful unalterability of the result.

2) Baien achieves this effect of multiple realities through the flexibility of his technical *jōri* language. When he speaks of *ki* in the most all-embracing sense, as in <*ki* and object> as the entire universe, death has no place. When he speaks of man, in <heaven and man>, it certainly does. He has no need to choose which is real, in fact, as a faithful realist, he has no choice. He can speak from one realm, or from the other. There is no middle ground, although he may shift systematically between them.

The strongest objection to pluralism is that it is counter-intuitive. There would indeed be grounds for complaint if a non-uniqueness theory made the real arbitrary. Non-arbitrariness in the distinction between the real and the merely conceptual is essential to realism [see 10.32]. According to the present theory of shifting realms, norms for truth, too, are internal to a single realm. There may be more than one set of norms, but without commitment to some specific set we cannot think clearly or speak intelligibly. Despite the fact that there may be more than one way of speaking, in any one way of speaking the rules are laid down. Because the real is irrevocably given with language, it is not within our power to arbitrate in any way at all.

In conclusion, a gut-feeling objection that a theory of shifting realms would weaken the force of the notion of reality is answered by appeal to the gut-feeling sharpness of the distinction between the real and the merely conceptual, no matter what problems we may sometimes have in applying it. As I said earlier concerning the involuntariness of recognition of the real, vividness of sensations may be a sign that their object is real, yet the reality of the object does not consist in those sense experiences, but in the consequent recognition that the presence of the object is not arbitrary. Or, to adapt Copleston's terms, its reality consists in its relation to a subject who recognises it as real, but in so doing makes no difference to it. If reality depends on language, so will plural realities. The response to "It's all language" should not be a disappointed, "Oh, so it's only language", but an appreciative "How rich language is". Language gives us Baien's "luxuriant manifold". Plural realities are not a philosophers' fantasy, but a theory that arises readily from a consideration of common language habits once one or two philosophical assumptions have been discarded.

We can never construct a realm at will. Somehow, a publicly shared language needs to have been developed, however small the public, with its own "givens" which we learn as we acquire the language. However this is done, if one accepts this account of a realm language, complete with sets of criteria for distinguishing the real, individuation criteria, truth conditions, and whatever else, I would ask the rhetorical question "If we acquire one such language, why can we not acquire more than one?"

10.5 realms

If we abandon the assumption that reality must be unique, what then? The idea of "realms of reality" is explored here. This is derived from taking the idea that there is no unique schema of reality, discussed in 10.4, and fitting it with the idea discussed in 10.3 that the distinction between the real and the merely conceptual depends on language, and is required by language. /

The grounds

A theory of multiple realities, outlined here in terms of shifting realms, is based on the following points, taken in the order in which they have been presented previously.

- "Real" is a normative term, the distinction between the real and the merely conceptual is made according to norms or criteria. [10.1]

It is a function of a norm or rule to which we conform, that it is, in an important way, out of our hands.

- "Language" is used here to cover most, if not all, human rational activity. [10.2]

"Language" includes logical functions, and any of the so-called "deep" functions found in modern generative linguistics.

- Some linguistic operations are a matter of choice, but others are beyond our power, they are given with language. [10.21]

- Language is necessary for distinguishing the real from the merely conceptual. [10.311]

- Distinguishing something as real is a kind of recognition, and such knowledge cannot be expressed in propositions or sentences. [10.311]

- The distinction between the real and the merely conceptual is necessary for language. [10.312]

Language requires us to have conceptions, and having conceptions requires there to be a distinction between the real and the merely conceptual.

- To describe an object as real is to say nothing about the object apart from the relation of language users to it. [10.311]
- The reality of an object is not up to us. It is given with the language in which we conceive the object. [10.32]

For instance, the notion of an "accurate description" is not an arbitrary one. We may sometimes be mistaken in applying the norms for the real, but the norms, being norms, cannot be waived at will.

- It is not necessary to assume that there is a unique schema of reality. [10.4]

The theory

Dispensing with the idea of uniqueness, we can see reality in terms of shifting realms. Each realm is defined by a set of criteria for distinguishing the real. The realms are dependent on language. A difference of realm entails a difference of language, and differences of language, of the kind suggested here, entail a difference of realm.

Realms of reality are characterised by the following points:

- a) We must speak always from within a realm. Like any other term, "real" has no purchase without a realm.
- b) At any one time we can speak from only one realm.
- c) There is no master reality of which the realms are parts. To speak even of multiple realities is to speak metaphorically.
- d) "Real" has an application in every realm, but each realm has its own peculiar set of criteria for the distinction between the real and the merely conceptual.
- e) Realms are disconnected from one another, not incompatible. Compatibility and truth relations are internal matters within each realm. For instance, the norms by which one statement is judged to be consistent with another can apply only to two statements within the same realm.
- f) We cannot assume that a realm has an internal structural framework. Neither does it have clear boundaries.
- g) Although inference, disagreement, argument, and consistency require that the statements under consideration should all be made from the same realm, there is no simple procedure for determining whether or not there has been a shift to another realm.

Language or vocabulary may indicate differences in ontology or in ways of individuating objects that accompany realm shifts.

h) Realms are dynamic. We might expect a "temporal" language to convey this better than our natural language, which inclines us to use spatial metaphors. But a temporal language would be an impoverished and artificial one. Furthermore, we seem to need some sort of metaphor that suggests stability, like a "store" of information.

i) A realm is not personal, as a "web of belief" is. Because the rules and norms of a realm are established by language, they are publicly shared. What is true in a realm is true "for everyone". What is taken to be true, that is, believed, is an individual matter.

To elaborate on these points:

a) We must speak always from within a realm.

Any term must be referred to a specific realm before it is understood, and "real" and "exist" are no exception. Without the distinction between the real and the merely conceptual we could not use language, but constraints or norms for determining the real, which are given with language, are relative to realm languages. Among the sets of rules with which a realm is furnished, every realm must have some criteria for making the distinction between the real and the merely conceptual. And there are no such criteria outside a realm.

b) At any one time we can speak from only one realm.

Different sets of criteria imply differences of language usage, in this sense, different "languages". In considering the possibility of realm shifts, it should never be forgotten that the real is not arbitrary. This feature of the theory of shifting realms cannot be stressed enough, lest it should be thought that I am holding that there is no truth. I was told of a university lecturer who attempted to persuade the class that truth is in the eye of the beholder. To demonstrate this she held a card in the air and said that if she were to let it go it could float upwards (in space), or fall downwards (by gravity), or move sideways (sucked by a vacuum), a different truth for each of these "frameworks". It does not seem to have occurred to her that all these things share the same framework, the same stringent tests for truth, in fact the same stringency with which she intended marking students wrong who disagreed with her.

c) There is no master reality of which the realms are parts.

There is a difficulty as soon as we begin to speak of shifting from realm to realm. We must speak metaphorically, as though realms of reality were objects, as we do when we use the word "plural" of them. The view that there is no unique schema of reality, but an indeterminate number of schemata, often called "pluralism", is not an existential claim. Strictly speaking, we cannot say "There exist several different realities". Otherwise we should be obliged to consider some master reality, governed by some master or common criterion, within which all realms are contained. Even though "true" may shift from realm to realm, there is no "master reality" to give some sense to these "truths" surviving the passage from realm to realm.

d) Each realm has its own peculiar set of criteria for the distinction between the real and the merely conceptual.

Because every realm has some criteria for the distinction between the real and the merely conceptual, the English word "real", for example, can make a purchase in every realm. But because each realm has a different set or sets of criteria, "real" functions differently in each case.

To take up the metaphor of the flashing green light at the end of SECTION I, distinguishing something as real is like responding to a flashing green light. At the flashing of a green light we may cross a road, insert a coin, start a vehicle, or cease a technical operation. The machines and operations involved need have nothing in common, except that in each instance there is an established code by which the green light indicates the appropriate behaviour. For example, a green light in an operating theatre would not cause an anaesthetist to put a coin in a slot, or sit back and wait for pages to emerge from a photo-copier. Looking for a meaning of "real" that is the same in every realm would be like expecting the green light to indicate the same behaviour in every case. Each realm has its own rules by which things are judged to be either real objects or mere conceptions. We are seldom aware that we are applying these rules, the flashing of the green light is enough. For example, when Jack wakes up he does not analyse how it is that he knows he is not really blind, it was only a dream. The result of the realisation process is signalled to him, so to speak.

To say simply that a green light is flashing is to say nothing about the appropriate behaviour, and to say that an object is real is to say nothing about the object itself. At this point we see the significance of the conclusion that knowing something to be real is a different kind of knowledge from knowing what the thing is like. This knowledge of what it is for a thing to be real survives shifts from realm to realm precisely because it is not knowledge of a common feature of things, and not reflected in language. The fact that this very discussion of multiple realms is itself made from a realm does not affect the point, and certainly does not justify the assumption that a realm from which a philosophical discussion is conducted must be on a "higher level". The technician who installs a green light at a road junction or in an operating theatre need be neither a motorist nor an anaesthetist. He requires different skills, not "higher" ones.

e) Realms are disconnected, not incompatible.

The criteria or norms within a given a realm include those by which some candidates for reality may be declared to be incompatible with other candidates. And some kind of compatibility of parts is an internal requirement of all realms that have distinguishable parts. (It does not follow from this that every realm must contain our more familiar rules for truth consistency. Nor does it follow even that some shift of the word "true" applies. It may be possible to speak from a realm of reality in a language in which no units served as bearers of truth, even though as a realm of reality it would force some distinction between the real and the merely conceptual.)

For instance, compatibility considerations do not force us to say that strictly speaking people are not real, but just part of a fluidity of constantly generating, evolving and decaying particles. Instead we may speak from a realm in which the notion of people is just not in the language. On the other hand, we may speak from a realm whose norms allow both the reality of people and the reality of particles of matter.

Theories of "supervenience" in Western philosophy attempt to explain how terms from one set of terms may be substituted for terms from another set in cases where no lexical one-to-one correspondence is available. For instance, terms for mental events and entities are sometimes said to "supervene" on terms for brain processes and parts, so that in principle an account of mental events using one set of terms may be translated into an account of brain processes using a very different set of terms. But if these terms, however different, are translatable, there can be only one realm of reality involved. For translation is truth preserving. If a statement about a mental event is true, its "translation" in brain process terms must also be true, and consistency of truth is internal to a realm.

Because truth conditions, inference rules, the criteria for the distinction between the real and the merely conceptual and suchlike, are internal to a realm, the norms of different realms are not incompatible or inconsistent with one another, but disconnected, and certainly not connected by a relation such as supervenience.

f) We cannot assume that a realm has an internal structural framework.

The term "schema" suggests sharply defined boundaries. However, a judgment about the real does not normally say where to draw the boundaries of the real. Knowing whether things are real or not does not entail knowing how many things there are, or how they fit together.

Countless writers, including Sylvan himself, refer to the "structure" of reality. Now if we see a structure or schema of reality as a (necessary, given) function of language, we might be tempted to distinguish bones from flesh, logical or grammatical structure from meaning, syntax from semantics, framework language from content language, and so on. Such distinctions sometimes have their uses, but we are not entitled to assume that this kind of division shapes a "schema" of reality.

Neither can we assume that any framework there might be is unique. Nor it seems, can we assume that a realm must have a framework. We certainly cannot assume that criteria are arranged in some sort of overall hierarchy, if there is no structure there can be no hierarchical structure. Nor, of course, can we assume that some or all realms of reality do not have a framework. This would need to be demonstrated by some deep linguistic theory. The criteria by which things are admitted or excluded from a realm are themselves a real part of that realm.

A realm could not be an undifferentiated mass, like a realm of nothing but primal *ki*. It would seem ~~after all~~ that a reality realm must have some structure, after all, albeit soft or fluid, in that to be real the undifferentiated mass would require at least an internal norm for sharply distinguishing the real, a norm that every realm must have. Without that distinction we could ~~not~~ ^{no} speak from it at all, and without language there is no realm of reality. Baien would seem to be right that the real involves some form of contrast.

Within a familiar realm we should expect to find the organisational device of "priority lists", the sort that would individuate a new object clearly as a rose-scented cabbage and not as a rose that was indistinguishable from a cabbage in every respect except perfume. (A priority list is an ordered list of rules for determining whether or not a thing meets appropriate norms. Users of dictionaries of Chinese characters will be familiar with priority lists such as Nelson's Radical Priority System, by which, for example, if both the left and right sides are radicals, the character will be listed under the left radical.)

To avoid these overtones of "structure" and "schema", I have chosen, by default, to speak of "realms" of reality. This usage will accord with the *jōri* shifts from realm to realm, but will also allow more latitude to the notion of "realm" than the *jōri* system does. We should not envisage them with definite borders, but soft at the edges.

(g) Deciding whether or not different statements are made from the same realm is not a straightforward matter.

The realm metaphor is vague, our realms are fuzzy in outline. As the boundaries are blurred anyhow, occasions or passages of utterance, or sequences of thought, may at different times count as speaking from the same realm if they coincide sufficiently for sharing truth conditions, individuation criteria, comprehensibility, and so on. Deciding the matter might depend on how much was said. It is possible that realm shifts most commonly occur as we speak and think in our everyday fashion, and that the norms of a realm may be so familiar and taken for granted that it would require deep linguistic analysis to isolate a shift. Differences in ontological commitment, for example, would seldom show in brief conversations.

A shift of realm might be apparent where two speakers use the same natural language, yet each, or one, fails to comprehend the other. It has been claimed that this happens when one person is using religious language, and the other has never thought from that realm. (In a recent radio interview, a community leader who had changed from strict Presbyterianism to atheism unwittingly came close to speaking of a realm shift when

pressed to describe the moment of truth. He replied that there was no such moment or event, "I just moved to another reality.")

Sometimes vocabulary could indicate a realm shift. To begin with, some terms of one realm may have no place at all in another realm. These cases involving two realms are in contrast to cases in which there are different vocabulary sets, but only one realm, because a term from one set of terms can be defined by terms from another, such as is the case with logical or mathematical symbols. But even here it is not clear in every case that there are interdefinable sets of terms within the same realm. The sign, "=", for example, seems to mean something that can be expressed in fairly ordinary words. Yet philosophers and logicians write whole papers, if not books on its meaning, and in so doing they may well speak from realms that are less familiar to us. And some philosophers do not hold the view described above that everything we can say about mental events and entities can be "translated" into statements about brain parts, that is, that the set of terms we use to speak about mental events are in the same realm as a set of terms we might, if we were sufficiently educated, use to speak about brain parts.

Nevertheless, shifts of meaning do not guarantee shifts of realm. Medical terms such as "influenza", "schizophrenia" and "Alzheimer's disease" have loose popular meanings which do not at all fit the technical definitions. A doctor and her patient might use the terms differently, yet speak from the same realm. To prevent misunderstanding they only need to indicate their usage.

The technical phrases "an ontology" and "individuation criteria" are useful here, taking an ontology as a list of things that are real, and sets of individuation criteria as the rules for marking off a thing as a thing, distinct from other things.

Differences of realm are certainly manifested in differences of ontology, that is, differences between lists of things that are real. A physicalist who claimed that the only real things were the objects that physicists study would not be speaking from a realm that distinguished fairies from butterflies. (Of course mistakes in distinguishing the real, such as believing that the phoenix is a real bird, are not cases of shifting realms, but of speaking erroneously from a realm.) There may be constraints that will make us, if we are educated in that language, accept sub-atomic particles as real units, and that language may belong to a realm that has no criteria for individuating fairies and butterflies. But there are also constraints in a more familiar language which will make educated and uneducated alike take medium-sized hardware as real units.

The norms of a realm of reality may well include a criterion that forbids the overcounting mentioned in Chapter 8.3. For instance, it may require that if a list includes Baien's cart, it will not also include the wheels, tray and shafts. Perhaps this is because it requires that only one physical object, or part of a physical object should occupy one portion of space at one time. Alternatively, the criteria may allow some similar redundancies but rule out others. For instance, they may allow both a pot and the clay of which it is made, because they are equally real, but rule out the sub-atomic particles that constitute the clay because they are "theoretical".

Some individuating criteria may be criteria for physical objects, some may be criteria for natural kinds, and some may be criteria for physical particles. But we should not jump from this to conclude that physical objects, natural kinds, and physical particles cannot belong to the same realm. No one has said that a realm must be tidy. In fact, as a product of natural language, we should expect the most common realms to be messy. They have not been designed, but have just grown, like Topsy. In the case of the "rose-cabbage", suppose a study of botany were to show it not to be a rose-scented cabbage, but really a rose (after all, artichokes are lilies). This may suggest that a botanist speaks from a different realm. But the familiar realm of reality in which the rose seemed to be a cabbage might also include criteria, albeit less educationally accessible criteria, which in fact gave priority to classifying it as a rose. In cases like this it may be simply that we need to learn more about the realm from which we are speaking.

h) Realms are dynamic. We cannot assume that realms do not change with the dynamics of language.

Natural changes in everyday word usage would not usually indicate a change of realm, but a changing realm. There are two ways in which the language of a realm is dynamic. Firstly there are the internal shifts, like the shifts by contrast of the word "English" mentioned in Chapter 3.2, to which Baien's *jōri* shifts correspond. Secondly, there are the meaning changes that constantly occur within a natural language over time, much less often in an artificial one, and not at all with the language of the *jōri* lexicon. There is no reason why a realm should not have a rich history of such internal changes.

Of course, the rules for usage of a word within a realm may be far from clear. When they are disputed, the disputants need to arbitrate at some point. There are rules, but they do not dictate the answer. These rules too are necessarily flexible if words are to perform the task of conveying new information. Perhaps there is a rule in that realm which says that a definition should not make arbitration too expensive, as it indeed would be for the logically minded if they had followed one proffered suggestion "A Maori is anyone who defines themselves as a Maori." The definition of "Maori", or of any other word, can change. The norms for word usage are dynamic in a constantly evolving natural language. The given need not be static.

In order to give due weight to the dynamic nature of realms, instead of speaking of realms in terms of space, we might try speaking of them in terms of time, indexing realms to times, even to speakers/thinkers: "Now, when she is speaking/ thinking (in technical language about quantum mechanics), these are the norms of reality. Then, when he spoke/thought (in Japanese about spirits), those were the norms." "Temporal" realms seem more accurate, less like science fiction than "spatial" realms.

This way of presenting the theory would be extremely awkward, however. It is extremely difficult to speak of reality in purely temporal terms. It is difficult to speak even of time in purely temporal terms. In English, apart from "now", "early", "late", and "during", we use mainly spatial metaphors. Even "before", "after" and "until" mean by origin "in front", "behind" and "as far along as". Time spans, time passes, and spanning and passing require

spaces or places to span or pass. The future lies ahead, a time is long or short, and so on. The same is even more true of Japanese and Chinese, in whose grammar tense is subordinate to completion.

Learning, that is, adding to knowledge, suggests a relation with something fairly steady. If we follow Baien in "taking heaven and earth as teacher", we may demand that the teacher does not change his mind too often. It helps us if we think of "collecting" pieces of information and "storing" them, and the store is extended in space. Some of the goods decay, some ripen or mature, some consume or react with others. There is some spatial continuity in this imagery, even if inspections of the store do not show the changes as temporally continuous.

When we consider objectivity, speaker-hearer comprehension and agreement, truth conditions, inference, and so on, stability again suits our mental habits better than fluidity does. For how should we understand the notion of speaking from the "same" reality in the temporal mode? We could not do this purely in terms of time, we should need also some notion that is timeless in the way that universals, or Platonic forms are timeless, something remaining unchanged to give us "sameness".

Because I cannot use, or find it very difficult to use, a metaphor of pure temporal continuity, I cannot conclude that speaking spatially is a linguistic necessity. A more temporal language is possible, especially a scientific and technical one. Nevertheless, to use Japanese, Chinese or a Romance language as a base for a temporal language would cripple those natural languages. Consequently we are seldom tempted to speak from such an artificial realm, even though a temporal language would better express the dynamics of our more familiar realms.

i) It is important to distinguish the metaphor of shifting realms, which do not map on to each other one to one, from the "webs of belief" metaphor, in which each person has his or her own, constantly changing, web of belief.

The distinction between the real and the merely conceptual is not up to us, it is beyond our power. But beliefs are not up to us either. We cannot choose to believe in the sense that we cannot think "This is false, but I shall believe it", or "This may not be true, but I shall believe it". We may say "this is true, but I shall not believe it", but we cannot carry out our resolution without denying the clause "this is true". Taking something to be true just is believing it. If we cannot choose to believe, are beliefs, true or false, "given" too? If so, this would destroy the distinction between the real and the merely conceptual, for anyone can believe anything to be real under appropriate circumstances.

When it comes to considering belief, we must distinguish the unqualified phrase "beyond our power" from "beyond our power because given with language itself". It is beyond our power to arbitrate about the distinction between the real and the merely conceptual because the norms for this are given with language. What is given with language constrains all users of that language.

On the other hand, in the case of beliefs we are each individually constrained by our ignorance, not by our language. Language is shared, but an essential element of belief is individual. We may not, maybe we seldom do, conform to all the criteria or norms of the realm from which we are speaking, and to the extent that we violate them, we make mistakes. For example, a realm may have a rule which we could express as "'X says that p ' does not imply that p is true", but we might overlook that rule. A correct application of the norms of the realm from which someone is speaking may make a belief come out as merely conceptual.

The fact that we revise our beliefs, by whatever bizarre criteria, shows that we recognise the possibility of error, and hence the existence of norms. Furthermore, genuine disagreement with another party also implies the possibility of error, and the possibility of error implies norms independent of any individual belief system. If disagreement, as distinct from blank incomprehension, is to be a coherent notion, the disagreeing parties must speak from the same realm, for it is the norms of a realm that reveal the disagreement in the first place. For example, to disagree about the reality of Himalayan yeti we must speak from a realm of which mountaineers, snow and some hairy animals are part.

10.6 shifting realms

The following case might illustrate a shift to thinking from a different realm.

At the conclusion of the legend recounted by Lafcadio Hearn in "A Living God", the grateful villagers erect a shrine for the spirit of the landlord who saved them from the tidal wave, so they could worship it there on the foreshore. It was no problem to them that the man was still living on the hillside, with his spirit. [1897/1971]

The explanation of this was that the people believed both: a) a spirit is a presence in a specific place; and b) it is in the nature of a spirit that it can be in more than one place at the same time.

If the belief should be false, it would be because the believers have overlooked one of the constraints of the realm from which they are thinking. But the belief was defended, for Hearn's benefit, by indicating that the believers thought from another realm, with different sets of individuating criteria. I have numbered the final paragraphs of Hearn's story [1971 28]:

(1) I asked a Japanese philosopher and friend to explain to me how the peasants could rationally imagine the spirit of Hamaguchi in one place while his living body was in another. Also I inquired whether it was only one of his souls which they had worshiped during his life, and whether they imagined that particular soul to have detached itself from the rest to receive homage.

(2) "The peasants," my friend answered, "think of the mind or spirit of a person as something which, even during life, can be in many places at the same instant....Such an idea is, of course, quite different from Western ideas about the soul."

(3) "Any more rational?" I mischievously asked.

(4) "Well," he responded, with a Buddhist smile, "if we accept the doctrine of the unity of all mind, the idea of the Japanese peasant would appear to contain at least some adumbration of truth. I should not say so much for your Western notions about the soul."

(1) and (2) seem to me to describe different realms, with a realm shift indicated at the very least by a shift in the meaning of "spirit". I take the "mischievously" in (3) to indicate that Hearn appreciates the futility of comparing statements from different realms. In (4) the Buddhist seems to be claiming internal consistency for the Japanese realm in (2), and suggesting that within the Western realm of (1) the idea of "soul" fails by the criteria of its own realm.

There is a fine line between this case, and simply defining one's way out of a clash of viewpoints. Both shifting realms and redefinition are linguistic phenomena.

The linguistic shifts of Baien's theory occur both within realms, and from realm to realm. Before looking for the shifts from realm to realm proposed in the present theory, let us look first at some linguistic shifts within a single realm. These shifts are not the gradual historical changes within living languages, to which *jōri* is not subject, but contextual shifts within the same realm at a single time.

10.61 shifts within realms

Evidence of shifts within a realm is abundant.

1. It happens with scope shifts of quantifiers. For instance, the quantifier "everyone" constantly shifts in scope:

"Everyone has gone to the film that everyone is talking about."

The scope of the first "everyone" is the very narrow one of the half dozen residents of a certain house. The scope of the second is the more numerous group of movie buffs who have seen or heard of the film. Seldom does "everyone" refer to the group consisting of every living person. In "I never go to the movies now" the scope of "never" is narrowed to "now" (or do we say the scope of "now" is broadened to "never"?).

Such shifts within sentences that have definite truth values are not shifts from realm to realm, because the truth or falsity of statements is always decided by norms that are internal to the realm from which they are made. No contradiction is implied by "There is always snow on the summit of Everest but once that was not so", or "There is always snow on the summit of Everest but one day that will not be so". These sentences are determinately true or false despite the scope shifts of "always" to exclude the periods of "once", or of "one day". But necessarily these times are times within the same realm, one that contains snow and nameable mountains, not to mention past, present and future.

2. Shifts in the scope of modal terms is another case.

In his Groundwork of the Metaphysic of Morals, Kant speaks of "hypothetical imperatives": "If you want to make sure of killing him, (or curing him), you ought to follow this prescription carefully." The "ought" applies to the restricted sphere in which the relation between the poisoner's desire and the victim's constitution, (or that between the doctor's intent and the patient's constitution,) is the only human relation to be considered. For neither the poisoner nor the doctor does "You ought to follow this prescription" refer to a duty overriding in the total realm, such as "You ought to treat other people always as ends in themselves, never as a means only."

In a recent talk "Relative Modalities", William Lycan used the example: "I shouldn't go but I must". My going is incompatible with the demands of one part of a realm, but it is also the only choice in regard to another part of that same realm, and in this case the norms of that part dominate.

3. Then there is the *jōri* shift within realms. An artificial language it may be, but it is worth noting that Baien's terms are not "formal" ones such as quantifiers or modal operators, but terms that refer much more directly to individuated realities, such as "body", "man", "shape", "turning", "earth" and so on. These may or may not involve shifts in terms of Baien's "realms", but insofar as they can be translated into natural language they are often shifts within the same realm in the sense of "realm" used in this chapter. There is no need to shift realms to understand that "man" in <heaven and man> is not "man" in <man and animal>. In <heaven and man> "man" refers to an agent acting on whatever heaven (nature) has given him. In <man and animal> "man" refers to a creature whose uttered noises are intelligent speech. Both these pairs apply to <conscious and non-conscious>, so that "man" applies to "conscious", but even without this extra information the pairs can be explained in our same realm language. Nevertheless, we may not be able to stay with a familiar realm language if we are to fully understand much larger passages of Baien's text.

4. As we saw with the examples of words such as "English" and "car" in Chapter 3.2, some shifts in natural language are similar to the *jōri* shift. The meanings of these words shift by means of an implicit contrast, determined by context. For example, in "seeing a tiger live on television" and "seeing a tiger live in the garden" the shift of "live" depends on implicit contrasts with "prerecorded" and "dead". Note that the usual sense of "context" is much narrower in reference than our sense of "realm". Different contexts will be found within the language of a single realm. This does not mean, of course, that different realm languages might not also be described as different "contexts".

10.62 shifts from realm to realm

In analysing Baien's theory, his shifts from "realm to realm" were difficult to describe [see Chapter 3.3]. We have a parallel difficulty here describing realm shifts from realm to realm.

We have seen that shifts such as scope shifts of quantifiers or modalities are not examples of plural realities. Truth, like the real, must be internal to a realm. Therefore, if shifts within the same sentence were to cross realms, the sentence could not be determined as true or false. For instance, the sentence "The spirit of Hamaguchi was in one place while his living body was in another" does not make sense in a familiar realm language because the norms dictate that if a living body has a spirit it must be where the body is, and another norm in that same realm demands that one discrete thing cannot be in two places

at the same time. And it does not make sense in the realm from which the Japanese villagers were speaking either, because when speaking of a spirit in that realm the phrase "in one place" does not make sense. The sentence tries to cross realms, so it is in no realm, and there is consequently no language in which it makes sense. If two statements could be shown to be incompatible, they must be statements in the same realm language.

When two speakers speak from different realms there are no common sets of criteria from which to assess their compatibility or incompatibility. A radical misunderstanding may arise, often obscured by the fact that both speakers are using lexical items from the same natural language, English, for example. Philosophical analysis may be required to bring these infringements to light.

So far the case for shifts from realm to realm has been largely negative, a matter of disposing of the assumption that reality is unique. To make a more plausible case for these shifts as a function of language, we should look for some possible examples.

Ambiguity and vagueness may indicate plural realities. Some verbal disputes are easily settled by agreeing on a definition. The Catacombs close at dusk all year round if "dusk" means "5 p.m.". On the other hand, some cases are difficult to settle, and those usually turn out to be philosophically interesting. In these cases, simple answers like "It depends what you mean by "dusk"" are not available. Instead, we are not sure what we mean by a term or phrase. Moreover, we don't know why we are not sure. This sort of uncertainty may often be realm uncertainty.

10.621: exercising the idea of shifting realms:

Let us play a little with the notion of realms of reality by applying it to a discussion of the vague question asked of the appearance of Banquo's ghost:

"Did Macbeth see a real ghost?"

Assuming that in Macbeth Shakespeare was characteristically free with history, we have to also assume that he intended us to "believe" temporarily that there was such a person as he describes Macbeth. Any realm differences suggested in this discussion about Banquo's ghost are not differences between a "realm of history" and a "realm of fiction". Historical and fictional statements are frequently made in the language of the same realm. Holinshed's statements that MacDuff was the same age as Macbeth, fairly young, are made from the same realm as Lady Macbeth's statements: "he resembled my father as he slept", and "who would have thought the old man would have so much blood in him". In fact, to ask the question why it was that Shakespeare "changed history", Holinshed's and Shakespeare's statements must be taken as of the same realm. Most or all of these statements are false by the criteria of that realm, just as it is simply false that anyone listens to witches if there are no witches. Nevertheless, the terms "witch" and "ghost" might occur in another realm language in which they not only cash out differently, but are

acceptable currency by the reality criteria, that is, some conceptions of them are conceptions of real objects by the criteria of that realm.

Shakespeare is not asking us to invent a new realm. We could not do that because norms of reality are not invented, but given. He is asking us to think of Macbeth from a realm in which historical personages are real, that is, the realm we take to be the one in which our own relatives and ancestors are real. The question "Did Macbeth see a real ghost?" then becomes: "Are we to imagine that Banquo's ghost satisfies the criteria for being part of that realm of reality? Did our real Macbeth see a real ghost?"

At first thought it seems plausible that Shakespeare expected hoi polloi who watched his plays to include ghosts in the same realm to which people usually belong, and that in doing so they would simply be mistaken. They would have misapplied the real/merely conceptual distinction, for there would be some criterion in that realm that would rule out ghosts. For instance, in the realm to which historical figures commonly belong, a condition of a physical object's reality may be that it is shared publicly. Banquo's ghost was visible only to Macbeth. In a familiar realm it would be just a fiction, a mere conception.

But that interpretation of Shakespeare's intention for the unlettered does not take into account the awesomeness of ghosts. The dramatic moment demands a spinal shiver, and referring to ghosts as mere mistakes does not produce this result.

Perhaps after all, a shift to another reality is required, or suggested. The very unsettling nature of the shift might be the cause of the shiver. Sinister cases of "things are not what they seem" may sometimes be cases of intra-realm vacillation. The green light is faulty, it flashes at random, or fails to flash whatever realm we are in. "Losing our grip" might describe another such experience. This is just what constitutes madness, the pathological inability to distinguish the real from the merely conceptual.

Now this does not mean that realities are arbitrary. Either a given reality realm accommodates ghosts or it does not. The sets of criteria that mark off a realm, darkly or not, are not within our power to alter. Fairies are usually quite crudely suggested as part of an everyday realm, in which they come out sharply as "merely conceptual". Non-actual "beings" are conceptual candidates that fail the tests for a particular realm, they are not beings in another realm. It is easy to say fairies are not real just to the extent that it is easy to guess which realm they are applying for admission to. It is usually the everyday one that contains the coins they substitute for our milk teeth.

So one of the difficulties in answering the question "Did Macbeth see a real ghost?" is that unlike the case of fairies, in the case of ghosts, among which Banquo's may be temporarily included, we are not sure which realm we are supposed to be thinking from. A genuine believer in ghosts may be speaking from a realm that is not a common everyday one, though still one which contains some aspects of everyday persons. If Banquo's ghost is not an invention, and it belongs in such a realm, then indeed it is a real ghost.

To conclude: it may be that there are real ghosts, but Banquo's is not one of them, it is a product of Macbeth's guilt-ridden mental state, like a nightmare. He is mistakenly terrified of the ghost because he does not realise this. Or it may be that there are no real ghosts, and Macbeth may be appropriately terrified because he realises his mind is playing tricks. More likely still, if this interpretation fits at all, he is terrified because he is groping for the norms which determine the realm, he has lost his grip.

10.622: looking for realm shifts:

The nine topics in the following list are suggested as topics on which thought and discussion may involve shifts in realms of reality.

A theory conforming to the rough outline here would become very plausible if it could uncover the sources of some old philosophical problems. The theory would be further strengthened if it were to show that one of these problems has arisen because we have assumed that reality is unique. That is, it may have arisen because we have failed to recognise not only that reality cannot be untangled from language, but also that in speech and thought we may shift from one realm language to another.

Such a diagnosis would require a detailed discussion of other solutions to that particular problem, to demonstrate that they were less adequate than solutions in terms of realm shifts, and it would also require a considerable refinement and spelling out of the theory of realm shifts. All this, as I have already suggested, would require detailed work on the notion of a realm language, including linguistic analysis. I shall not attempt such an analysis here. Nevertheless, in discussing the last on the list of topics below, the topic called "pure fatalism", I shall indicate how one old philosophical problem might indeed be solved by seeing the original disagreements not as disagreements within a realm, but as genuine cases of speaking from different realms.

1. The "supernatural"

Could "Phenomenon X is supernatural" sometimes mean "We cannot speak of X in this realm of reality."? A person who said that would be offering an alternative.

Either:

the supposed reality of X is due to errors in applying the criteria of reality of this realm, so that to speak of it at all is a mistake.

Or:

we cannot speak of X in the language of this realm, but there may be a realm from which it can be spoken of (by those who are competent in that language).

In a dispute between a "spiritualist" and a "skeptic", no straightforward empirical or logical technique might work, just as is the case with disputes that arise when we are unsure why we do not know what we mean by a word or phrase. But with persistence, resolution might be possible. To reach agreement, the spiritualist would have to get the skeptic to think from that other realm, just as Hearn made an effort to do by living and speaking with the Japanese.

This might involve using a new language, or at least a new lexicon, and using it to the stage that the skeptic too could distinguish sharply between the real and the merely conceptual within it, between ghosts and fairies, or between real ghosts and imaginary ones.

Thomas Kasulis reports that when he asked why the Zen master Dōgen wrote in Japanese instead of Chinese, he received the answer "Dōgen did not write the *Shōbōgenzō* in Japanese.... It is Dōgen's own language". [1985 90]. It is possible that schools of Zen Buddhism provide specific training in shifting to other realms of reality.

We cannot be simply told how to make the distinction, because that would require using a familiar language. We must be trained to do it, and we must learn to use another "language" of some kind.

2. Switching between natural languages

As shifts are language based, what more likely to change a realm than a whole new natural language? I have hinted that Hearn may have been working towards thinking from different realms by living with the Japanese and learning the Japanese language. The "in another world" feeling that is familiar to many who use a second language may be the product of thinking from a different realm. Take, for example, a native English speaker who confesses matters in Japanese to relative strangers that she would never have told them in English, or who is fluent in French from childhood but feels that she has not really promised anything when she has made the promise in French.

Baien might be said to be giving us a new language by providing us with the *jōri* lexicon, so that by thinking with this new language we shall be thinking the way he is teaching us to think. He wishes us to distinguish between the real, which the lexicon fits, and the merely conceptual, for which there are no *jōri* terms, and to do so only under criteria that mark off some kind of opposition or duality.

3. Individuation criteria

Different realms have different sets of criteria for the individuation of the things within them. But to be different realms, some criteria would need to be quite different. The hackneyed example of Ludwig Wittgenstein's duck-rabbit may illustrate no more than a priority struggle among the individuation criteria of a single realm. Eli Hirsch has attempted to shake out these priorities with the fable of "incars" and "outcars", referring to cars, or segments of cars inside or outside a garage:

Consider a language in which the word 'car' is replaced by the two words 'incar' and 'outcar'....When (as we should say) a car moves from inside a garage to outside, the description in that other language would be: 'An incar moved towards the exit whereupon it commenced to shrink in size until it eventually vanished; simultaneously with the shrinking of the incar an outcar appeared at the outside of the exit, and gradually grew until it attained the size and form of the original incar.' In this description the original object inside the garage is traced in such a way as to render it identical with what is later a smaller object inside the garage, and distinct from any object that is ever outside the garage. [1976 362]

We do not need to discuss this example in detail here, nor to comment on Hirsch's discussion of it. Hirsch speaks of it as a "strange language", and here we might speak of it as a supposed realm language with different criteria for the individuation of physical objects.

We do not speak like this, and cannot imagine wanting to, because we ourselves, thinking from a realm in which cars move comfortably out of garages, merely translate Hirsch's language into our terms. (What makes incars and outcars implausible as parts of a strange realm is an accident of Hirsch's example, namely, the realm seems to be one in which many mundane things like garages and vehicles are also real. Hirsch himself is asking a question about the norms of a realm from which we speak frequently.)

Nevertheless, in theory, it is conceivable that scientists should make a discovery that would force them to train themselves, while they are carrying out their scientific work, to think from a different realm, of which incars and outcars are part. The realm would be different, because its norms or criteria would exclude or include something that more familiar realms do not. More credibly, the criteria of one realm may individuate light waves, yet in another realm physicists may speak of light in the language of particles. It is interesting that the physicist Yukawa Hideki has commented on the applicability of

Baien's *jōri* system to Bōhr's theory of the complementarity of the wave and particle theories of light. [1970, also Itō 1987 9]

4. Mood influences on observation

Changes of perception due to changes of emotional mood may sometimes amount to realm shifts. The difficulty of seeing the humour in a situation when one is upset and angry, or the impossibility of remaining angry when one does see it as funny, may sometimes provide examples of thinking from different realms. Possible interpretations of observed and reported events are numerous. Not only these interpretations, but the very observations and reports themselves are profoundly influenced by moods and attitudes.

The similar metaphors of "world", and "domain", are often used in a discussion of the public and private domains of social life, each with its own rules and norms. "The process of moving from one world to another, is, psychologically, analogous to the perceptual phenomenon of gestalt shift". "Mystics and travellers, who have chosen to cut off ties with the past, experience a liberating, and much sought after, sense of inner freedom" [quoted in Bishop 1993]. This inner freedom is like the feeling of liberation mentioned earlier that can come from speaking another language. Both may be heady concomitants of realm shifts. The obverse side could be the spinal shivers and insecurity of realm uncertainty.

To show that these mood changes amount to realm shifts, one would have to say that some terms that refer to real things in one realm, have no purchase, real or merely conceptual, in another, and that statements made from one cannot be "translated" into statements made from the other. For example, poets and fiction writers may speak from realms, and lead their readers to think from realms, whose words cannot be re-expressed in everyday prose.

5. Madness

The fear of losing one's grip that is surely part of Macbeth's feeling when he alone sees the ghost of the man he has murdered, may provide cases of uncertainty about which realm one is in.

We cannot function unaided without the knack of distinguishing between the real and the merely conceptual. A threat of losing it is a threat of death to the self. Fiction writers like to work on us with this terror. Iris Murdoch's appendix to The Black Prince, Colin Thubron's A Cruel Madness, the kaleidoscopic shifts in some of Nabokov's novels, and many other stories, tease the reader and play on this fear. Shakespeare refines and elevates the "enter bloody head" of the early histories to the highly significant roles of the ghosts of Banquo and Hamlet.

6. <Turning and revolving>

Baien, whose particular realist commitments so easily lead to a theory of shifting realms of reality, offers a particularly interesting example with his attempt to accommodate the heliocentric theory, using the notion of two spheres, a west-turning sphere and an east-revolving sphere, corresponding to <turning and revolving> which is subsumed under TURNING. [See Chapter 8.2]

The turning sphere has the earth at its centre, the revolving sphere has the sun at its centre. The axes of the spheres coincide at the equinoxes. But even with the coincidence at the equinoxes, it is not clear that we need to take the spheres as physical entities. It may be that according to Baien's theory, depending on what we wish to say, we may speak in terms of an earth-centred realm, or we may speak in terms of a sun-centred realm. There are things that can be said from one realm that cannot be said from the other. For instance, Baien might say that we can think of night and day in the earth-centred realm, counting time in days, but not in the more remote sun-centred realm in which all the planets including the earth revolve around the sun, and time is counted in years. But when speaking about the equinoxes we may speak from either realm ("equinox" does imply something about time in terms of days, and something about time in terms of years, they happen twice yearly). A glance at Baien's works, including a late letter to Asada Gōryū [p.334 below] shows that how to think about the cosmos was a constant problem for Baien.

The revolution of the earth has been a problem not only for Baien. Writers on the topic of the "theory-ladenness" of observation sometimes use the allegory of Tycho Brahe and Johannes Kepler watching for the sun at dawn. Tycho sees the sun rise in the sky, Kepler sees the earth turning towards it. Despite what we have learned about the relativity of motion since the time of Kepler, some of us have to work to see the sunrise the way Kepler does in this story. Is this because we need to make a realm shift? If I have fought through the crowds to find a toe-hold on a peak on the island of Miyajima, where I have come to watch the first sun of the new year rise over the Inland Sea, it is all very well to tell me that the sun is "not really rising", that the earth is turning to meet it. My unstable position there has already led me to think from a realm in which the earth beneath me is absolutely stationary. To abandon that idea I would need to think in terms of gravity, which I do not well understand, and to rethink many other things too, such as weight. If I am taught thoroughly enough, it is possible that I could think from that realm even on the top of Miyajima, but it is more likely that many people, like myself, would revert to Tycho's view of the sunrise in those circumstances. If not, what price the first sunrise of the new year?

(As in many of my examples, it is not clear that another realm is necessarily involved here, instead there could be a shift within our familiar realm in the meanings of "move", "weight" etc. Yet again, people may think from one of three different realms, a "Tychonian" one, a "Keplerian" one, and another more familiar one which accommodated both ways of thinking.)

Perhaps there is an educational message here. Do some students have difficulty grasping scientific theories because they have not released the ideas of their familiar realm, and see the new ideas as incompatible with others in that same realm? We often use the word "really" in this connection: the earth is really turning, wood is not really solid, heat is really the rapid motion of molecules, the end of the rainbow is not really behind the hill, that star really went out of existence several thousands of years ago. The "really" is not always there to correct a mistake. It could indicate that what is real or not depends on the realm from which we are speaking or thinking.

7. Cause and miracles

Use of the terms "cause" and "miracle" lends itself to the idea of shifts of reality realm.

Causal networks might be seen as realm relative. Lycan discussed the example of two people meeting accidentally at the bank, inviting us to reflect on why we call this "accidental" when the independent arrival of each person is fully accounted for. Perhaps we may speak sometimes from the realm of which the causes of her arrival at the bank are a real feature, sometimes from the realm of which the causes of his arrival at the bank are a real feature, (these may or may not be the same realm), and sometimes from a realm in which their joint arrival is amazing and against all odds.

The idea of shifts of reality realm offers another way of looking at miracles, such as the classic miracles of the Christian gospels. Some philosophical writers have redefined "miracle" as an uncaused event, a clear enough phrase provided that the notion of cause is spelled out. Many writers, including Hume, have used a similar definition to show the impossibility of miracles, as though it needs showing that an event that is impossible given certain causal conditions is impossible under those conditions. If the notion of a miracle should have such a simple flaw, it would almost be a miracle itself that intelligent theologians and others should have overlooked this, or remain unfazed by it for centuries.

It is not merely redefining one's way out of the perplexity to say that those Christian scholars have meant something rather different by a miracle. Indeed they should have, for it is not that they are uncaused, or that the cement of the universe has cracked, that renders the classic miracles miraculous, for how many ordinary events have causes that are evident to all who witness them? What matters is where and when they happen, what happened just before them, just what it is that happens, to whom, and who witnesses the event.

In one realm there may be no way of speaking about these miracles, "uncaused" doesn't fit. But a shift to a realm in which the causal network is very different may give a sharp distinction between real miracles, and events merely conceived of or passed off as miracles. Thinking from this realm, the notion of an authentic miracle may be clear to the theologians, complete with doubtful cases and cases where some events falsely put forward as miracles may be seen to be clearly not so. There would be no doubt that there

is a sharp distinction, a non-arbitrary fact of the matter. For instance, the personal history of a so-called witness may provide sufficient evidence to confirm the suspicion that an event is not a miracle.

By contrast, in the case of deceptions such as magician's tricks, no reality shift need be employed. The experienced know that there is an explanation in familiar terms, to the extent, I am told, that when they cannot discern the fake they are the most likely to be taken in. The innocent may be merely puzzled, and derive their thrill from discovering that their grip of the norms of that familiar realm is not as secure as they had thought. Such a case could be distinguished from that of the Christian scholars who have been trained, by others or by themselves, to shift to thinking from a different realm.

In short, there may be a way of speaking in which the distinction between authentic and fake miracles, real miracles and merely conceptual ones, is clear and sharp. The norms that mark off that realm may render unintelligible some things we say in the languages of other realms, just as the languages of those realms may render the notion of a miracle unintelligible.

8. Ideas of time

If we speak with proper scientific objectivity, indexing events to times, at each occurrence of "now" we must substitute a date and a time. "There is an earthquake now" is recorded as "Earthquake, 4 p.m., 20 May, 1994". Yet something is left out of this report. We cannot translate "It is 4 o'clock now" as "It is 4 o'clock at 4 o'clock." The same problem lies behind Arthur Prior's question: what are you thanking goodness for when you say "Thank goodness that's over"? [1959] "Thank goodness that's over" says something that cannot be said with dates-only in place of tense. But if we chose to speak always in terms of past, present and future, the ephemeral nature of the "present" raises many problems, not to mention the asymmetry of past and future.

Different realms may have different norms for time. (And some may have none. Thinking from them, at least, time indeed may not be real, but it could be unintelligible, rather than merely conceptual). If we say or think that space and/or time are real, we speak or think from a realm in which by some criteria they are sharply distinct from mere conceptions, even should only philosophers, physicists or the like apply the distinction. If we say they are not real, we speak from a realm whose norms sharply distinguish them from what is real. Leibniz, for example, referred to space and time as "chimerical suppositions". Baien, on the contrary, analyses time and space in terms of elements that are real and fundamental. The scarcity of purely temporal vocabulary, and a tendency of philosophers as well as laymen to take sight as the paradigm of sense experience readily lead to the view that space is real but time is not.

Ways of thinking and speaking about time are numerous. Baien concurs with this to the extent that he marks off two spheres [see Chapter 8.2]. The real objects of the sphere with cyclical time are stars, planets, heat, cold, rotations of bodies in heaven, and seasonal

cycles on earth. Among the real objects of the sphere of linear time are living things that grow and die, and artefacts that are made and disintegrate.

We cannot trick Baien into answering questions like: "In which time do the cycles succeed one another?" "How many revolutions has Venus made from the beginning?" He demands that we speak from one realm or the other, not from both at once.

9. Pure fatalism

"Fatalism" is a vague term covering a range of beliefs, attitudes and doctrines, all centred around the view that either all future events, or certain future events, are unavoidable. These beliefs, attitudes and doctrines arise from a variety of considerations. Causal determinism is one source of fatalism. Rather than describing this fatalism as incompatible with, say, the temporal chauvinism of living for the moment, or describing free will as incompatible with determinism, we might describe these as cases of realm shifts. In one realm, responsibility for our actions may be all important, in another, responsibility may have no meaning. Vacillation between these realms is another possible source of spinal shivers. To some people (including some new entrants in philosophy courses), fatalism is uncomfortable, sometimes unbearable, when they vacillate between that realm and the one in which they are able to choose their actions.

On the theoretical level, recognising these as realm shifts might mean that weak arguments for the compatibility of free will and determinism could be thankfully discarded. Because compatibility is internal to single realms, it makes no sense to speak of realms as incompatible or compatible.

The view I call "pure fatalism" arises from a consideration of truth and tense, and not from a view of causation. Because time is a promising field for a theory of shifting realms, it is worth looking to see if the theory, even roughly sketched as it is, might help to resolve the fundamental puzzles of this kind of fatalism.

One of the earliest occurrences of the problem is Aristotle's well-worn example of the sea-battle tomorrow. "Either there will be a sea battle tomorrow or there will not be a sea battle tomorrow" is certainly true now. But how can this be true now if one of the two statements that constitute the disjunction is not also true now, and the other consequently false now? So is the question of a sea-battle already determined one way or another, and is either the battle, or the non-occurrence of a battle, inevitable?

Stoic logicians formulated and discussed a similar case in the so-called "Lazy Argument": If the statement "You will recover from that illness" has been true from all eternity, you will recover whether you call in a doctor or do not. Similarly if the statement "You will recover from that illness" has been false from all eternity, you will not recover whether you call in a doctor or do not. Therefore there is no point in calling in a doctor.

Chrysippus replies that whether or not you call in a doctor is just as much a matter of fate as whether or not you recover. This kind of fatalism does not provide a reason for action.

If we believe there is no point in taking any action whatsoever, we should at least realise that neither is there any point in abstaining from action.

Pure fatalism holds that the truth of any statement about the future is already determined, and nothing that we do will make any difference. For if it is true that it is snowing today, it was true yesterday that it was going to snow today. And so if it is going to snow tomorrow, it is true now that it will snow tomorrow.

Some writers, among them Gilbert Ryle [1954], regard pure fatalism as trivial. In contrast, Richard Taylor goes so far as to say that we all "ought to be fatalists." But their disagreement does not seem to be one of logic.

Describing the pure fatalist assertion that whatever happens is unavoidable, Taylor says: "This thought, and the sense of its force, has tormented and frightened men from antiquity." [1974 69] He claims that this torment arises from just two incontrovertible facts:

1. A proposition is either true or false, but not both.
2. Truth is independent of time.

Taylor says that we are all in the same position as those unfortunates who learn their futures from reading the book of destiny, from oracles, or suchlike. Their futures have been foretold, and we are ignorant of ours. But in our case, too, our future paths are already laid down. Taylor invents a character, Osmo, who discovers a book about the major events of his life, past and future. Osmo "becomes a fatalist" because there exists a set of true statements about his whole life, and he came to know what some of these were. And Taylor points out that the only difference between ourselves and Osmo is that we have not found the book.

On the other hand, A.J. Ayer says "The fatalist's bogey is a fraud" [1956 170] and Ryle, who calls this "pure fatalism", also objects:

The pure fatalist argument turns only on the principle that it was true that a given thing would happen before it did happen, that is, that what is, was to be.... There is something intolerably vacuous in the idea of the eternal but unsupported pre-existence of truths in the future tense. [1954 17]

Many people take the way out of Ryle and Ayer, and say those facts that Taylor describes as "incontrovertible", are like many incontrovertible facts, completely trivial.

Ryle does admit "we all do have our fatalist moments". I myself cannot see pure fatalism as always trivial. But I would say that Taylor loads his case unfairly by using the words "tormented" and "frightened". Pure fatalism can be a source of comfort. To take a vantage point "outside" time, as it were, and see disturbing events in an infinity of others, or as the past of future years, does not seem to be the folly of believing something to be false that is patently true, nor does it seem to be a completely empty thought.

In the past, my conclusion about this disagreement was that it is not a disagreement of beliefs, that is, about whether or not certain statements should be taken to be true. Instead, I had thought it was better to construe pure fatalism as an attitude that one might adopt or not as circumstances dictate. A timeless look at the whole human scene, that is, a view in which past, present and future are all equally unalterable, can be a wise, comforting and humbling view, but also a foolish view to take when it is important to see the consequences of our choices. Such views seemed to be neither true nor false, just appropriate or inappropriate, wise or foolish.

I now think that we may sometimes speak from a realm containing Nabokov's "pale past and false future", or one of the asymmetrical views of time in more philosophical texts; and sometimes from a realm in which "now", and hence "past" and "future" have no purchase. This could be either the scientific realm of reality mentioned above, in which those words are replaced by dates. Or it could be a realm like that of the 17th century Japanese Buddhist nun Seifu, who expresses her resignation to fate in a haiku whose seasonal reference is the *ohinamatsuri* (Dolls' Festival):

The faces of dolls

雛のかお

Necessarily

我ぜひなくも

I am older

老いにけり

Here the precious seven syllables of the middle line are spent on conveying the notion of inevitability.

If the realm in which pure fatalism rules our view of events because of its sets of criteria concerning cause, time, and so on, is a different realm from the realm in which we have a hand in determining the course of events, the original philosophical disagreement disappears. Inconsistencies and incompatibilities are internal to a realm. There can be no useful argument when the parties speak from different realms.

These nine topics lend themselves to the idea of realm shifts. There are many others (including thinking from realms determined by technical languages, for example a treatise in modern physics or a system of logic that dispenses with the law of excluded middle). Such topics would only be examples of shifts from realm to realm if the realities spoken of from one realm were neither compatible nor incompatible with those of another, but simply irrelevant, unintelligible, or disconnected.

Conclusion

Baien's commitment to realism, and the *jōri* system he developed as a means of interpreting the real, led him in the direction of a pluralist theory of reality. The theory outlined above is designed to suggest that if the role of language in determining the real is fully appreciated, we can dispense with the assumption that reality has a unique schema, without sacrificing the non-arbitrary distinction between the real and the merely conceptual on which realism depends.

Chapter 11: THE CONCEALED AND THE MANIFEST

Dragons leap and phoenixes dance. They give brilliance to the finished side, but if one looks into the obscurity of the raw side one sees the opposition of warp thread to woof thread, and the alignment of like thread with like.... Without overlooking a single scale or feather, the clever seamstress weaves dragons and phoenixes. When leaping dragons and dancing phoenixes are traced out with warp and woof, how lifelike they are! [Core Text NST 389,6]

Introduction

Scholars such as Shimada Kenji and Minamoto Ryōen have been honest about the difficulty of the *Gengo* texts. Nevertheless, Shimada has translated the whole of *Gengo* into modern Japanese, keeping close to the *kanbun*, and with a minimum of queries. [Shimada and Taguchi 1982] Minamoto tells us that after spending some time on the texts he felt that he had "some grasp" of their meaning, and proceeds to give us a clear and concise summary of Baien's main points. [1972 213] As a result of constant scrutiny of the texts, and the struggle to translate some of them, I too have become accustomed to his language and feel I have some grasp of what Baien means. I have been encouraged by finding hunches confirmed by later passages, and by the not infrequent experience of hitherto obscure lines springing into the light, or seeing apparent inconsistencies resolve when reading elsewhere in the corpus. For this reason the safe initial assumption is that the uncertainty of a passage is due to failure of the reader to comprehend, rather than an error on the part of the writer. However, as he himself is the first to point out, Baien is not infallible.

Nowadays, a philosopher with Baien's interest in analysing nature would choose a single topic, for example the individuation of objects, natural kinds, or time, all vast fields themselves, and work within it. Baien wanted to do it all, and with due care and detail. No wonder he so frequently remarks on the vastness of heaven and earth and the smallness and fallibility of mankind in comparison. He pressed on with examining the fine details of the web that he knew he could never trace out completely. He hoped that as new discoveries were made, others would one day pick up from where he left off and continue tracing the pattern.

To speak of the real, Baien found it necessary not only to invent the *jōri* lexicon, but to stipulate a method for using it. His lexical methods are described in Chapter 3 as "the *jōri* shift", and "the whole pair shift" which is the shift from realm to realm. Shifts in natural language have something in common with these shifts, in fact Baien has applied a mechanism that he was given with his own capacity for language. Nevertheless, Baien's theory of shifting realms differs fundamentally from the theory outlined in the previous chapter.

In this concluding chapter we shall return to Baien's texts. I have chosen a single *jōri* pair for consideration, namely <concealed and manifest>. It can be easily demonstrated that this pair has a vital role in the *Gengo* system, in keeping with its pervasive role in Baien's cosmos. Furthermore, it is a *jōri* pair, and as such its terms name a pair of real subjects, real features of the universe. Next we shall move on to the difficult problem of the relation of <concealed and manifest> to the pair <invisible and visible>. Most of the suggestions that I have to offer about the application of <invisible and visible> are negative ones.

To defend the thesis that Baien is enabled to tackle the huge task of analysing systematically the complexities of the universe by the ingenious terminological shifts that I have called "the *jōri* shift" and "the whole pair shift", it is important that I should examine the solution offered by Yamada Keiji to the problems of interpreting "invisible and visible" and its relation to "concealed and manifest". Firstly I shall take a critical look at some of the results of Yamada's stated translation policy for these pairs, and further show that he does not adhere to his own policy. A still more general criticism of Yamada's handling of <concealed and manifest> is that he regards the pair as epistemic. Despite the considerable attention that he himself has given it, Yamada's conclusion is that Baien's system is barely worthy of our attention. This alone does not require a direct answer, for if Yamada's approach to Baien's theory is to be followed, the most fundamental points of my interpretation are completely misguided. The material in the preceding chapters in general, and the presentation in this chapter of the pair <concealed and manifest> in particular, can be looked upon as the case in defence of Baien.

The chapter concludes with some remarks about Baien's system in relation to philosophy in general.

11.1 <concealed and manifest> as a *jōri* pair

<Concealed and manifest> (*botsuro* 没露) is a key pair in the *Gengo* system. The whole of Volume of Earth is organised according to the Concealed and the Manifest. Baien also says that Volume of the Small is organised according to that pair:

The "Concealed" section of Volume of Earth explains passage and filling up, the "Manifest" section explains covering and supporting. In Volume of the Small the manifest is Object, the concealed is Man. [Preface 2]

In Volume of Earth "The Concealed" concerns the realms of HEAVEN and of MOTIVE POWER, and "The Manifest" concerns the realms of NATURE and of BODY:

The realm of heaven is divided into space and time, and direction and position; the realm of motive power is divided into turning and holding, shape and *ri*. These form the "Concealed". The realm of body is divided into heaven and earth, light and humidity, the realm of nature into sunlight and shade, dryness and water. These form the "Manifest". [Preface App. I]

The range of <concealed and manifest> is cosmic. At the widest application in Baien's universe, the ultimate One conceals everything, the diversity of the universe is all manifest, as he says in this I Ching style passage:

When the door is open and the journey has begun, all things are manifest, every circumstance is visible. At the return to the house and the closing of the room, there is one solitary existence, all trace of dynamic flux is concealed. [Volume of Heaven NST 407,5]

Although this passage has the ring of the "occult" I Ching rather than the analytical Baien, as I have already said in Chapter 2.4, the ultimate One is for him the point where analysis must stop, and not the goal of his analysis. <Concealed and manifest> governs the entirety of heaven and earth:

Man has insignificant, small, coarse knowledge, how difficult is the search for the deep and fine, which is concealed! Fine and coarse merge into one, the concealed and the manifest dwell in the same place. How could we be outside heaven and earth? [Core Text NST 391,13]

Not only does <concealed and manifest> have an important role in the "Yin and Yang" chapter of Core Text, the pair occurs in the fourth line of the "Heaven and Earth" Chapter, and it is used in the last lines of that chapter:

All other things are contrasted with ourselves. Here we are separated from objects as "man and object", we are separated from *ki* as "heaven and man". If we look towards heaven and earth from our point of view, the one great object opens, its

boundaries divide as the concealed and the manifest. We stand within the realm of small objects, whose inner bounds are man and object. [NST 398,38]

Baien sometimes speaks of space as manifest and time as concealed. When we consider the universe as space, this does not mean that the universe of time is elsewhere. When the realm of space is the one realm of reality, it is the whole reality. When we shift to the realm of time "concealed" within it, that is, when time becomes manifest instead, then time is the whole reality. Baien uses the metaphor of "warp and woof" for time and space. Time is concealed in the next two passages:

The great object becomes *ki* and object. Warp threads pass through it and woof threads fill it up, the fine is concealed, the coarse is manifest. The passage of the warp threads makes the hours wherein spirit produces events. The filling up of the woof threads makes the places wherein objects have the bodies of objects. [Core Text NST 389,25]

Hour, as a concealed body, differs from object as a manifest body. [Volume of the Small NST 485,35]

Nevertheless <concealed and manifest> applies also in much less inclusive realms than the cosmic ones, such as in the following example where it applies in the realm of BODY:

Moreover, it must be also understood that lightness, heaviness, floating and sinking are within the realm of hollowness and substantiality; that odd, even, many and few are within the realm of number; that concealment and manifestation, existence and non-existence are within the realm of body; and that long and short, large and small are in the realm of shape. [Preface 13]

<Concealed and manifest> shows the proper *jōri* interdependence of central pairs like <*ki* and object> or <circle and line>:

Volume of Earth explains chaotic content, chaotic content and stability are presented together. But although things are divided by the distinctness of *jōri*, the explanation of the concealed involves the manifest, and the explanation of the manifest involves the concealed. [Preface 2]

"Concealed" and "manifest" do not, however, undergo a straight *jōri* shift. Neither "concealed" nor "manifest" is a member of another pair. This restriction is found also in certain other cosmic pairs, <yin and yang>, <dynamic flux and chaotic content> and

<all-pervading and perpetual ongoing>. <Concealed and manifest> is thus unlike the other hard working pairs, <heaven and earth> or <*ki* and object>, in that the four terms of these all pair with other terms as well. (For example there are <heaven and spirit>, <earth and sun>, <*ki* and body> and <object and event>.)

But like <heaven and earth> and <*ki* and object>, <concealed and manifest> is subject to the whole pair shift.

In considering its relation with the whole pair shift we come to the truly distinctive feature of <concealed and manifest>, the feature that it shares with no other *jōri* pair, and the feature that justifies its key position in the *Gengo* system. To bring out this feature I shall use terminology introduced in Chapter 3.3 in connection with the whole pair shift, and take from there the following points and conventions:

- "Realm" is extended beyond the "*kai*" of Baien's sets of "Four Realms" to indicate any "territory" governed by the union of a *jōri* pair, and named according to the *jōri* term that names that union. When it is a realm, one *jōri* term, (necessarily a member of a pair, but fully defined itself by the pair of which it is a union) governs the *jōri* pairs that "apply in" that realm.
- A *jōri* pair "applies in" a realm, but will sometimes be said to "apply to" another pair. When pairs apply to one another the one-to-one correspondence of their separate members is fixed.
- A realm may be part of another more encompassing realm.
- A realm is sometimes indicated by uppercase letters when it is appropriate to make that distinction.

The device, the whole pair shift, is, like the *jōri* shift, not named by Baien. But not only may it be inferred from the *Gengo* text, it is clearly stated in Section 3 of the *Preface* which includes the following example of the shift of <heaven and earth>:

When we are in the realm of motive power, heaven and earth are also motive power, when we are within the realm of body, heaven and earth are both body.
[Section 3]

A different shift of the pair <heaven and earth> is found in Diagram A, p.49 verso in Chapter 3.3. Here <heaven and earth> is a pair under the broadest realm, OBJECT, but it applies also in both the realm of CONTAINING and the realm of DWELLING. These two realms are both in the realm of BODY, but the meaning of <heaven and earth> will be different in each of the three cases. (As mentioned in Chapter 3.3, in the realm of DWELLING <heaven and earth> seems to mean the physical earth and sky, the other two meanings are more theoretical.)

The relation of the function of the whole pair shift to the function of the pair <concealed and manifest> might be explained as follows:

1) By means of the whole pair shift from realm to realm, Baien is able to switch from one schema of reality to another. As the meaning of a pair that is shifted in this way differs to the extent that the realms in which it applies differ, Baien is able to use a pair systematically without needing to show its relation to his use of it in other realms.

2) As a consequence of 1), the whole pair shift enables Baien to shift <concealed and manifest> anywhere he needs it, that is, he can apply it in any realm, and apply it to any other *jōri* pair.

3) Once applied in a realm, <concealed and manifest> itself divides as two "sub-realms", CONCEALED and MANIFEST. The switch between these two realms is again a realm shift, but in this case a shift between exactly two realms only.

The realms themselves, be it CONCEALED and MANIFEST, or two realms to which "concealed" and "manifest" apply, such as *KI* and OBJECT, are always tightly related as a *jōri* pair. In this case, for example, what we have are alternative ways of referring to the same two realms, and it is less confusing to translate Baien as saying, for example, *KI* is the concealed realm, and OBJECT is the manifest realm, or vice versa if that should be the case in point.

In view of 3), 1) above requires some slight qualification. In the one case of this pair, <concealed and manifest>, it is speaking rather loosely to say that the pair changes "meaning" with each shift. It would be more accurate to say that the whole pair shift enables it to apply to different pairs. The realm that is concealed or manifest differs with each shift. Sometimes these differences are specified in terms of another pair which <concealed and manifest> are applied to, one-to-one, such as <*ki* and object> or <time and space>, but sometimes in the text the differences are shown only by the different *jōri* pairs that apply in each of the two realms. The rule of "seeing opposites as one" (*hankan gōitsu*) permits proper subjects to be clearly picked out in a small segment of a realm, that is, without fully mapping out the broader realm of which that segment is a "sub"-realm, or even that sub-realm itself.

Despite the fact that it has this important difference from other *jōri* pairs, there is no doubt that <concealed and manifest> is a *jōri* pair. And this fact too is highly significant. Because it is a *jōri* pair it corresponds to reality. It corresponds to reality as much as <active and stable> or <heaven and earth>. "Concealed" is carefully distinguished from "non-existent" in the following line from Core Text:

"Whereas concealment is merely failure to manifest, nothing is failure to exist.
[NST 392,4]

Now, as a *jōri* pair, the terms are as it were "fixed" to reality. But what features of reality may be "concealed" or "manifest"? Concealed from whom? Manifest to whom? We have

to remember that the terms "*botsu*" and *ro*" are from Baien's artificial lexicon and be warned that we must forgo the "from whom" and "to whom", which anyway seem rather less called for in the "stiff" (*katai*) term "*botsuro*" than in my English "<concealed and manifest>". If the pair were involved only in the study of human psychology or theory of knowledge, "man has insignificantly small, coarse knowledge", it would have been tucked into Volume of the Small where man is dealt with, along with pairs like <language and behaviour>, <word and subject>, and so on.

So when Baien applies <concealed and manifest> to another pair, it cannot be his primary intention to point out something about the relation of man to that pair, despite the line quoted earlier "If we look towards heaven and earth from our point of view, the one great object opens, its boundaries divide as the concealed and the manifest". He must be telling us something about the relation of the members of that other pair to one another, such that when one is "concealed" the other is "manifest", and so if that is how things are, that is what we find when we look. The point is this: the terms gain their epistemic nuance from the fact that it is a consequence of this relation that we cannot "see" or "speak of" one member of the pair at the same time that we "see" or "speak of" the other.

The following four examples are readily interpreted in this way, namely, by taking <concealed and manifest> as a pair of real subjects, not just a way of looking at things.

1. That which is concealed is the spirit of dynamic flux, it is power and nature. That which is manifest is the body of chaotic content, it is heaven and earth. [Preface 4]

If our attention is focused on the two giant realms, DYNAMIC FLUX and CHAOTIC CONTENT, before we differentiate things within either of them we must choose between them, we cannot look at the universe both ways at once. Yet we cannot understand either without understanding the other. For all that, they themselves, and they especially among all *jōri* pairs, are not just two ways of looking at the universe. As a *jōri* pair they are both "already there in heaven and earth".

2. The manifest is yin, the concealed is yang. With yin and yang there is no first and last. The concealed is to be taken together with the manifest and the manifest is to be taken together with the concealed. The reader may choose, it is not necessary to take them in order. If we choose to explain the concealed, we shall introduce the manifest. If we choose to explain the manifest, we shall introduce the concealed. [Preface 4]

We are confronted with both the concealed and the manifest. If we are considering the realms of *KI* and OBJECT, for instance, and concealed is applied to *KI* and manifest to OBJECT, anything in the realm of OBJECT, such as animals and plants, perhaps, is manifest, and anything in the realm of *KI*, stuff, or atomic particles, or some such alternative differentiation of the whole, is concealed. There is some suggestion of "inaccessible and accessible" in <concealed and manifest>, especially in the following lines from Reply to Taga:

The realms of space, time, turning, and holding constitute the concealed heaven and earth. These are realms of *ki*, not objects, and although heaven and earth exist here, they cannot be seen with the eyes or touched with the hands. The concealed pairs with the manifest, so wherever there is concealment there is manifestation. [Zenshū II 96]

Nevertheless, this nuance of inaccessibility is a consequence for mankind of the way the universe is. The difference itself between the realm of *KI* and the realm of OBJECT, that is, their opposition like the two sides of the brocade, does not depend on mankind's perception of it.

3. The fine things, heavenly objects, and the substantial things, earthly objects, conceal the limits of generation and decay. The coarse things, water and fire, and the hollow things, plants and animals, manifest the limits of generation and decay. [Volume of Heaven NST 429,32]

We may speak of the coming into being and going out of existence of "coarse" things. These things are either things that live or die (always being born of something else and dying to form something else), or they are "fire" and "water" which also come into being and cease to exist at identifiable moments. When we speak of these coarse things, a realm of "fine" things is concealed. This concealed realm of fine things is the realm in which we speak, not of coming into being and ceasing to exist at identifiable places and times, but of continuous change, like a universe of constantly interacting sub-atomic particles, or the intermingling yin force and yang force. In the following we might interpret the realm of fine things as infinite, and the realm of coarse things as finite:

Concealed traces are different from manifest traces in that the one are fine and the other are coarse, but the infinite and the finite are alike as regards generation and decay. [Volume of Heaven NST 431,6]

Even when we speak of coarse things, we are speaking of things that are generated from something and decay into something else. Despite the definite divisions, there is a continuum. The fine realm too has a continuum, but no divisions are marked: it is "seamless", as Baien would say. Once again, the concealed and the manifest are equally real.

4. In the already quoted and allegedly simple explanation in Reply to Taga (which is at least written in *wabun*), Baien tries to be more graphic:

Consider again that blue sky, like lapis lazuli, and those vast piles of rough stones and soil. This describes a very coarse heaven and earth. There is fine *ki* and coarse *ki*, and concealed objects and manifest objects. First we must explain the states of fineness, coarseness, concealment and manifestation, whether we are considering the blue sky above us or the rough ground beneath our feet.

Taking "fine" and "coarse", coarse *ki* has a concealed body, but nevertheless holds a place. Fine *ki* dwells within objects, but does not hold a place.

To illustrate holding or not holding a place, take a water pot. A water pot is made with two holes, what are these for? If the pot is made to hold two litres it will hold just that much water and no more. Even when there is no water in the pot, it is not really empty, it is filled to the brim with *ki* whose body is concealed, so that when water is poured in this *ki* comes out of the other hole, and when water comes out *ki* enters by the other hole. The reason for this is that a place cannot be void for a single moment. Wherever there is no earth, heaven is in that place. A place must exist for sun and moon to hang within, for mountains and rivers to be arranged within, for wind to blow and rain to fall within, and for ourselves and all things to dwell within.

A thing with shape we call a "manifest" body, and a thing without shape a "concealed" body. That which holds a place although its body is concealed is heaven within the coarse. If we look at heaven from within the fine it is just the same as earth. [*Zenshū* II 93]

Here Baien asks us to begin by accepting that there is much more to the earth and sky before our eyes than we might naïvely think. In this example we are no longer in the great realm of the whole spatial universe. We have the pot, the clay, the "*ki*" around it, and the "*ki*" or water inside it. When he says "coarse *ki* has a concealed body, but nevertheless holds a place", his concern here is whether a thing is with or without shape.

The "now you see it now you don't" view of the empty water-pot and its contents is a direct result not of the whole pair shift, but of the much more tightly regulated shift between a concealed realm and a manifest one. Using the terminology of Chapter 8.3, in contrast to the container, which might be described as a "regular thing", the *ki* that the pot contains is a "mass thing", with no essential shape of its own, yet it too occupies a determinate portion of space. When "regular things" and "mass things" are contrasted as manifest and concealed, so that a regular thing and a mass thing "hold the same place" we are constrained to speak in terms of one, or the other, but we are not allowed to speak of both at once. (In this way <concealed and manifest> could eliminate one source of the "overcounting" problem mentioned in 8.3, that is, we count only within whichever realm it is that is manifest. If two such different things appear to occupy exactly the same place, one is manifest and the other is concealed.)

<Concealed and manifest> is not a pair of points of view, but the pair that underwrites this "switching" between two views, carrying with it, as a *jōri* pair, a guarantee that the two views are schemata of reality. This is the point at which <concealed and manifest> suggests a theory of shifting realms. Baien many times expresses his frustration at the inadequacy of diagrams and words to portray reality;

Oh, I may draw a flower with consummate skill, but it will not bear seeds. I may carve a faithful copy of a bird, but it will never be as beautiful as the original. The

craft of heaven borrows nothing from man, and the craft of man can never imitate heaven. To catch the fish and rabbits that heaven provides, we must set up nets and snares. [Preface 3]

Of course, <concealed and manifest> alone would give us only two realms, and unlike the disconnected realms of the theory in Chapter 10, these two would be systematically related. However, taken together with the whole pair shift, <concealed and manifest> shifts to almost any realm. So we not only have great cosmic dualities, such as <heaven and earth> or <fine and coarse> in their most comprehensive applications, but numerous less comprehensive switches also occur, such as those between concealed and manifest bodies, or concealed and manifest limits (beginnings and ends). Even though the shift between the concealed and the manifest is regulated strictly by *jōri* opposition, the total picture is no longer merely twofold, nor is it analogous to a single many-sided figure with facets to the power of two in any regular way. On the whole, Baien speaks of <concealed and manifest> where he finds it.

The theory of multiple facets of reality, almost multiple realities, facilitated by the pair <concealed and manifest>, partly explains the near impenetrability of parts of *Gengo*. (Without some grasp of the *jōri* shift and the whole pair shift we could not penetrate it at all. But our natural linguistic competence gives us some help there.) He does not ask us to abandon the common philosophical assumption that reality has a structure, but we are to release our hold on the idea that it has a single structure, or at least to release it until the structure is discovered. And Baien holds out no hope for any one of us actually uncovering such an entire structure in the vast ocean of diversity that he is analysing, we cannot "measure the ocean with a gourd". Baien preserves some systematic order by his ingenious use of the pair <concealed and manifest>.

All considered, we are not surprised that his contemporaries found *Gengo* very difficult to understand. The Preface, added last in the 1775 published version, was an attempt to explain his method, and by and large remains his clearest exposition. Nevertheless, we can see that after the 1775 version he found a need to expound his theories still further, as he does in 1776 in the letters to Kō Takaoki and Yumisaki Yoshitada translated here, and in Reply to Taga in 1777. Letter to Yumisaki Yoshitada contains the most straightforward use of <concealed and manifest>:

Body is invisible within object, but nature is visible through *ki*. Thus nature endows one and one, *ki* functions as the intermingling yin force and yang force. When we speak of heaven and earth, water and fire, male and female, animal and vegetable, then yin and yang are concealed; and when we say this is yin and that is yang, we lose heaven and earth, water and fire, male and female, and animal and vegetable. [p.351]

In this passage the pair to which <concealed and manifest> is applied is <*ki* and object>, but it can be applied in two ways: when OBJECT is manifest (and with it heaven and earth, fire and water, male and female, and animal and vegetable), then *KI* is concealed (and with it yin and yang). Or instead *KI* may be manifest (and with it yin and yang), so that all those objects are concealed. In the language of my previous chapter this would be

partly expressed by saying that yin and yang are in one realm of reality, and heaven and earth, man and woman, and fire and water in another. As I have indicated several times in previous chapters, there are no grounds for seeing yin and yang as universals from which the particulars, heaven and earth, man and woman and fire and water are "abstracted", even though the above sentence tends more towards such an interpretation than many others. The two "realms" involved are like the sides of the brocade robe, heaven and earth, man and woman, water and fire, and so on, on one side, (the brilliant finished side?) and yin and yang on the other (the raw interwoven warp and woof threads?), yet each side is the whole brocade.

The ultimate one, with the two necessarily inseparable sides, is itself unfathomable. The two realms, the sides of the brocade "dwell in the same place, but take different paths". My theory in the previous chapter has no such beautiful robe, and it has no use for the phrase "in the same place" either, but it concurs with those words to the extent that the two realms do not dwell in different places, the different realms are not different places in some master realm.

11.2 <concealed and manifest> and <invisible and visible>

The visible and the manifest differ from each other, nevertheless they dwell in the same house and travel the same path. [Volume of Heaven NST 429,32]

The seemingly more vernacular "invisible and visible" 隱見, and its relation to <concealed and manifest>, turn^s out to be even more difficult to interpret.

It is some small comfort that Baien expects us to find it difficult to understand the relation between the two pairs. He writes to Yumisaki Yoshitada:

Nature and body conceal and manifest *ki* and object. When *ki* and object are manifest, nature and body are concealed. But when the concealed is visible, the manifest is invisible. It may still be difficult to understand how the invisible may be manifest. But because it is visible the concealed does not elude us. That is the state of *jōri*. If we should now see the manifest but not yet detect the concealed, or should see the visible but not yet know the invisible, we cannot yet say we have arrived at their meaning. [p.350]

By saying that the concealed is "visible", does Baien mean that we cannot acknowledge the existence of the manifest without acknowledging the existence of the concealed? That interpretation would leave us with the problem of explaining what is meant then by saying that the manifest can be "invisible". Fortunately, <invisible and visible> play a less important role in his system than <concealed and manifest>.

An effort to understand <invisible and visible> by looking at the things to which Baien applies the pair does not take us very far. The only consistency I have found so far is that the term "object" does not seem to be visible or invisible in any of its *jōri* shifts. There is a tendency for <yin and yang>, "nature" and "spirit" to be visible or invisible, but there are exceptions to all of these examples. The shifts of Baien's terminology, especially the whole pair shifts from realm to realm, make the occurrence of any frequently used term so heavily context dependent that merely listing correlations from a large number of quotations becomes meaningless.

For instance, *ki* is often invisible or visible. In the example of the riverbank gazers he says:

The concealment or manifestation of objects is the visibility or invisibility of *ki*...

But in the next two lines *ki* is also "concealed":

Ki and object form objects as concealed or manifest, yin and yang as invisible or visible. *Ki* is fine and concealed, object is coarse and manifest. When *ki* is coarse it is also visible... [Core Text NST 390,18]

Sometimes it is the body of *ki* that is manifest or concealed. Unfortunately, in one passage it is fine *ki* whose body is concealed [Preface 4], while in the water pot example it is coarse *ki*. We should not be too ready to assume this is an inconsistency. The former occurs in a broad picture in which the concealed is "the spirit of dynamic flux" and the manifest is "the body of chaotic content". The latter, on the other hand, surrounds a specific example of one of the small things before our eyes.

In that "I Ching style" passage quoted earlier, Baien says: "all things are manifest, every circumstance is visible". Here the manifest ten thousand things are compared with the visible "circumstances", which have to do with time. Time, in turn, has to do with "spirit", or with <heaven and spirit>, not <heaven and earth> with which object is concerned.

On the whole, <invisible and visible> seems to be applied to changing, dynamic things, such as hours, water and light. It is seldom or never applied to static, "stable" things.

When object discloses heaven and earth, fire and water are visible. The hollowness of that which contains and the substantiality of that which dwells are manifest, and earth appears vividly. Within the combined four, heaven, motive power, nature and body, the intermingling yang force of light and yin force of humidity are visible. Space and time [HEAVEN] are invisible, hollow and substantial bodies [BODY] are manifest, turning and holding [MOTIVE POWER] are concealed and light and humidity [NATURE] are visible. [Core Text NST 394,5]

This is a case where <invisible and visible> is on a level, so to speak, with <concealed and manifest>. Of those four realms, "heaven, motive power, nature and body", which he describes in Reply to Taga as like the legs of a Go table which cannot stand if one is missing, one is invisible, one is concealed, one is visible, and one is manifest.

But there are many other cases in which <invisible and visible> is clearly not on a level with <concealed and manifest>. For instance, heaven and earth, or "the great object", may also be divided into only two with <concealed and manifest>, without <invisible and visible> appearing at all, as in the following:

The great partitions of heaven and earth are space and time, turning and holding within the concealed; and heaven and earth, light and humidity within the manifest. [Core Text NST 396,25]

The manifest separates as the two realms, colour and body. Colour is the visibility of nature. Body is heaven and earth, and nature is light and humidity. [Preface App. XI]

If the dynamic flux of things involves the opening of paths, the chaotic content of things involves the existence of the house in which they dwell. House and path are concealed within the coarse. The fine is visible as motive power and heaven, the coarse is manifest as nature and body. [Core Text NST 393,4]

In these passages CONCEALED and MANIFEST are fundamental realms, more extensive than the realm of NATURE, for instance.

The alignment, "on a level", of <invisible and visible> with <concealed and manifest> in the earlier case is another example of Baien's tendency to think in terms of four, rather than two, which was discussed in Chapter 5.2. This is possibly why <invisible and visible> are applied to realms there. Although all four, HEAVEN, MOTIVE POWER, BODY and NATURE are realms, <light and humidity> also seem to be regarded as "physical" spheres by Baien. And even the fundamental <space and time>, as the <all-pervading and the perpetual ongoing> seems to have a quasi-physical simplicity lacking in the more theoretically complex <hollow and substantial> and <turning and holding>. Is this why these two pairs seem the more obvious two of the four to have <invisible and visible> applied to them? Generally, whereas <concealed and manifest> seem to be applied to whole realms, <invisible and visible> applies to individual *jōri* subjects. But as realms are of course also *jōri* subjects much more would need to be said before such a suspicion could be confirmed.

To understand the details of the theory that illustrate the relation between the fundamental pair <concealed and manifest> and the more occasional pair <invisible and visible>, we should need to make a lengthy study of the different passages in which these terms occur in their contexts. But we can be sure that Baien very seldom, probably never, looked on the pairs as simply interchangeable.

11.3 problems with translating "<manifest and concealed>"

An unfortunate effect of the tortuousness of the *Gengo* text is the variety of interpretations it gives rise to. Everyone is guessing, so to speak, at some point or other. But the answers are by no means all in a sealed envelope. The text is tight and formal and there is no good reason to slacken it to the extent that the author's original intention is at risk. Because Baien preserved the consistency of *jōri* terms in *Gengo*, in its expository *Preface*, and especially in the *wabun* text of *Reply to Taga*, using the very same Chinese characters, we have sufficient reason to retain this consistency in idiomatic Japanese versions and in English translations. Shimada Kenji, a scholar of Chinese texts and specialist in Neo-Confucian thought, has done this. The text is still far from easy to follow, so Yamada Keiji has produced a freely interpreted modern Japanese translation of the *Gengo Preface* and *Core Text*. [1982]

Yamada's difficulties with translating <concealed and manifest> illustrate the restrictions that the *jōri* lexicon imposes on free and idiomatic expression. It is not surprising that Yamada's handling of the connection between <concealed and manifest> and <invisible and visible> is awkward. In view of the fact that I have not yet found a clear interpretation myself, I shall not appear to be in a very strong position to criticise his interpretation of <invisible and visible>. Nevertheless, because his handling of the two pairs reveals a radical and fundamental difference between Yamada's interpretation of Baien's project and the one that is the theme of this essay, I am obliged to discuss it.

Yamada says that the two pairs of "concepts", "concealed and manifest" and "invisible and visible" are an important key to understanding Baien's philosophy. He says also:

The perceptibility of a thing is not a property of the thing itself.. It is visible or invisible according to the situation in which the thing and the observer are placed. In the end Baien makes a distinction between "concealed and manifest" in the case of object, and "invisible and visible" in the case of *ki*. I have decided to translate "concealed and manifest" as "invisible and visible as object", and "invisible and visible" as "invisible and visible as *ki*". In a sense we can regard *Gengo* as an analysis and description of the invisible and the visible. [1982 85]

Awkward translations:

The following are five observations relevant to Yamada's translation decision.

1. <*Ki* and object> are a fundamental *jōri* pair, and so *ki* in most of its shifts is in every way as fundamental as is object. Yet <invisible and visible> is by no means as important as <concealed and manifest>. If the difference between them should depend on whether the visibility in question was visibility of *ki* or visibility of object, one would expect the pairs to have equal status.

2. There seems to be another asymmetry in the application of <concealed and manifest> to object, and <invisible and visible> to *ki*. Although it seems that object is never described as either invisible or visible, *ki* may be not only either invisible or visible, but also either concealed or manifest. In the following passage it is manifest:

In "heaven and earth", *ki* is concealed and object is manifest. Nature is invisible and body is visible. In "heaven and spirit", *ki* is manifest and object is concealed, body is invisible and nature is visible. [Volume of Heaven NST 406,37]

3. The passage about the model of the riverbank gazers in Chapter 2.3 is a difficult but important one, and it is reasonable to be guided by the line "The concealment or manifestation of objects is the visibility or invisibility of *ki*". But in the previous lines those tired gazers give little support to Yamada's translation:

[Note: Where I give parallel versions, the left-hand side is my translation with a strict one to one correspondence between each *jōri* term and some English term; the right-hand side is my translation of Yamada's version]

the fact that they are near to or far from, or visible or invisible to one another is the same in each case, but the person who is far, near, visible or invisible is different in each case.
[Core Text NST 390 15]

the fact that they are near to or far from, or visible or invisible as *ki* to one another is the same in each case, but the person who is far, near, or visible or invisible as *ki* is different in each case. [Yamada 1982 332]

Admittedly, the passage is very difficult to understand anyway, but it is even more difficult to imagine what Baien would mean by a person being invisible or visible as *ki*.

4. The difference between "object" and "body" is sometimes rather elusive, but it is a significant difference. Baien says:

By means of the body of an object we can point to any object and discuss it. Objects have bodies, so we can point to a yang image, and we can point to a yin image. Without bodies, how could objects have shape and content, how could we point to them? [Letter to Yumisaki Yoshitada p.351]

In his idiomatic translation Yamada uses "body" and "object" as follows:

When *ki* is coarse its body is manifest,
when *ki* is fine its body is concealed
[Preface 4]

When *ki* is coarse its body is visible as object,
when *ki* is fine its body is invisible as object [Yamada 306].

The difference between "body" and "object" is subtle enough when Baien uses them together, without introducing a spurious "object" where Baien has only "body". [See Chapter 8.3]

5. In the following passage from Baien's theory of time (which is not discussed in detail in this essay), Yamada's version is quite intrusive:

[The perpetual ongoing pulls the hours,
within which periods succeed one another.]

When it accords with a period the present is visible and the two borders are concealed.

[The present is within an instant, but it manifests every event and every object without exception. The present does not hold any of these events or objects, its two sides extend infinitely before and after.]

[Core Text NST 393,30]

When it accords with a period the present is visible as *ki*, and the two borders are invisible as object. [342]

"Visible as *ki*" and "invisible as object" detract from the point. It is difficult to see that the philosophical problem of relating the present to past and future has anything much to do with either *ki* or object, in the sense of <*ki* and object>.

There are many other passages in which Yamada's choices of "invisible or visible as object" and "invisible and visible as *ki*" do not sit well. For instance, we might object to the unnecessarily cryptic air of "Objects that are invisible as objects are *ki* that is visible as *ki*." [1982 332] Baien is already cryptic enough.

Inconsistent translation:

A more general complaint about Yamada's version of <concealed and manifest> and <invisible and visible> is that he does not use it consistently himself.

1) Yamada uses the option of retaining the original characters (*botsuro*) rarely, usually in reference to the section titles, "The Manifest" and the "Concealed", but he also uses the terms unchanged in the following (in which his version agrees with my stricter version in Preface 8):

Thus although the concealed is heaven and the manifest is earth, the concealed is also heaven and earth and the manifest is also heaven and earth, heaven is also heaven and earth, and earth is also heaven and earth, and so on for everything.
[Yamada 311]

If "concealed and manifest" can be used here, why not retain Baien's terms everywhere else?

2) "Heaven" and "earth" are added in the following passage:

The intermingling yin force and yang force are the conveyors of spirit, the concealed and the manifest are the stability of objects. [Core Text NST 391,31]

The intermingling yin force and yang force are the conveyors of spirit, the invisible heaven and the visible earth are the stability of objects. [Yamada .336]

One may become over-sensitive to the demands of the *jōri* lexicon and the whole pair shift, but adding "heaven" and "earth" here seems to be taking considerable licence for little gain.

3) Sometimes there is no attempt at all to preserve Baien's distinction. In the following two cases "concealed and manifest" are forsaken altogether in favour of the simple "invisible and visible":

But because things are divided by the distinctness of *jōri*, the explanation of the concealed involves the manifest, and the explanation of the manifest involves the concealed. [Preface 2]

But because things are divided by the distinctness of *jōri*, the explanation of the invisible involves the visible and the explanation of the visible involves the invisible. [Yamada 301]

and

Man has insignificant, small, coarse knowledge, how difficult is the search for the deep and fine, which is concealed! Fine and coarse merge into one, the concealed and the manifest dwell in the same place. [Core Text NST 391,13]

Man has insignificant, small, coarse knowledge, how difficult is the search for the deep and fine, which is invisible! Fine and coarse merge into one, the invisible and the visible dwell in the same place. [Yamada 334])

I myself have not always adhered strictly to the *jōri* lexicon with a one-to-one correspondence between its terms and chosen English terms either. Sometimes I have had great difficulty in preserving in English the meaning thread that runs through the uses of certain Chinese characters. It is more difficult in English also because in Japanese the option is always open of retaining the original terms in difficult cases, using Japanese syntax to relax Baien's tight *kanbun* style. But if Baien's method is as deliberate and purposeful as I have described it earlier, especially in Chapters 3 and 4, then every effort should be made towards consistency. The *jōri* shift and the whole pair shift cannot work without such consistency, and these shifts, together with the *jōri* pair <concealed and manifest>, provide Baien with the flexibility that he found necessary if he was to express the diversity of the universe without any sacrifice to system.

I admit that I have a vested interest in <concealed and manifest>, it fits the idea of shifting realms so neatly. But even without that particular pair, if we accept Yamada's translation as an accurate representation of Baien's intention, the analysis of the systematic *jōri* shift in Chapter 3, and elsewhere in this essay, is worth little, because it is a consequence of that analysis that as far as possible, *jōri* terms should have one and the same translated form throughout.

Yamada's choice of terms readily lead to the conclusion that Baien was capricious in his own choice, that he used "manifest and concealed" when he wanted to be pompous or obscure. But that is unlikely. Baien says:

When we have grasped something that stands out distinctly, but we do not have a name for it, in the end we have to name it ourselves. For example, I speak of *ki* and object as "concealed and manifest", or of heaven and earth as "passing through and filling up". I see that shade is the opposite of sun, and that dryness is the opposite of water, although these are not the names the ancients gave them.
[Preface 9]

"<Concealed and manifest>" is not about perception:

On the whole problem of the interpretation of <concealed and manifest>, perhaps the most fundamental objection to Yamada's exegesis is that it represents the pair as dependent on human observation. This isolates <concealed and manifest> from the other *jōri* pairs of his cosmology. For example, in the passage just quoted, are we to take <*ki* and object>, <heaven and earth>, <passing through and filling up>, <sun and shade> and <water and dryness> as depending on our perception too? The general tenor of *Gengo* cries out against that interpretation, yet if these are real features of the universe, so surely are <concealed and manifest>.

The *Gengo* system is a realist system in the sense conveyed by "heaven and earth is the teacher" and "*Gengo* is superfluous because heaven and earth is there already", the sense implied by numerous passages already discussed in this essay. Given this realism, to take <concealed and manifest> alone as epistemic would be to charge Baien with a gross inconsistency. This is because <concealed and manifest> is a *jōri* pair, and *jōri* pairs are pairs of real subjects.

As I pointed out in Chapter 4.3 concerning the message to be taken from the example of Tseng Ts'an's mother, to say that only *jōri* pairs are real subjects is not to say that all *jōri* pairs are real subjects. If *jōri* pairs are not all real, then <concealed and manifest> could be one of the exceptions. But as I also point out there, Baien makes it quite explicit that *jōri* opposition is a feature of heaven and earth in contrast to merely "seeing" opposites: "*jōri* is heaven, seeing opposites is man". So, after all, there are only two alternatives, either <concealed and manifest> is a feature of reality, or it is not a *jōri* pair at all. And there is no doubt that it is a *jōri* pair.

Yamada believes that Baien's theory is worth little:

The structure of the world is clear. It is a world constructed according to a strict dualism, so clear that it can be represented in one diagram. It is symmetrical. In more concrete terms, the world is a sphere of symmetrical construction. To express this at a second level, it is of course, round. We could not find another world structure so clear.... [143]

Miura Baien provided over 200 diagrams to accompany the Gengo text. [Karashima 1975] Some of these are revised versions of others, but there are still very many. It is interesting that they seldom combine together, even using a device that Ogata Sumio tells us Baien himself used, that is the device of drawing two complementary diagrams one on each side of a sheet of paper. [Ogata 1982 547] They could not all be mapped into a single two-dimensional, or even three dimensional schema because it is an essential feature of his system that *jōri* subjects move in and out of focus, so to speak. It is puzzling that Yamada says that Baien wrote from his diagrams [1982 154]. How could the patterns of a kaleidoscope be condensed into a single diagram? [See Chapter 7.1]

Yamada continues about Baien's "world structure":

It is significantly deficient. In my opinion the world image that Baien has constructed is skeletal. It is certainly full of the static formal beauty produced by the dissection of symmetry. The beauty of the dynamic, spontaneous and uncertain is absent. His world lacks the richness of change and diversity. The strict thought system and clear world image is without doubt an amazing construction for a single brain.... Never before has such a monotony of thought system and poverty of world image been achieved. [143]

Yamada says that Baien's philosophy is monotonous, "like his life" [142]. Some may think it would be monotonous to live a life of scholarship, teaching, and concern for the welfare of a small village, devoid of political intrigue and competition for privileges or resources. It might be said of philosophy as people say of art, that nothing of excellence is produced without tension and anguish. And it might be replied in both cases that for this the author does not need to look outside the studio or study for tension or anguish. Works of serious value generate a considerable amount of tension and anguish themselves. Shimada Kenji says that Baien's "inner" life was not tranquil because of his persistence in the search for answers to philosophical questions. [1982 639] The struggle seems to have increased with his work on the Gengo system. All the evidence shows that his life was far from monotonous in any sense, and it gained momentum as his reputation grew and his contacts with other scholars increased.

Despite Yamada's criticisms, and however often Baien is mistaken in his analysis, there is no reason to abandon the working hypothesis that Miura Baien was imaginative, well-educated, diligent and meticulous, and that he meant what he said.

In Chapter 4 we saw how Baien expressed the relation of his *jōri* language to reality through the medium of a *jōri* pair, <word and subject>. Nevertheless, an analysis of his text shows that there is much more to say about that relation. Likewise, here we see how he expresses a "view" of a reality structured in such a way that no single structure can be described or sketched, through the medium of another *jōri* pair, <concealed and manifest>. And here too there is much more to say than is explicit in his text.

The mechanism of systematic shifts from realm to realm take Baien towards, but not all the way to a theory of "plural" realities. The mechanism by which these "realities" shift is much more complex than simply the function of <concealed and manifest>, although that pair, as a *jōri* pair, is his acknowledgement that such a shift is a feature of reality. He gains more flexibility still from the whole pair shift. But more than by anything else, the strongest clue to this interpretation is found in the model of the brocade robe.

11.4 Concluding remarks: "far-seeing" 達觀

Baien needed the pair <concealed and manifest>, his lexicon, the *jōri* shift and the whole pair shift to express what he found before his very eyes. The Preface shows that Baien knew these linguistic devices were vital, but he does not go so far as to state that language is inseparable from reality. Of course, to say that the *jōri* system may depend upon language more than Baien suggests, is not to say that it is entirely dependent upon language. But even if it is so dependent, perhaps this is because any characterisation of the real in terms of a sharp distinction between the real and the merely conceptual must be dependent on language.

There is a tendency to see independence from language and thought as the mark of reality, but in the end it is doubtful whether independence from language is even meaningful. Because the special Gengo language is so strange and unconventional it forces us to think about the general role of language in that system. A would-be "realist" who used more conventional language might more easily persuade us to accept that the real is characterised by its separation from language. Anyone who accepted this separation without question would require great mental exertion to see *jōri* as independent from language, and could easily make the mistake of deciding that Baien was not interested in the way the world is at all, but in constructing some fanciful thought system.

Nevertheless, even if the distinctions named by each pair should depend on language, or on some preconditions of language, such as logical relations or "deep" linguistic structure, it has been argued here, especially in Chapter 10, that nothing is lost if they are distinguished as "real". Users of language are bound by its constraints, and the constraints of language provide the unalterability that realism requires.

If we allow that language provides the essentials for realism, it would follow that reality need not have a single structure, rather, that there are many "realms" from which we may think or speak. Although in any one of its occurrences <concealed and manifest> applies to only two realms, by the whole pair shift many more are involved.

The thesis that language and reality are interdependent is not found in the Gengo texts. Although Baien gives much thought to language as a tool for laying out his system, for this purpose he is not concerned to analyse it as much beyond strings of written words, and he says that even words are "superfluous", because "heaven and earth is there already". He does not consider language in the broad sense of "language" that we should need to use if we were to put to him the suggestion that the norms of reality set by heaven and earth are, just because they are set by heaven and earth, given to us with language. Furthermore, many-faced as it is, his *jōri* system is too tightly structured to tolerate the kind of "pluralism" suggested in Chapter 10.

What did Baien himself set out to do? It is plain that he was seeking a new and more meaningful way of thinking about the details of the natural world, the world before our very eyes. He questioned old traditions, such as yin-yang theory, and the idea that the

stuff of the universe, *ki* is homogenous. He also asked: what makes a thing a thing? what is the difference between a lump of iron and the kettle or spear into which it is made? how can there be both spatially defined objects and a constant dynamic interplay of diversified *ki*? does time consist of past, present and future? what is the relation between time and space? how should we speak of the cosmos, now that we can find out what it is like? and so on, not forgetting one of the major themes of this essay: how can we use words to grasp the complex manifold? More important still, he knew that it is not enough just to ask the questions, that the more elusive the answers the more he should pursue them.

When Westerners study Japanese (or Chinese) scholars we are often faced with the difficulties of finding the philosophy. Not only is philosophy sometimes mixed in with scientific, historical or other works, but philosophy itself has not been organised in the way to which we are now accustomed. We have no such problem with Miura Baien, however, he was a philosopher before there was a word for the discipline in his language. He used the word "*takkan*", literally, "looking with far-sightedness", "far-seeing", which the *Kōjien* dictionary defines as seeing the whole rather than the parts. The closest things may still be looked at with far-sightedness, "heaven and earth are not hidden from us but before us day and night". [Reply to Taga *Zenshū* II 83]

Miura Baien is celebrated in his home district in Kyushu, on the Kunisaki peninsula. His poetry and other work is studied at Kunisaki High School. A former mayor of the Akimachi district including Baien's former village, Nakao Yaseburō, is a Baien scholar and editor of an invaluable source of research material, *Miura Baien Gaiden*. Baien's manuscripts and relics have been well-preserved by the Miura family and students of Baien are greatly indebted to them for this. It is most appropriate that Baien should be honoured there, he was not merely born in the district, but his whole life was centred in that village, and the welfare of the village and of his school is the subject of, or stimulus for many of his written documents.

But his major enterprise, the writing of *Gengo*, is very difficult to understand. It should not be respected for that reason, but it should be respected. I began my study of Baien's thought with *Genkiron* because it was easier to follow than *Gengo*. I now see how heavily *Genkiron* relied on the thought of Baien's predecessors. It is an early draft of *Gengo* rather than a separate work, its layout has a vague relation to the final *Gengo*, and it is consistent with the policy of having no direct quotations or references to other scholars. Nevertheless, the development of thought over the twenty-three years is quite astonishing. Whether or not he was a prodigy, stories of his boyhood and youth: trudging miles for lessons keeping his new sandals in his pocket to protect them until he reached the temple gate, constructing his own celestial globe, his first journey to Nagasaki, all these are neutral to his reputation as a philosopher.

It is the more and more intensive philosophical labour of Baien's latter years that repays our interest. Whoever selected the extracts from Baien's work for translation in *Sources of Japanese Tradition* [Tsunoda et al. 1958] made an excellent choice of sources, two late works, *Reply to Taga*, and the *Letter to Asada Gōryū* of 1785. I have translated the latter in full in the Appendix here. It was in *Sources* that I first saw Baien's name, and what I

read there attracted my attention. His letters to Asada Gōryū, and many passages in *Zeigo*, show a great intellectual excitement in his later life, a confidence that the answers to his questions were there before his very eyes, and an attitude of humility, sometimes frustration when he tried to solve them.

Baien has his one-liners, "One is one-and-one", "*jōri* is heaven, seeing opposites is man", "heaven and earth is the teacher", these are slogans for vital themes of his work. Nevertheless, to revere these as sagely pronouncements is to show a great disrespect for the intellectual toil that we now call "philosophy". He did not ask to be revered, rather the reverse, and he knew his system had many faults. By the very nature of his enterprise, he knew he could never reach his destination, but it was a glorious journey.

Complex as it is, *jōri* is still too confined because of its rigid dependence upon some notion of binary division. Baien realised that if we wish to find out how things are, oneness is not what we should look for. His mistake was to think that oppositions are what we should look for, or at least that opposition is enough. However, we must give Baien credit for recognising the importance of contrast. For example, if this essay is intelligible at all, it would not have been so without making numerous contrasts, implicit and explicit. But contrast is not everything. Probably one needs all the devices of natural language, and all its flexibility, to express the real.

It is a strength of his system that it does not say that we cannot discover or understand a feature of reality until we have assigned it a place in a master schema. Baien was prepared to work piecemeal, (the reader is invited to read him piecemeal), like his scientific friends. However, unlike them, he was not content with a specialised area. In his case it could have been ethics, language, natural kinds, individuation of objects, space and time, the structure of matter, and so on, but he wanted to work on it all. That he should have set out on such a gigantic project is what marks him as out of date, even though he came to realise that it was an impossible task for one person. The breadth of his enquiry means that a thorough critique of the details of his system is virtually an impossible task for one person too.

Baien is right, though, to show us that philosophical analysis of the smallest corner of the universe requires us to think hard and long. As an illustration, take a piece of brocade.

NOTE ON SOME PROBLEMATIC TERMS

1. 万物 *banbutsu*: ten thousand things

Literally "ten thousand things", the usual meaning of "banbutsu" is "everything". I have retained the literal meaning for two reasons. Firstly, I was encouraged by Shimada Kenji to do this when I was working on a translation of his essay on Baien's thought [1979] in order to show the link with Sino-Japanese traditional texts. Secondly, "ten thousand things", rather than "everything" suggests Baien's project of explaining diversification and individuation within "dynamic flux and chaotic content".

2. 玄語例旨 *Gengo reishi*: *Gengo Preface*

"*Reishi*" literally means "examples". Although the Preface is an illustrative exegesis, "examples" does not convey the importance of this work.

3. 混沌壽考 *konron utsubotsu*: chaotic content and dynamic flux

I had previously translated "*konron*" as "static form". Ogata Sumio has remarked that that was inappropriate, but it has taken me some time to understand why. From the beginning there has been the vital clue that it must stand as the *jōri* opposite of "dynamic flux". I now realise "form" is inappropriate, and that "*konron*" has a strong nuance of "chaos" (Gimo Piovesana [1965] realised this when he chose "chaotic surge" for the pair, appropriate in meaning, but syntactically impossible for a *jōri* pair). Simplistically, chaotic content is the raw material with which the ten thousand things are made, in opposition to the dynamic flux of the perpetual activity that "conceals" their individuation as objects.

4. 主 *shu*: subject

The problems with this term as "subject" in <word and subject>, and "host" in <host and guest> are discussed in Chapter 4.2.

5. 成 *sei*: being

The most common reading of this term is "*naru*", the verb "to be" as a connective in various senses, not "*aru*", 有, "exists". Here it is usually paired with "*nasu*", 為, and I have translated the pair by default as <action and being>.

<Action and being> seems to mean something like "becoming and having become". "Being" is not a happy choice in some contexts, but I have been reluctant to use "form" because of its connections with Western philosophy. In Japanese "*sei*" also means 'succeed', and Baien uses it to mean "success" by a *jōri* shift to the pair

<success and failure>. The semantic link of "being (having become)", "form" and "success", which indicates some kind of fulfilment, is difficult to preserve in English.

6. 運 *un*: conveying

This character in ordinary language usually has the sense of "carry". By the *jōri* shift it occurs in many *Gengo* pairs. The most important of these are <turning and revolving> and <conveyance and action>, in which it has been translated as "revolving" and "conveyance". It is possible that its meaning is more often the passive one of "being carried", so that <turning and revolving> are not just synonyms used for "westward turning" and "eastward turning", but "revolving" is more like "being turned or conveyed", a consequence of "turning" in terms of relativity of motion (the earth moving around the sun involves, in everyday terms, the sun moving around the earth) [See *Preface*, Appendix XIV]. In his translation of *Huai-nan Tzu*, Charles Le Blanc translates this term ("*yun*") as "circular motion", but the cosmology there is very different from that of Baien's system. The problem of translating this term is confounded by the following passage in Section 8 of the *Preface*, where Baien says: "years and conveying", "turning and conveying", "knowing and conveying", and "conveying and transporting" all use the word "conveying".

The *jōri* shift often forces us to search for an English term that will survive the shift from pair to pair, and may involve scrutiny of numerous difficult passages outside the context in which we wish to use it. Not only that, there is also a domino effect in that we are forced in turn to re-examine many of the terms with which the original term has been paired.

7. 生化 *seika*: generation and decay

The usual meaning of "*ka*" is "change", but that is much too vague. Baien distinguishes "generation and decay" from "decay and generation". Iwami Teruhiko has challenged my choice of "decay" on the grounds that decay implies death [1991]. I admit that "decay" is a default choice. I have relied on the context to make it clear that "decay" does not imply non-existence, but persisting material, *ki*, or whatever, ceasing to exist as one thing and coming to exist as something else, as fallen leaves rot to become compost, to decay into soil which generates new plants.

8. 徳 *toku*: power

This term is frequently translated as "virtue", and frequently also does not quite match the English. "Virtue" fits less well still in many passages of *Gengo* that do not involve human conduct at all. The semantic link with "power" is found in one meaning of "virtue", that is, in the sense of "efficacy".

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GENGO PREFACE

SECTION 1 [NST 377, 6]

That which is obscure depends on that which is clear, and that which is obstructed depends on that which passes through. This is how one and one are necessarily.

Now, all their lives people are constantly dyeing themselves with custom, and once they are dyed with custom their original colour is lost. This is how habit darkens. Learning offers relief from the murkiness arising from habit, but because habits of learning themselves darken understanding, learning seldom offers a cure. Dyeing is a simple matter, but it is difficult to restore the original colour. It is easy to make things obscure, but it is difficult to recover them again. People who spend their time amidst a confusion of odours cease to recognise the smells, just as a butcher does not notice the smell of meat.

No doubt those explanations that count hairs one by one are finely detailed, and doctrines that transcend heaven and earth are surely broad. However, the merits of such explanations and doctrines do not extend beyond themselves, and their ways do not lead us any further. A pearl is picked up or a pearl is left behind. A lustrous gem is thrown away as a worthless bauble. Those who think alike clash with those who differ. One party attacks, the other defends itself. Each group sets up a school and guards its gates, marking out its own territory. Each sets up its own standard of right and wrong. As a result, they may glare at one another, or they may become bitter enemies.

Thus it is that habits of learning obstruct people's sight and hearing, and weaken their talents and strengths. And then because they are not sages themselves, when they distinguish good from evil, or discriminate between right and wrong, they are bound to make mistakes. Purple is confused with scarlet because they do not discriminate finely enough.

Yet if we should reject them without studying further, we should be like the blind shunning the guide. The Way is study without partiality, thought without prejudice, and thus we shall attain understanding. I know there are things beyond my reach. However, should I put down my bow because I am a poor marksman?

When I was a long-haired child I questioned everything I came across. The explanations I received were unfounded, like sleep-talk, and they increased my perplexity. My mind was weighed down with such thoughts.

People said fire is yang, that is why it is hot, water is yin, that is why it is cold. But I asked, why is yang hot, why is yin cold? People said yang is hot and rises, yin is heavy and falls. They had settled for those answers, but my own doubts only intensified. How is it that dark things beneath the forehead can see? How is it that deep recesses on the head can hear? Why do eyes not hear? Why do ears not see? People were satisfied on these points, but I could not be satisfied.

It was not enough merely to say that I have the capacities I have and I do not have those I do not have, or that I behave the way I do because I behave the way I do. I felt quite sure that there was more to say than those people had said. Although the words they spoke came straight from the ancients and all their books, I still could not trust any of it. They explained heaven and earth with vague platitudes. Their accounts of life and death were confused and obscure. Their evidence was biased, their tongues rambled on meaninglessly.

Although people were not concerned about this, I have not been able to let those matters rest. I have turned them over and over in my mind, probing them deeply. And now that I believe I have gained some faint idea of the world around us, I will write this book at all costs.

This book is based on the *jōri* of one and one, which accords with the rule of heaven and earth. Therefore I am not discussing the disputes of the ancients, these are my own ideas.

The one *ki* is yin and yang. The great object is heaven and earth. People speak of squares and circles, here I speak of straight lines and circles; they speak of sun and moon, here, I speak of sun and shade. I sometimes assign new names to things, and sometime give names special meanings.

I seek agreement with heaven and earth alone, there is no time for harking back to established doctrines. I beseech people not to succumb to the ills of habit, but to approach these words with alert minds. For my words are to be judged by heaven and earth, and to be accepted or rejected in accordance with heaven and earth. People should not defend the gate of any school, stake out a territory, or dismiss the wisdom of others. Nor should they disregard my childlike self. But if you who read these words should compare them with previous accounts, or limit yourself entirely to old interpretations, then surely you would often find me at fault.

SECTION 2 [NST 377,37]

This book consists of the four volumes, Core Text (*Honsō*), Volume of Heaven, Volume of Earth, and Volume of the Small. Core Text consists of only one volume, but the other three volumes are each divided into two.

Core Text tells of the dynamic flux of spirit and the chaotic content of object. Here object is stable because spirit is active, and spirit is active because object is stable. Stability manifests object, activity conceals object. The concealed is heaven, the manifest is earth.

Volume of Heaven explains dynamic flux, dynamic flux and activity are presented together. Volume of Earth explains chaotic content, chaotic content and stability are presented together.

But although things are divided by the distinctness of *jōri*, the explanation of the concealed involves the manifest, and the explanation of the manifest involves the concealed. In the merging of the two the seams are concealed. That which contains, opens, and that which opens, contains. Thus when the spirit, dynamic flux, and the object, chaotic content, each opens the one, spirit opens heaven and earth and the forces of yin and yang intermingle.

Thus the great always contains the small, and the small always dwells within the great. The great always gives, the small always takes. When the small looks at the great, that which contains and that which dwells challenge each other in strength. When the small looks at the other, that which is other is great. The great always unites the small, the small always disperses the great. The great cannot be measured, the small cannot be limited.

Man is one among the ten thousand things, the mind is one spirit among myriad spirits. When the boundaries of self are open, the boundaries of dynamic flux and chaotic content give us everything within our boundaries. In this way man is united with the small, and the other is described in terms of the self. These things constitute Volume of the Small. Core Text spans both Volume of Heaven and Volume of Earth. I regard these two as the "Volume of the Great". There is nothing that the great does not give, and nothing that the small does not take.

In Volume of the Small, the "active" is the section of Man, the "stable" is the section of Object. The section of Object is divided into Great and Small, corresponding to my Volume of Earth, and the section of Man is divided into Heaven and Man, corresponding to my Volume of Heaven.

Heaven and earth is the one space and time. I speak of time in terms of "warp" and "passage", because it is arranged according to before and after, whereas I speak of space in terms of "woof" and "filling up", because one cannot speak of space in terms of before and after.

The sections of Volume of Heaven are "the Active" and "the Stable", and the sections of Volume of Earth are "the Concealed" and "the Manifest". The Active section of Volume of Heaven concerns heaven taken with spirit, and the Stable section concerns spirit taken with essence. The Concealed section of Volume of Earth explains passage and filling up, the Manifest section explains covering and supporting.

In Volume of the Small the manifest is Object, the concealed is Man. The divisions of the Great are the divisions of heaven.

Thus, those who desire to read this book can read freely, upstream against the current, following the current downwards, taking something from the left, something from the right, pulling this from the centre, or that from the margin. It is just as one can turn a wheel from any point the hand touches it.

If there is some order in this book, Core Text is the union. Dynamic flux is active, chaotic content is object. Man opens the boundaries of the small, and challenges the strength of heaven. If we should desire to see heaven and earth with far-sightedness, we need only to look at heaven in order to comprehend heaven, and to look at man in order to comprehend man. Writings and diagrams are all superfluous, they are no more than nets and snares set up to catch fish and rabbits.

Therefore those who read my words must look at heaven and accept them where they accord with heaven. When they look at heaven and see my errors, they must reject my words, for what am I?

SECTION 3 [NST 378,24]

Object possesses warp and woof. In sentences the order is before and after, as a warp, there cannot be two words together as a woof. *Ki* possesses merging and distinctness. When we try to show this by writings and diagrams, we can show distinctness by means of *jōri*, but in the case of merging we cannot break open the seams. Thus the intricate structure of sentences depends on change, the order within diagrams depends on *jōri*.

Now, object divides as union or dispersion, and endowment with one heaven and earth is found in the small and the great alike. Thus in the great object, one possesses two, and two make one. Nature and object divide and contrast, and this continues without end. Should we locate one speck of dust, or find one fallen hair, it would be still the same.

Here we shall try to portray this with diagrams and written words. The great object as heaven, must be a union, and earth, as earth, must be a union. This is so with everything. If you who read these words speak of heaven as heaven alone, or of earth as earth alone, and refer to only one of these, you will not be able to read Gengo. If you toy with the circle and neglect the line, or look at the face and forget the obverse [some of the diagrams work in pairs like this], you will not be able to appreciate the circular diagrams.

If we read out one word, inevitably there will be the division and contrast of nature and object, and we shall see that this forms one heaven and earth. And if we take more words, again there must be division and contrast of nature and object, each forming one heaven and earth. Thus in grasping their distinctness, we grasp their merging. An event and an occasion, an object and a location, each has its place, and all the places are within the infinite bounds of heaven and earth.

If I take A: B, C and D all come in association with A; if I take B: A, C and D all come in association with B. From C and D we move on to E and F, I and J, and so on. Hence when we are within the realm of motive power, heaven and earth are also motive power, when we are within the realm of body, heaven and earth are both body.

Only thus will fine and coarse be mutually dependent, will union and dispersion, or whole and side be fused together. To desire to exhaust by means of language an event and an occasion, or the ten thousand objects and their ten thousand locations, is to try to measure the ocean with a gourd.

Moreover, in words themselves sometimes there is unity and dispersion, and sometimes opposition and comparison. Sometimes they may be ordered in terms of before and after, sometimes ordering has no purpose. Sometimes they point exclusively to a subject, and sometimes one thing is taken as an example of ten thousand.

What does it mean to point exclusively to a subject? When an object is manifest by means of a body, it is characterised sharply, as when we talk about heaven, earth, water or fire. Those terms are fixed directly to their subjects.

What is it to take one thing as an example of ten thousand? By means of nature we see *ki*, which is the merging and fusion of the ten thousand things. Likewise, "power", or "the Way", or "nature" or "capacity" fuse and merge the ten thousand things.

In the way of language there is metaphor. Metaphor is the art of borrowing one thing to clarify another. Now, taking one thing as an example of ten thousand is showing one corner and is not a metaphor. Thus I may say either "I speak of that by means of this", or I may say "I shall move from this to that". When I explain the manifest, I often point exclusively to a subject. When I explain the concealed, I often explain one thing as an example of others.

Merging and distinctness are states of heaven and earth. Thus in my text there may be union above and division below. I may continue on without making a pair, or there may be a contrasting term within the sentence. A term may have a contrasting term in a separate passage, or it may contrast with a more general term. Its subject may contrast with a more general term; and although it may have a real contrast, this may need a short or long sentence to express. There are cases in which there is only one subject on one side, but several subjects on the other, and so on. Furthermore, contrast may involve opposition, comparison, interdependence, generalisation, and cases in which one thing confirms another. If we do not distinguish these cases thoroughly we shall surely fall into error. This is the structure of the text of *Gengo*.

The diagrams contain lines and circles, and they may be large or small. The large circles are formed by merging, the small lines by standing distinct. The large lines divide, the small circles contrast with one another.

The sentences may have opposition and combination, whereas the diagrams may have face and obverse. The sentences may have division and contrast, whereas the diagrams may join as pairs. Thus the broad sense of the diagrams encompasses the text.

Oh, I may draw a flower with consummate skill, but it will not bear seeds. I may carve a faithful copy of a bird, but it will never be as beautiful as the original. The craft of heaven borrows nothing from man, and the craft of man can never imitate heaven.

To catch the fish and rabbits that heaven provides, we must set up nets and snares.

SECTION 4 [NST 379,17]

Spreading out and covering everywhere, there is nowhere without *ki* and nowhere without object. Object can be seen, but *ki* is unbounded. Because the unbounded is difficult to see, it is not easy to understand that it stands out distinctly. *Ki* may be either fine or coarse. By observing the coarse we gradually progress to the fine, just as we move to the high or distant from the low or near.

We sit within the vast ocean of intermingling forces of yin and yang. We look but do not see it, listen but do not hear it, put out our hands and feel no obstruction. Some say it is void, others say it is nothingness. Surely we must expect anyone who has not come to understand *jōri* to perceive this as void or nothingness.

Now, it is the state of yin and yang that opposite objects should dwell in the same place. Thus fullness is beside void, and existence is paired with nothingness. The so-called "void" is void in terms of body, but not in terms of *ki*, the so-called "nothingness" is nothingness in terms of matter, but in terms of *ki* it is not nothingness at all.

Consider the way in which a water pot is made. It must always have two holes, one for the passage of *ki*, and one for the passage of water. When one gill of water departs, one gill of *ki* enters. When the water has been drained away it is full to the brim with *ki*, and if this *ki* does not depart no water can enter.

That is to say, whatever is not earth is heaven, and whatever is not matter is *ki*, which resists matter. They will not dwell in the same place.

Water leaves and enters by apertures, *ki* also leaves and enters by apertures. What need would void and nothingness have for apertures? Because *ki* uses apertures, it competes with objects for a place. If it were not vigorous, how could it fill a place?

It fills a place without either sound or smell, we refer to it as "*ki*". Both we ourselves and other objects move around within it. It is the dwelling-place of birds and beasts but not the dwelling-place of fish and turtles. When either go to the dwelling place of the others they die immediately. By this one we see that one, and by that one we see this. They are opposites and they are the same.

We live in the midst of *ki*. Take a length of rope and let it hang. Without pulling or pushing it will hang down straight. By this we can observe that *ki* is perpendicular.

Take the example of a round skin bag. If it is full of *ki*, and all gaps in the surface are completely sealed, it cannot be dented, even if pressed with the weight of a thousand *kin*. We observe that *ki* holds firm. If the bag should burst, a wind suddenly rushes out, and we learn that wind is the movement of *ki*.

When wind ceases we are aware that the weather is fine, and we learn that heat is the stillness of *ki*. Objects become wet in water but dry in *ki*. This is why we refer to *ki* as "dryness".

We observe that *ki* resists water, so we say that *ki* also has body. A thing which has body will dwell in a place. So although just now we referred to *ki* as void from the point of view of matter, this "void" forms a body.

Because it dwells in places, and contends with objects for places, *ki* is also object. There is no object that is not *ki*, and no *ki* that is not object. Because it disperses, *ki* has a hollow body, but that body is not nothingness. Objects are substantial because *ki* binds together. They are nothing but *ki*.

The bodies which we see before us are coarse bodies. The unbounded has fine body. If we understand only the coarse and do not know the fine, how can we understand objects? If we do not understand objects, how can we understand *ki*?

When *ki* is coarse its body is manifest, when *ki* is fine its body is concealed. The concealed is the spirit of dynamic flux, it is power and nature. The manifest is the body of chaotic content, it is heaven and earth. The manifest is yin, the concealed is yang.

With yin and yang there is no first and last. The concealed is to be taken together with the manifest and the manifest is to be taken together with the concealed. The reader may choose, it is not necessary to take them in order. If we choose to explain the concealed, we shall introduce the manifest. If we choose to explain the manifest, we shall introduce the concealed. We must look within the merged for that which stands distinct.

SECTION 5 [NST 380, 6]

The years of man are like the life of a mayfly, our place in heaven and earth is insignificant. We suffer because our sight and hearing are not more extensive, and we are pained that we cannot touch everything. When we do not have a thorough comprehension of a body, it is as though we are unable to distinguish the whole shape of an object in a broken mirror, or are unable to distinguish the whole body of an object by striking a flint.

Now, although the world is not lacking in intelligent people, so far none of them has been able to grasp heaven and earth. They see a half of heaven and earth and take it for the whole, or they see the vast ocean of intermingling forces of yin and yang, and think of it as void or nothingness.

Heaven and earth has the shape of a merged sphere. Within, there are both hollow and substantial objects. Nowadays people have come to be able to calculate exactly and predict with increasing accuracy, their knowledge of those shapes is quite thorough. But although they have quite thorough knowledge of its shape, they still do not comprehend what heaven and earth really is. Why is this?

The reason is that they are ignorant about yin and yang. Yin and yang is the contrast of one and one. When people do not study each speck thoroughly, they do not see the whole. But why is it that when they do study each speck thoroughly they still do not see the whole?

It is because they have not grasped that it all comes back to *jōri*. If we grasp the return to *jōri* in the four limbs and hundred bones of the body, we apprehend their unity and understand how to divide them. When using a carving knife, even the parts where the bones and meat join will separate of their own accord. Even when one comes to a difficult part, if one focuses one's eyesight and moves the knife slowly it will divide cleanly.

SECTION 6 [NST 380 17]

One and one is yin and yang. This is *jōri*. They part as *ki* and object, and combine as nature and body. Thus combination is combination within separation.

Although *ki* is yin and yang, object is heaven and earth. There is nothing anywhere which is not yin and yang, and heaven and earth. The mouths of people all utter the words "yin and yang" and "heaven and earth", but if they do not understand *jōri*, how can they understand yin and yang and heaven and earth? Alas they are very deep!

I do not know of any other person since Fu Hsi [reputed originator of the I Ching trigrams] who has understood yin and yang. However, there is a Way for understanding yin and yang, and until they grasp this Way, those who try hard to understand it are like blind men imagining a painting, or deaf men imagining music, in the end they can only speak of what they can imagine. We call this "speculation" [*kiyu*]. Blindness and deafness delude people. Speculative explanations have power over people, and speculation has lured them into the School of the Five Elements. Since the Five Elements doctrine was given in Hung Fan, ["Grand Norm" of Shu Ching], for hundreds or thousands of years a superabundance of volumes has been appended to it, so that in the effusion from this cauldron, the fragrances of the perfumer became indistinguishable from the stench of the butcher.

However, they lost sight of the evidence in heaven and earth, because they had been gazing upwards or staring down for a very long time, and uncertainty was inevitable. Thus gradually people began to discuss errors in the Five Elements doctrine, understanding the errors without encountering the truth. They walked in the night by candlelight.

Jōri is one and one. One and one separate and oppose one another, and combine as one. Therefore we must see unity in opposition and follow the correct signs. It is not up to ourselves to arbitrate.

Man is fundamentally a conscious being, he can learn and he can think. Heaven is non-conscious, it can act and give being. Action and being too are opposites.

Because our ancestors observed objects by speculating with their minds, what they ended up with was their own minds. Even if those objects were beautiful or good, they were still not the original forms of heaven and earth, let alone those that were not beautiful or good.

Seeing unity in opposition is well illustrated by paper cut in two pieces. One piece is concave, one is convex, one goes in, one goes out, but when joined they combine without a gap. The hollowness of heaven and the substantiality of earth, the motion of *ki* and the quiescence of object, the heat of fire and the coldness of ice, the rising of clouds and the falling of rain, things must be this way without exception. When we see unity in opposition, the defects of speculation are completely excluded and cannot be concealed. However distinguished a person may be as a scholar, and however wise, if he does not enter the gates by seeing opposition, he may not enter the hall.

Alas, speculation results from inferring in terms of ourselves about things that are not the same as ourselves. Heaven is fundamentally the opposite of man. If we speculate about heaven by inference from man, man and heaven become confused. If heaven and earth are discussed in this way, we may speak in terms of two, of three, of four or of five, in terms of existence or nothingness, truth or falsity, anyone who is eloquent will triumph.

The distinction between heaven and man is the urgent business of scholars. So long as heaven and man are not distinguished, the sighted and the hearing are indistinguishable from the blind and the deaf. If it is our aim to analyse objects and events, we must begin from this point.

SECTION 7 [NST 380, 40]

Objects form bodies and are stable, their *jōri* is well-ordered. Events move and interchange, conveyance and action are disorderly. But although *jōri* is well-ordered, it is found within disorderly conveyance and action. The ancients, who were not able to discover finally what *jōri* is, had their eyes dazzled by the change and complexity of conveyance and action. For this reason the discourse of this book endeavours to show the order of *jōri* within objects, and the changes and complexity of conveyance and action within events.

If you wish to make a study of this book, before beginning to read further, it is essential to distinguish "heaven", "man", "event", and "object". Then you will be able to go on and read *Gengo*.

SECTION 8 [NST 381,5]

Words are names, subjects are realities. Subjects are heaven, words are man.

Because it is man who talks about heaven, sometimes he is correct and sometimes he is mistaken, sometimes the word is different but the subject is the same, sometimes the word is the same but the subject is different. In this way:

- the names of one and one are "yin and yang", and the natures of heaven and earth are also "yin and yang";
- "warp and woof" are heaven and earth, and "the concealed and the manifest" are also heaven and earth.;
- the separation of sun and shade is "*ki* and image", but when they are combined in contrast to the hollow and moving, this contrast is also "*ki* and image";
- water and dryness are separated as "matter and *ki*", but when they are combined they contrast with substantial and still, which is also "matter and *ki*"
- fire and water are "image and matter", and heaven and earth, are also "image and matter";
- in both "generation and decay", and "decay and generation" we use the word "decay" [ceasing to be one thing and coming to be another];
- "fineness and soul", "fineness and strength", "fine and coarse" and "fine fluid [whey, or seminal (male) fluid?] and milk" all use the word "fine".
- "years and conveying", "turning and conveying", "knowing and conveying", and "conveying and transporting" all use the word "conveying".
- "drawing in and drawing out", "drawing in and welling up", "drawing in and ejecting" all use the term "drawing in";
- "turning without and holding within", "turning horizontally and holding upright" both use "turning and holding";
- things which draw in and draw out are said to "gather and radiate", and things which are still and dense are also said to "gather and radiate";
- going in and out is called "swallowing and ejecting", containing and opening out is also called "swallowing and ejecting";
- turning is contrasted with holding within the realm of the manifest, "turning westwards" and "turning eastwards" are both "turning"; when "turning" is contrasted with "conveying/revolving", "conveying" is applied to images, and "turning" to *ki*. Within the realm of the concealed, day, night, winter and summer, "turn"; past, present, beginning and end "convey";
- the "will" of "will and action" is connected with mind and nature, but the "will" of "will and understanding" is a division of the mind.

The above are examples of different subjects having the same term.

We speak of one and one, and yin and yang; *ki* and object, and heaven and earth; sleep and waking, and slumber and wakefulness; control and action, and control and practice; although these must be distinguished, in the end they are all one. So likewise reward and disgrace, acceptance and rejection, giving and receiving, holding and walking [hands and

feet], dancing and leaping [arms and legs], language and behaviour [man], language and movement [man and animal?], words and deeds are one. Neither the words nor the subjects are the same, but they all return to one.

If we want the word to pick out the subject correctly, we must infer the meaning from the pair. That is the method of seeking *jōri*.

When I use the word "*ki*", there are the kinds *ki* and object, *ki* and body, *ki* and shape, *ki* and matter, *ki* and image, heaven and *ki*, mind and *ki*, *ki* and colour, and so on. When I use "spirit" there are the kinds heaven and spirit, essence and spirit, spirit and object, spirit and soul, phantom and spirit, spirit and man, sagacity and spirit, and so on. When I use "heaven", there are the kinds heaven and earth, heaven and spirit, heaven and object, heaven and man, heaven and destiny, and so on.

In the scale of the whole heaven and earth there are north, south, east and west, and if heaven and earth are divided vertically or horizontally, there are also north, south, east and west in each half.

If we did not rely on pairs we might mistake the subjects.

Further, in the one *ki* there is *ki* and object, and also in the great object there is *ki* and object, and the ten thousand things are each *ki* and object. Thus although the concealed is heaven and the manifest is earth, the concealed is also heaven and earth and the manifest is also heaven and earth, heaven is also heaven and earth, and earth is also heaven and earth, and so on for everything.

Therefore, concerning word and subject, we must infer pairs by distinguishing within the merged. When *jōri* is clear we cannot be mistaken about a subject. If his mother had not been mistaken about the subject, she would not have thrown away her shuttle when she heard "Tseng Ts'an has killed a man".

When we compare the firefly with darkness it is "bright", but compared with a bonfire it is "dark". When fire is compared with darkness it is "bright", but compared with sunshine it is "dark".

When we speak of the distinction between "turning" and "holding", we say that turning is "*ki*" and holding is "matter". But within the divisions of the realm of holding, the immaterial is "*ki*" and the material is "matter". When we speak of the distinction between "conveying" and "turning", the turning is "*ki*" and the conveying is "image". But when we classify within the realm of image, stars and planets are "images", and shade is "*ki*". The moon is an image, but it is also "matter". Water is matter, but it is also "*ki*".

A dog is "small" in relation to a cow, but in relation to a rat it is "large". The earthworm is "short" in comparison with the snake, but compared with a leech it is "long". There is no confusion when a house that is west of a house in the east is described as east of a house in the west.

SECTION 9 [NST 381,40]

When a man meets an object he will always call it by a name. He names it and others also name it. That is why there are several names for each object. However, objects have definite bodies, men speak of them in terms of what they all see, but *ki* is nebulous and cannot be seen. That which is not visible cannot be recognised, if it cannot be recognised how can we name it? This is why there is always a shortage of names for *ki*.

Now, the divisions of *jōri* cannot be seen, but despite this, they stand out distinctly before us. When we have grasped something that stands out distinctly, but we do not have a name for it, in the end we have to name it ourselves. For example, I speak of *ki* and object as "concealed and manifest", or of heaven and earth as "passing through and filling up". I see that "shade" is the opposite of sun, and that "dryness" is the opposite of water, although these are not the names the ancients gave them.

The subjects of these words are found in *jōri* itself. Whether we wish to speak about them or not, we cannot avoid giving them new names. To speak in accordance with *jōri*, without being confined to ancient teachings and set doctrines, is just what I mean by "*jōri*".

Because our forebears did not understand *jōri*, they mixed truth with falsehood. For example, they had the square as the exact opposite of the circle, and the moon as the exact opposite of the sun. This is because they did not understand contrast as opposition and comparison. I have substituted the straight line for the square, and shade for the moon.

Trees and grass taken together are plants. They contrast with birds and beasts which are animate. White, the colour of sunlight, is contrasted with black. Red is white tending towards black, and contrasts with green which is darkness coming into contact with brightness.

Nowadays, however, we find wood contrasted with metal, or red contrasted with black. These are confusions of *jōri*. In terms of position, we find right is "yang" and left is "yin", or in terms of colour, white is "yang" and red is "yin". When viscera are separated, organs are "yang" and tracts are "yin", although there are people who have them the other way around!

Jōri is already there in heaven and earth, so I must be so bold as to depart from the words of our predecessors.

SECTION 10 [NST 382,15]

Pei Lo sent his students to look for a good horse. The students scattered in all directions to find a horse that could jump high and whinny well. They quarrelled over which horses were good but never reached a conclusion. One student hurried to fetch a royal horse, but he did not look to see whether it could jump high and whinny well.

Now, if they had found an authentic example, they would not have been deceived by horses that were not good.

People discuss heaven and earth and argue about creation without reaching the truth. Whatever they believe they take to be right. They set up standards by speculation, and apply them in terms of man. They do not take heaven and earth as the standard. Because the students did not find an authentic royal horse, on the strength of their own opinions they mistook the horses that they found for Hua Lo or Lu Erh [steeds of Emperor Mu]. It is not surprising that people who are confused mistake hacks for good horses.

For example, the school of Five Elements merely classifies things, but yin and yang doctrine is a theory of contrast. Contrast is the *jōri* of heaven and earth, classification is man-made. How would heaven and earth know how to classify things? Man and woman is a pair, but "husband and wife" is a classification. The classification of man and woman as husband and wife is good as far as classification goes, but its value is man-made. Thus "husband and wife" is variable but man and woman does not change. This is the distinction between heaven and man.

If a good classification is variable, how much more so is a bad one! According to the doctrine which assembles the ten thousand things and classifies them according to the Five Elements, they say "east is wood, west is metal, east is green, and west is white". This is confusing word and subject. East is east, wood is wood, west is west and white is white.

The subject accords with the name and there is no misunderstanding. The pairs must be true pairs. Through the ills of false classification, learning leads us into darkness.

Therefore, if we want to understand how objects and events really are, when we see water we must make it water, when we see fire we must make it fire, when we see dimness we must make it dimness, when we see brightness we must make it brightness.

We must see opposites by contrast and we must divide things according to one and one. Lowly as I may be, I have found the secret here. I emphasise it with certainty because the signs are to be found in heaven and earth.

What does it mean to say the signs are found in heaven and earth? First let us take the sun, and say to someone: "This is yang, its body is a gathering, its shining above the earth makes daylight. Now find its opposite." He will have to say "Something that is yin, whose body is dispersed, and something that is dark, bringing night to the world." We can already infer that the subject is the body, shade.

Again, let us present this person with snow and say, "In winter, when water freezes, this falls from heaven to earth. Now find its opposite." He must reply "That which radiates fire in summer, and rises naturally from earth to heaven." He has already found the subject.

If I suggest the body, thunder, to this person, by giving him one half he will know the other half. The signs are always to be found in heaven and earth.

SECTION 11 [NST 382, 37]

The signs are always to be found in heaven and earth, but the way of *jōri* is obscure. How can I speak of it in simple terms? I am not a creator of objects, how can I give a full account of *jōri*? And even if I were able to give a full account of *jōri*, how could I be expected to do so within this book? Nevertheless, *jōri* is the standard of heaven and earth.

Insofar as there are things I have not understood, I still have not found a good horse. If someone else should grasp *jōri* correctly, and should dispute the points I have not understood, heaven and earth could not defend me. Right and wrong are found in *jōri*. Even if a sage should arise again, how could he change that?

The ways, right and wrong, the choices, confirming or rejecting, the roads, light and darkness, the natures, good and evil, have all been discussed at length by the various schools for a thousand years past, but without resolution, because they did not study *jōri*.

Because *jōri* stands as one, space and time are a single piece of patterned brocade. The pattern and colours are vivid, clouds float and mist rises, a profusion of birds and flowers appears before our eyes. One warp and one woof is the origin of them all, by the skilled artistry of a clever woman.

Thus we can know that the burning of fire and the wetting of water are the one thing, and the diving down of fish does not prevent the flying upwards of birds. The tributaries of a river multiply, but left and right return to the source. That is why the diagrams show division, opposition and combination. But because habit permeates our sight and stains our minds, we confine ourselves to speculation and deny *jōri*.

It is said that "right is one infinity and wrong is also one infinity". Nevertheless, wherever there is an object, there is a pair for it.

SECTION 12 [NST 383,9]

The volumes of Gengo give an account of just what I see.

I have added the several hundred thousand words of Zeigo (Superfluous Words), assembling various doctrines and criticising them according to jōri. Zeigo is superfluous in contrast to Gengo. Those who read Gengo well do not need to read Zeigo. Heaven and earth are there already. Because it is nothing but written words, Gengo itself is superfluous. Anyone who was skilled in observation would not need to read Gengo.

Nevertheless, although investigation of signs illuminates jōri, no-one has expounded it before, so I have written this. Therefore these words should not be destroyed. Surely it is right that these words should not be destroyed!

Zeigo may also be useful. Although Zeigo is superfluous in terms of Gengo, the matters it deals with may or may not be found in both books.

Since the doctrines of human affairs were expounded in the Chou dynasty by the Minister of Education, they have not been neglected. Since the discussion of anatomy has been carried out by studying Su-wen and Ling-shu, these have been standards for the world. Nevertheless, although the teaching of human affairs is well prepared, they have omitted jōri. Because the explanation of anatomy is without jōri, like the ordered classification of human affairs, the system of anatomy is omitted from Gengo and expounded in Zeigo.

When people study and speculate about heaven and man, their eyes see heaven and earth in the void, but they themselves are still confined here. How miserable it would be to always have one's eyes fixed beyond moral principles and neglect mankind! Therefore I have added the one volume of Kango to clarify moral principles and complete the task.

In Gengo I have borrowed no words from the ancients. But in Zeigo and Kango I deal with current matters in the usual way. Because Zeigo and Kango contain matters that are not dealt with in Gengo, naturally they should be read also. The quoted passages are sometimes complete, sometimes abbreviated, sometimes used with a different meaning, sometimes I have noted where they came from, and sometimes I have not done that, and some are embedded in my own text. Where I have not missed his original intention, the author is fortunate.

But quoting ancient writings, or examining their many doctrines, is like looking cross-eyed or walking with a limp, and should invite ridicule from the learned.

SECTION 13 [NST 383, 26]

Heaven and earth are vast, we cannot capture the whole of reality with brush and ink. Therefore people who read this book must first understand the divisions and unities of *jōri*.

For example, when I say "fire", it must be understood that lightning, thunder, meteorites and falling stars all belong with it. If I say "horse", it must be understood that sheep, deer, camels and roebucks all belong with it. Moreover, it must be also understood that lightness, heaviness, floating and sinking are within the realm of hollowness and substantiality; that odd, even, many and few are within the realm of number; that concealment and manifestation, existence and non-existence are within the realm of body; and that long and short, large and small are in the realm of shape.

We must distinguish between unity and dispersion, division and combination, gathering and dispersion, flourishing and withering, death and life. Each of these names refers to something, and each thing unites with some other. This continues to the minutest segments, but I could not record them all.

Concerning the dispersal of objects and events, it is important that they should be united by *jōri*, and that their minute segments belong with the union. Moreover, heaven and earth is nothing other than heaven and earth. It is man who sees it and discusses it.

Considering ourselves in contrast to heaven and earth, we ourselves who are considering it possess consciousness, and heaven and earth is non-conscious in contrast. The difference between heaven and man is nothing other than the presence or absence of consciousness. When the conscious and the non-conscious are confused, knowledge degenerates to mere speculation. Therefore it is important to understand the distinction between heaven and man.

Life and death, passage and fullness are heaven, saving life and killing, giving and depriving are man. From the privacy of self, man sees the openness of heaven, and from the action of heaven, we can separate the artifice of man. The being of heaven pairs with action, the being ["*sei*" ("success")] of man pairs with failure. Within the realm of man, life, death, sleeping and waking are heaven, conveyance, function, control and action are man. This is the distinction between heaven and man.

Joy and sorrow are powers received from heaven, benevolence and righteousness are ways that reside in man. Learning and etiquette are the objects with which training is concerned. Honour and disgrace are the states of affairs that result from them. If we do not connect kinds by inference and continue on, the profusion of things and events will never be explained by language.

SECTION 14 [NST 384, 1]

Wherever there is man, there is speech; wherever there is speech, there are names. So naturally our method of naming objects, does not require us to borrow from that country to our west.

Chinese characters were first introduced into Japan in the Ōjin dynasty. However, one can already find mention of Yamato in Shan-hai-ching, and Japan is also mentioned in Lun-heng. And in Wei chih too there is mention of the interchange of books, so it would seem that Chinese characters have been transmitted to Japan since ancient times.

To describe the difference between Chinese and Japanese writing, in Chinese one meaning is conveyed with a single sound, the functions of subject and object are determined by their position in the row. In Japanese, the sounds do not have meaning, but a combination of several sounds will constitute a single meaning, and the functions of words are conveyed by inflections.

When the Japanese imported the characters for their own use, they were used in two ways.

They would either use just the character, or they would borrow the sound. One of our words may be matched with one of their characters, for instance, "*ame*" is matched with the character "t'ien", "*tsuchi*" is matched with the character "chih". Likewise their character "ta" is matched with "*maka*" [Sanskrit], and "chih-hui" corresponds to "*hanniya*".

Within the vastness of the universe, objects and events are so profuse and numerous that they are interpreted sometimes accurately and sometimes mistakenly, they are sometimes grasped and sometimes lost. These days, some scholars of natural history choose to take the Chinese names as the correct ones. Because they are already using Chinese characters, the policy of taking Chinese names as correct is a good one.

Nevertheless, Chinese characters have been used in Japan for nearly 2000 years. There are cases where the usage has been fixed without need for revision, and also cases where the established usage may be revised. There are cases where our term is the common one and theirs the classical one, and also cases where theirs is the common term and ours is the classical one. There are cases where we have not followed their mistakes, and cases where we persist with their mistakes. And there are cases where we share the same term. Thus sometimes their term matches ours, and sometimes the more we think about them the more confusing they become. These are the problems of using Chinese characters in Japan.

Now, people who wish to study natural history should recognise the truth about the real world. Names should follow the usage of local experts. But one object appears in several places, so we could hardly expect agreement in naming. I shall sketch out one or two examples.

People use the word "river child" ("*kawappa*"). [Diodon holocanthus?] Its shape is like that of a monkey, and it darts in and out of sight in the wetlands. [Kaibara Ekken misclassified this as "animal" in *Yamato Honzō*. It does not seem that Baien here is referring to the mythical beast of the same name. The real fish referred to leaps in and out at the surface of the water.] Its correct name is given as "water tiger" or "fish tiger" [and "water ? "], but not "river child". The original term has been changed for so many different names that the correct name has been lost.

There are no apes here, monkeys are called "apes". Moreover, hurricanes may be called "storms", smoke may be called "mist", oceans may be called "seas", harbours may be called "lakes". If we do not use these words, common people will not understand us, but when we write seriously we must be selective.

Again, what the Chinese call "*hsiao-shao*" we call the [long-legged spider] [daddy-long-legs], theirs is the classical term. What they call "stinging back fish" ("*kyōkuryōgyō*"), we call "sea-bream", a kind of [flatfish]. Ours is the classical term and in no way inferior to theirs. (According to *Wamyōshō* by Minamoto no Shitagau, it can be seen in *Shih kyo* by Ts'ui Yü-hsi, but because the work has not been passed on we use the Japanese name.)

On the other hand, it is definitely a mistake to write "armour" for "helmet" or to write "hoe" for "plough", and so on, how could we accept those?

Our nightingale, cherry and maple have had those names for a long time. What we call "nightingale", is not what they call "oriole". To name it correctly we may say "split-reed" ("*boi*"), "granny-burn-cake" ("*baheisho*"), "spring harbinger" etc, but "nightingale" is standard. People may see things as "A", "B", "C" or "D", names are always changing. This is the case with "cherry" and "maple".

Dragons have always been a kind of fish, but horses are also called "dragons" [imperial horses]. A dipper is a utensil, but stars are also called "The Dipper". In these cases, does it matter that they share the same name?

What we in Japan now call a camellia, was historically called "rock willow". From the fact that "rock willow" appears in *Yu-yang tsa tsu* it would seem that it was introduced by someone in the Tang dynasty. Moreover, what we in Japan call [camellia], they call "mountain tea", and what we call [mountain tea], they call "sea crimson". However, when the Chinese name our things, they will naturally follow our terms for "cherry" or "camellia".

Our [bush ginger] is mistaken for their "swallow flower". But even though there are mistakes, it is very difficult to revise the terms in ancient works, so our [bush ginger] remains their "swallow flower".

Moreover, our present-day "orchid" is not the ancient orchid, but this would seem to be an error.

Even though we may know the true facts, we still have problem words like "*sendaba*" [a word with four distinct meanings].

The kinds, ["sacred tree", "bonito" and "sea cucumber"], each has its own correct name in Japanese, and ["*umisuzume*"] and ["*inatsuma*"] and so on, have their own classical names in Japanese. Again, what they call "*kai*", we call ["wild old man"], what they call "lobster" we call ["sea old man"]. The Chinese words and Japanese names are collated together in special books, therefore both Chinese and Japanese are able to understand them.

Again, "*ashi*" and "*shika*" [or "*ashika*"?] may be written according to the Japanese sound, and ["*ogo*"] according to the Chinese sound, but both ways are understood.

When we are writing we need to take care. In the Imperial Court, the institution of character studies has long been abandoned, we still have no dictionary like Erh Ya. Though I try to be careful and make the meaning clear, personal interpretations intrude, no doubt to others I shall seem to have confused undressed jade with rat meat. [both pu in Cheng dialect, an ancient Chinese example] So above, where I have used the Japanese name, it is marked with a double line.

Because the way of *jōri* has not been studied, things have been named on sight, and classified at will. Therefore the distinctions between things may not accord with *jōri*. The work of this book depends on *jōri*. Thus I have given new names to things that have had no name before, and have classified them solely according to *jōri*.

The sun is classified as a star, and the moon is named as a planet. As for the distinction between age and year, in a note in The Rites of Chou it says: "years are calculated by months, ages are calculated by periods". Thus I call the period when the sun goes once around heaven an "age", and the twelve cycles of the moon a "year".

Grasses and trees are classified as vegetable. Those which are small and slender and flourish and decline annually are grasses, those which are strong and large and continue to grow permanently are trees. Although grasses and trees are straight according to their stems and trunks, creepers and vines are those in which the bodies of branches and trunks are irregular.

Those whose branches and stems have straight bodies are named grasses and trees, and those whose branches and stems have irregular bodies are called creepers and vines. Herbs and plants are classified as grasses or trees, creepers and vines are found in both grasses and trees.

We must divide according to kind. There are two sorts of insect, those that fly and those that crawl. Those that fly we call "insect", those that crawl we call "bugs". There are two kinds of fungus, hard and soft. The soft is called "fungus", the hard is called "lodger" ["*karizumai*"].

On land there are the kinds, birds, beasts, grasses and trees, in water there are scaly fish, bare fish, seaweed and sea plants. Among hard things there are the inanimate: metal, stone, earth and salt; and the animate: periwinkles, clams, turtles and crabs. These are names I have given them myself, but the classifications are from the *jōri* of heaven.

Matter has the kinds: rain, water, soil, stones, herbs, and trees, described as having "substantial bodies". Sun, moon, clouds and smoke are forms of image, summarised as having insubstantial bodies. Shape has the kinds: straight and round, lumpy and branching; body has the kinds: hollow, substantial, hard and soft.

Ki contrasts with object, *ri* contrasts with circumstance. Time and space, covering and supporting, heaven and spirit, essence and spirit, etc., may well be as I see them, but the reality depends on *jōri*.

The same word comes to have subjects that are not the same, and the reason for this is that care has not been taken in the old texts. The Confucian school reject talk of body and function, saying that right and wrong is found in the law of the Early Kings. They reject the mind-and-heart school as a Buddhist tendency. However, now that Western learning has been introduced, and people have become interested in astronomy, they abandon their own views to follow it and grasp the truth. When firearms were introduced soldiers were pleased and went to learn about them, because there was nothing more effective.

If they conform to the signs found in heaven and earth, even the words of woodcutters and of madmen should not be disregarded.

SECTION 15 [NST 385,21]

When the meaning of books is hard to follow, comments and notes are given. The ten wings of I Ching, the three Commentaries of the Spring and Autumn Annals, Jiga with its explanations of old meanings, and the exegetic Hsia hsiao cheng are such works, and later writers too have added notes and interpretations.

In the case of the notes by P'ei Sung-chih to San Kuo Chih, and the notes by Liu Lao-piao to Shih-shuo Hsin-yü, although these have been added during editing, they are part of the single body.

In this book I write in large characters, with notes appended in small characters. This resembles the modern method of presenting the main points, but there are some differences.

The details are more or less included in the general framework of the main topics, and in the case of this book, the notes elaborate its meaning. Thus, sometimes the notes deal with something not mentioned in the main text, sometimes they summarise things already

mentioned in the main text. They may be outside or inside the main text, or before or after it, they do not correspond to it word for word. This is how the meaning is elaborated. Zeigo follows the same method. The readers must be flexible if they are to understand it.

SECTION 16 [NST 385,29]

As heaven and earth transforms and develops, although fire and water have different natures, they develop together and do not obstruct one another.

When the sages governed the people, they had sympathy for the people, and they educated by example. By reading The Rites of Chou we come to understand the mind of the sage as heaven and earth.

However the mind of the sage has pity for the foolish and tolerates disagreement, and aims to make clever and stupid, effective and ineffectual alike extend their sympathy, exert their strength and take their proper place.

When the Way of the Early Kings declined, the lords held forth on principles of government from their own points of view, rejecting anything to the contrary. They set up their own schools and challenged others concerning right and wrong. Buddhist and Laoist doctrines were added to this. Thus politics became separated from the Way, and attempts were made to govern the people according to factional views of right and wrong.

Thus the minds of rulers also became factionalist. Those who took the part of water hated fire, those who took the part of leather clothing distrusted cotton clothing, dividing their subjects and alienating their affections.

This was quite different from the Duke of Chou's method of government, and different also from the transformation and development of heaven and earth. The Rites of Chou included the six offices, Government, Education, Rites, Politics, Punishment and Vocation in order to control human emotions.

If it had not been that way, there would have been diviners offering dreams, exorcists striking the sick, dead people coming to life, rain ceremonies in years of drought, exorcists entering the ground to banish evil spirits in times of imperial mourning, drums beaten during eclipses to retrieve the sun, or whatever, mere make-believe. Government of this kind, in which the people are not led by wisdom, was different from that of later times.

In later times, the way of the Early Kings was called "*Ju*". Nevertheless, "*Ju*" according to the Rites of Chou, is one of the nine groups, and scholars have transferred the name from there. The followers Lao Tzu, Mo Tzu, Shen Tzu and Han Fei Tzu arose one after the other, opposing one another and attacking one another, each trying to better the other by argument. It was inevitable that they should stray from the way of the Early Kings. Confucius travelled around the disturbed lands, trying to reestablish the Eastern Chou

among the people, but because no-one took up his cause he finally studied the Way of the Early Kings and handed it down. That was Confucius.

Mencius appeared in the era of intrigues of the Warring States, denouncing military rule and affirming the way of the Kings. His was a new interpretation, in his discussion of the relation of master and servant he disagreed with Confucius.

Chuang Tzu was of an idle nature. Nevertheless, because his discussions of the flourishing Tang emperor and military Chou emperors were not inferior to those of Mencius, when we are discussing the various Masters we must not disregard Chuang Tzu.

The people's confusion of good with evil, efficiency with inefficiency, was like a view from a high place, across a profusion of clouds, fog, smoke and mist, mountains, swamps, rivers and lakes, bamboo, trees, birds and beasts. In other words, heaven contains this complexity and these people wished to preserve it.

According to the Rites of Chou, Lao Tzu, Mo Tzu, Shen Tzu and Han Fei Tzu are all also "Ju". But we look at their ways separately. The "Juists" are those who wear the official robes of the Early Kings and recite the law of the Early Kings. However good their ways were, they were from only one or other of the nine groups. Each has its own virtues, its own Way, and its own territory.

Once the boundaries of the territories have been set up, the domains become narrow. When they are narrow they contend, when they contend they fight, when they fight they only see the wrong in each other, they do not recognise the right. When they lose the standard of right and wrong, they cannot submit to their opponents. The more they attack the more rebellious they become, the more they spread the more they become narrow.

The people who lived in this confusion were our kindred. Why did they divide and fight one another? People delight in good and fear evil. They honour right and despise wrong. This is so everywhere and at all times.

Those who are good wish to control those who are not good. But trying to control those who are not good is dangerous behaviour, and not at all good. Those who are not good lose the way of entering on the path of good, and finally become violent and harmful. They may be noble in name, but they are deficient in substance. Whose fault is this?

I am just a farmer in a remote village. Fortunately I dwell peacefully beneath the restful light of the sun and moon, basking in the imperial favour of the vast expanse above. Virtue accords with heaven and earth, and all things have their places. I know good and evil from what people cherish and fear, and understand right and wrong from what people honour and despise. Neither wise nor foolish, neither the same nor different, men are brothers everywhere. They are taught and raised at the knees of a great father. My humble self is subject to that king.

I may secretly speculate about heaven and earth, but I enjoy myself with other people, and live at ease all year through. I enter where gates are open, and do not enter where gates are closed.

Because I see all the various fashions as part of the vast sameness, I cannot specialise in the teaching of any one school. Whatever one discards another accepts, one's wrong is another's right. That is not the vast sameness. Right and wrong depends on heaven and earth, and what is accepted or rejected depends on heaven and earth.

If my words are mistaken, it is because they do not agree with heaven and earth. If my words have merit, it is because they are in agreement with heaven and earth.

SECTION 17 [NST 386,28]

The sequence of topics in Gengo is strictly according to *jōri*.

However in Zeigo I speak on the main topics of Heaven and Earth, Yin and Yang, the Human Body, Life and Death, Good and Evil, Heaven and Man, and this order is not according to *jōri*. The main points are given in a lesson before each chapter, and so being in that same order these do not accord with *jōri* either. That is the difference between Gengo and Zeigo.

Kango is the same as Zeigo.

SECTION 18 [NST 386,32]

I began the first draft of this book in 1753, when I was 31, and later wrote Zeigo and Kango.

Zeigo took the eight years from 1756 to 1763, during which time I rewrote it ten times. There are seven volumes in all. Kango took the four years from 1760 to 1763, and I revised it four times. It consists of a single volume. That has already been published by my students.

By 1765 there were 15 revisions of Gengo, but because they were very confused, I sometimes abandoned the old manuscripts and wrote new ones. By 1768, after three more revisions I was tolerably happy with them at last. After resting from them for one year, I again reexamined them and found many places that did not accord with heaven and earth.

In the winter of 1770, once again I abandoned the old manuscripts and began on this one, and after another six years and five revisions, in 1775 at last this one was finished. There are four volumes in seven rolls, eight rolls with the Preface, over 100,000 words and over 160 diagrams.

Twenty-three years have passed while I have rewritten Gengo twenty-three times. It deals with the great object and the myriad events.

I am over fifty years old. My hair and beard are streaked with white, my heart and chest are unsound. I do not know whether heaven has lent me the years with which to complete this work, or whether heaven has challenged my will.

I cannot refrain from emotion, by my writing I shall serve in other days.

(1775 A.D.)

Appendices to the 1775 version

Note: Core Text and Volume of Earth were revised again later [See Taguchi 1978 462].

APPENDIX I [NST 387,10]

Heaven in Volume of Heaven is nature, the activity of dynamic flux. Earth in Volume of Earth is body, the stability of chaotic content.

Volume of Earth has two parts, the "Concealed" and the "Manifest", these parts are divided into four realms. The realm of heaven is divided into space and time, direction and position; the realm of motive power is divided into turning and holding, shape and *ri*. These form the "Concealed". The realm of body is divided into heaven and earth, light and humidity; the realm of nature into sunlight and shade, dryness and water. These form the "Manifest".

Direction and position are the traces of space and time, shape and *ri* are the stillness of turning and holding, So space and time, and turning and holding, are more fundamental.

Whereas heaven and earth, light and humidity, are the objects of nature and body, sunlight and shade, water and dryness are the *ki* of nature and body. In this case heaven and earth, and light and humidity, are more fundamental.

By analysis according to combination as one and separation as two, by first investigating the movement of turning and holding and the stillness of shape and *ri*, we find the movement and stillness of heaven and earth within the concealed. And then by means of the body of heaven and earth and the nature of light and humidity, we can extrapolate the *jōri* of the pairs body and nature and heaven and earth within the manifest.

Space and time are fine, and form heaven and earth through directions and position. Time is the passage of the perpetual ongoing, and is well hidden within space. The one space contains the concealed and the manifest as a single sphere, thus heaven and earth are stable.

Heaven and earth form objects by means of body, light and humidity form objects by means of nature. Sunlight and shade are shed by means of colour and *ki*, water and dryness spread out by means of nature and capacity. Light is in other words "sunlight and shade", and humidity is in other words "water and dryness".

Water and fire are originally objects within holding, but sometimes they are called "light and humidity". The subjects of the names "water" and "fire" are specified as water and fire on earth, but in broad terms they are called "light" and "humidity". In heaven they are the sun and moon. In each case these words are confined to their natures. We have already spoken of light and humidity within the realm of body, and of light and humidity within the realm of nature, but these terms may be either general or specific.

The ones contrast and combine, thus forming the *jō* that runs through. The twos separate and oppose, so we can see the division of *ri*.

The hollowness of fire and image, and the substantiality of water and matter are both objects. Although heaven and earth, and light and humidity are separate in terms of body and nature, they all alike possess body.

Light and humidity contrast as opposites by means of opposition, in terms of endowment they confront deficiency. If they do not combine as the one thing, they cannot become the other.

In the realm of body, light and humidity as the object, hollow image, pair with the object substantial matter. They become what they are by combining as the one to form the other. Light and humidity already form objects in the realm of body, and objects possess their own *ki*.

In the realm of nature, sunlight and shade shed colour, as brightness and darkness, and spread *ki*, as cold and heat. Water and dryness spread the natures, aridity and dampness, and the capacities, turbidity and illumination.

Thus *jō* runs through where we see the arteries, and *ri* divide where we see separate functions.

Thus heaven and earth, light and humidity form a single sphere. However, sunlight and shade, and water and dryness are each in the form of rings with no core. They spread out and govern upwards and downwards. Space as one contains the concealed and the manifest within a single sphere, this single sphere divides into revolving ["conveying"] rings. So space engulfs, as one.

Sunlight and shade, water and dryness eject as two. This is the form of the great object.

Space is one, endowed with directions and positions, and contains the combinations of turning and holding, and of heaven and earth. However, light and humidity are already stable in terms of body. Body and stability operate capacity and function through nature and *ki*.

Those who read Volume of Earth should first discriminate these meanings, and only then investigate heaven and earth.

APPENDIX II [NST 387,36]

One suffices without counting. However far it is divided, one can be neither destroyed nor depleted. However many ones are added, one can be neither multiplied nor attained.

The One primal *ki* is *gen* (unfathomable). In the case of two, by taking one and removing one we see endowment and deficiency. Once more this is unfathomable. Some one asked me, "If the unfathomable is unfathomable, why do you talk about it? If the unfathomable is not unfathomable, what is the point in calling it unfathomable? If it is not unfathomable unless we say it is, then it is not really unfathomable. If it is unfathomable without our saying so, what use is the word "*gen*"?".

I replied, "That is why it is "*gen*"."

APPENDIX III [NST 388,1]

If yin and yang are divided in terms of heaven and earth, heaven and earth are each endowed with yin and yang. If we see heaven and earth in terms of yin and yang, yin and yang are each endowed with heaven and earth.

By the Way of separation and combination we can continue indefinitely.

APPENDIX IV [NST 388 3]

In explaining *jōri*, one must determine the division and contrast of warp and woof. In division we see by means of merging and distinctness, swallowing and ejecting. In contrast there are the states of opposition, comparison, separation and combination. In division, two come from one, in contrast, one pairs with one.

APPENDIX V [NST 388,5]

The spheres of yin being and yang being are not the same as the yin being and yang being of heaven and earth.

I speak of the sphere of heaven, and the sphere of sunlight and shade, as the spheres of yang being, and of the sphere of earth and the sphere of water and dryness, as the spheres of yin being. In both cases the spheres are rings without cores, and are separated to form two.

Turning and holding and shape and *ri* within the concealed, heaven and earth and light and humidity within the manifest, alike have centres, and combine to form one. "Sphere" refers to the outer circularity, and "ring" to the hollow centre.

The shape of heaven and earth is round like a globe. Hence the sphere of the earth is in other words the globe of the earth.

Water and fire lie upon the earth. Sometimes I speak of them together as the substantial globe, and sometimes I separate the globe of earth and the globe of the substantial.

The globes of the sun and moon lie upon water and dryness. Sometimes I speak of them together as the hollow globe, and I sometimes separate them as the globe of heaven and the globe of the hollow.

When I use the words "spheres" and "rings" they have different meanings.

APPENDIX VI [NST 388 12]

Straight lines and circles are precise terms, angles and discs are terms for those things that hold level.

Within west and east, the western and eastern lines are the equator and the ecliptic. The holding axis and the turning axis are the axes of the equator and the ecliptic.

The words are different according to the context, but the subjects are no different. Wheel and axis, orbit and radius, only differ in the words that are used for them.

APPENDIX VII NST 388, 15]

The realm of body consists of the bodies of heaven and earth, light and humidity. The realm of nature consists of the functions colour, *ki*, nature and capacity.

Colour belongs within nature because brightness and darkness belongs with nature. Because aridity and dampness belong with nature, the realm of colour also contrasts with the realm of nature.

APPENDIX VIII [NST 388,17]

I call brightness and darkness "colour", and black and white "colours" [hues].

In *jōri* terms, I say that *ki* intermingle and objects connect.

When I speak of dispersion I use the name "passage".

APPENDIX IX [NST 388,18]

The fluids of the human body have numerous meanings.

In "*ki* and fluid", "fluid" contrasts with "*ki*", and within the body is called the "synovial fluid" The "fluid" [serum] of "blood and fluid" contrasts with "blood" and is found at the surface in the skin. That which lies beneath is murky and red, and is called "blood". That which is found at the surface is clear and pale, and is called "fluid". Hence the fluid separates as fluid at the surface, and as blood beneath in the flesh.

The *ki* in the veins and the fluid in the arteries are called "*ki* and fluid", but this is something other than the *ki* and fluid of flesh and bones.

APPENDIX X [NST 388,22]

One suffices without counting. However far it is divided, one can be neither destroyed nor depleted. However many ones are added, one can be neither multiplied nor attained.

Hence when pressed to name it we call it the One primal *ki*. By taking one and removing one, we see endowment and deficiency. For this reason I call it "*gen*" (unfathomable). Some-one asked me, "if it is already unfathomable, then why do you talk about it?"

I replied, "So I can show it by speaking."

Then I was asked "Then why do you call it unfathomable? If the unfathomable is unfathomable, what is the use of talking about it? And if the unfathomable is not unfathomable, is not all this a waste of your effort?"

I replied, "That is why I call it "*gen*"".

APPENDIX XI [NST 388,24]

If we look at yin and yang in terms of heaven and earth, heaven is endowed with yin and yang, and earth is endowed with yin and yang. If we look at heaven and earth in terms of yin and yang, yin is endowed with heaven and earth, and yang is endowed with heaven and earth.

By the way of separation and combination, we can continue indefinitely.

The manifest separates as the two realms, colour and body. Colour is the visibility of nature.

Body is heaven and earth, and nature is light and humidity. This is the separation of body and nature.

Humidity combines water and dryness to form the sphere of earth. Light combines sunlight and shade to form the sphere of heaven. This is the separation of heaven and earth.

If those who read the section "the Manifest" do not make this distinction, they will surely end in confusion.

Therefore when we speak of "water and fire" on earth, the characters have the standard interpretation, when we speak of them as passing through heaven and earth, they refer to light and humidity.

The reader must make the distinction by looking for *jōri*, and must not use dead words for living subjects.

APPENDIX XII [NST 388,31]

Comparison is paired with opposition.

There is opposition when something is present in the one, and not in the other. There is comparison when something is present in the one and also in the other.

Nevertheless, the "comparison" of "comparing" is distinct from the "comparison" of "comparison and opposition".

APPENDIX XIII [NST 388,33]

On the meaning of "intermingling" and "connection": *ki* intermingles and matter connects.

APPENDIX XIV [NST 388,34]

On the eastwards and westwards travel of heaven: westwards is "turning", eastwards is "conveying". On the travel of ages and seasons: that which depends on the sun and moon is called "age", and that which depends upon water and dryness is called "conveying".

On the agency of the mind: that which shows intentions is called "action", that which shows emotional responses is called "conveyance".

APPENDIX XV [NST 338,36]

Image resides in heaven and is the term for visible things, matter resides on earth and is the term for tangible things.

"*Ki* and image" are sometimes the terms for the separation of sunlight and shade, but speaking more generally, sunlight and shade are both image, and "*ki*" is that which is hollow and moving.

"*Ki* and matter" are sometimes the terms for the separation of dryness and water, but speaking more generally, water and earth together are "matter", and the coarse murky stuff is "*ki*".

Fire resides on earth and contrasts with water, but speaking more generally, the sun in heaven is fire. Nevertheless, "sun" and "fire" refer to specific subjects, therefore the pairing of the sun in heaven with water on earth is not traditional.

Therefore now I give the pair the name "light and humidity".

[In *Baien Zenshū* this letter is entitled "Letter to Ayabe Shōan". "Ayabe" was Asada's family name, and "Shōan" was a pen-name [Nakao 1988 197]. Baien wrote several letters to Asada. To minimise confusion the two letters translated here will be referred to as "Letter to Asada, 1763" and "Letter to Asada, 1785".

In *Infiltration of European Civilization in Japan*, "Ayabe Shōan" and "Asada Gōryū" are presented as different people: "Ayabe Shōan, surgeon to the Kizuki-clan, predicted a sun-eclipse in the ninth month (1763)... The man to whom he told this was Asada Gōryū, a famous astronomer and mathematician." [Krieger 50] This error was almost certainly made by Ōtsuki Nyōden, and not his translator, Carl Krieger.]

In one of his poems, Su Shih says:

Looking from this side - a range of hills,
gazing from that side - a mountain peak
different from every vantage point
I cannot know the true face of Mt Lu.

When I am right upon the mountain
my own feet treading Mt Lu
my own eyes close to Mt Lu
Mt Lu is still more elusive.

From the flickering light of a short life, how can we confront the vastness of heaven and earth? There have been numerous studies of the heavens since the time of Hsien-yuan [Huang Ti]. Looking from this side, gazing from that side, taken from afar, seen near at hand, mankind sometimes speculated about heaven, and sometimes, confined to matter, gazed at *ki*. Disorganised, weak, absurd, tedious, they did not know the oneness of the true face of heaven and earth.

What evidence do astronomers have for their calculations? Through all the centuries of calendar making, Kuo Shou-ching stands out alone. As the saying goes, if someone is sceptical about medicine, give him croton. If someone is sceptical about astronomy, show him an eclipse of the sun.

I am dull. I have never been able to understand figures. Furthermore, my eyes are weak, I cannot make out the distant stars. How can I make the slightest progress in distinguishing them, or see what fingers are pointing to? As the saying goes, "even a dog gets old", and I too am becoming feeble.

I have lived in the countryside for forty years, and I understand country matters. Rich farmers keep many servants, and among them there are inevitably frail ones who cannot take up a plough, and some who do not know how to sow. Yet a single man is able to manage them all.

Your skill at deep mathematical reasoning is a natural gift and cannot be taught. You carry out astronomical investigations by looking for yourself. Just ten years ago, you heard that the court had set up an armillary sphere, fixed the horizon with a water-level, and determined the four directions with a lodestone. They announced that the armillary sphere fixed the horizon and showed the exact directions. You asked, if they want use an armillary sphere, why do they bother with a water-level and lodestone, or what use is the armillary sphere? You were twenty at the time, and people were astonished at your words.

When I who am inept see your achievements, the gulf between us is wide. I am old, but I have not yet given up. My words are utterly worthless, I am stupid. I do not know how you tolerate my presumption in discussing heaven and earth with you, since compared with your expertise my knowledge is still so slight. Yet you persist with me, one who is too frail to handle a plough, and who knows nothing of sowing. Still, might I not make my contribution as an unskilled hand?

On the first of September this year, at 6a.m., there was an eclipse of the sun that was not predicted by the court calendars. Nevertheless, last year you pronounced "In September next year there will definitely be an eclipse of the sun." Most people disregarded your prediction, some doubted it, close friends were very cautious about it.

A year is a long time but suddenly the day had come. I too, with my pupils rose early and waited for the eclipse. That morning clouds covered the eastern sky. The sun rose. Then a while later at 8 o'clock, gradually at first, a dark shadow spread from the south-west, growing larger and advancing halfway across the sun. About to leave, but lingering, it was like the moon in the first or last quarter. Seen through light cloud it was as dim as the moon. When the sky cleared, although the sun was bright, its light was feeble. It was as though the countryside was under a dark cloud, as on a cold morning, or a dull wet evening. After a while it returned to normal. It began at 8 a.m. and was over by 10 a.m. The eclipse lasted seven minutes, exactly as you had calculated.

Although that prediction required great skill, even the women and children can understand what you have done. I have heard that your methods are not derived from Kuo Shou-chih, but original. You have a remarkable theory that has never been put forward before. Your theory is not yet complete and you keep it well concealed. Nevertheless, your light now shines out.

From the flickering light of a short life, how can we confront the vastness of heaven and earth? Looking from this side, gazing from that side, it is different from every vantage point. We cannot trust our eyes, it is hard to believe our ears, we do not know the shapes of things. How can we know what objects are made of, how can we know the Way?

When old priests and diviners spoke of nature and of heaven and earth they spoke of round squares. [impossibilities] If they spoke of round squares, how could they ever know the true face of heaven and earth? Thus heaven and earth supports the weight of mountains like Hua and Lo, and contains rivers and seas without their leaking away. [Doctrines of the Mean 26] Small powers are like river currents; great powers are seen in mighty transformations. All things are nourished together [Doctrines of the Mean 30]. The seasonal courses run on, the four seasons alternate, the sun and moon shine in turn. There is nothing that is not contained within.

In the Book of Odes it says, "Where there is a thing there is a rule." The rule is *jōri*. When we see things in terms of *jōri* it is like cutting meat with a butcher's knife. Although the joints are connected, the blade cuts them cleanly. [Chuang Tzu 3] It is only where the joints are tangled and twisted that we are prevented from seeing properly and the operation is slowed up. When we move the knife according to what we see before us, then there is nothing that we cannot cut up.

However, *jōri* is not always clear. We grasp at wind or grope for shadows, we do not perceive the patterns. We shall not know the vastness by numbering hairs or counting grains of rice. But you have unloosed the vastness with numbers and turned towards the infinite. You have cut out its pattern and divided it finely. Thus the uses of your work are endless, your calculations are faultless.

In the investigation of things and events, we cannot expect sudden enlightenment. Calculations of the paths of heaven are either precise or they are wrong. If they are wrong, they are wrong. If you are not wrong, even someone as foolish as I can learn the precise facts from you. How quickly people of slight talents who worship gods turned in amazement to an ordinary mortal!

This spring you have had a serious internal disorder again, everyone was talking of burial plaques. However, heaven has spared us your talents and you have recovered from your deathbed. How fortunate we were!

Observing that which was hitherto unknown, with mastery you have probed the most remote corners. Naturally I realise that there is still more to learn. Please guard your health and apply yourself to discovering more secrets. I am humbly delighted that you have recovered from your illness. I admire the excellence of your work, and I expect great things to come of it.

I heard that you have been somewhat indisposed recently. Take care of yourself in the changeable weather. Where you work it is frosty and damp. Many people in heaven and earth humbly beseech you to take care of yourself for the sake of the Way.

LETTER TO ASADA, 1785

Baien Zenshū II 752

[This letter was written just four years before Baien's death, ten years after the "completed" version of *Gengo*, but he was to revise yet again *Core Text* and *Volume of Earth*. It gives evidence of considerable effort to adapt his own cosmological theory to assimilate Asada's theory, and an awareness of how few years remained to him to do that work.]

I climbed to the pavilion and looked out, evening mist floated in the violet blue. As the sun gradually sank, yellow changed to crimson, the shifting light struck the clouds and reflected on the waves. A momentary wind stirred the duckweed and howled through the pines, like a sudden squall of rain, or the call of the phoenix.

Back home, settled on my pillow, I called that scene to mind. That treasured memory that gladdens my heart is derived from the truth itself, and yet removed from truth.

Looking back on the theories of a hundred scholars, in cartloads of volumes, I am even more delighted with the splendour before my eyes and the sounds that meet my ears than with that evening scene when I climbed the pavilion.

Sake, vinegar, raw sake and sweet sake are all made from rice, but it is not the rice itself that seeks to make these brews. Each of the brewed liquors has a taste and a smell, obtained from some features of the rice.

Now, the sages were excellent governors of the people in ancient times, and the Buddhists were ancient ascetics who had excellent control of the mind. Hence we have the classic texts as rules for governing people, and the Buddhist scriptures as a key to governing the mind. These ancient sages would grieve whenever people did wrong, and were anxious lest they should all fall into evil. With parental concern they hoped to protect the people and save them from sinking into depravity.

When they used jade sighting instruments it was so that the people could measure time. These instruments told them about the material world, in terms of their own purposes. Other things followed on from this knowledge, but nothing of great importance or concern. Other schools followed who were their equal, but again they put aside the natural universe as empty, remote and of no immediate concern. Some scholars did wonder about the universe, but they were still confined to old theories and constrained by human bounds. They did not speculate about the deepest things.

The ten thousand things are contained within heaven and earth, and mankind dwells there as one of these things. The ten thousand things are already there, endowed with ten thousand natures and characteristics. Although what is given is not different from what is taken, still a child is not the same as his father. How could fire be water? Thus, although that which contains, gives, and that which dwells, takes, that which contains is not that which dwells within it, and that which dwells is not that which contains it. Furthermore, each thing differs in nature and capacities.

So in order to learn about heaven, it is necessary to discard self and enter the bounds of heaven, and in order to know objects, we must discard self and enter the bounds of object. This is how we shall come to understand heaven and earth and to understand the ten thousand things. We ourselves stand together among the ten thousand things, we dwell there as one of them. By knowing the otherness of heaven and by knowing the selfhood of man we can begin to speak of the Way of man. That is, we can open the bounds of man.

So naturally the ancients did not understand heaven and earth, because they resided firmly within the bounds of man. They gave themselves an exalted position for their wisdom and for their intelligence. That is how they looked at heaven and earth, speculated about creation, and confronted the ten thousand things. They were confined by the tastes and smells of sake, vinegar, raw sake and sweet sake, and thought that these were the features of rice.

To see how heaven and earth are, we must first of all have understanding. Those who look at heaven and earth without opening the bounds of man, remaining fixed within it, prizing their own wisdom and intelligence, will view creation from a human point of view. Fallacies will arise from mere speculation, grit in the eyes will blind them. Although it is proper for people to be anxious about the sufferings of the world, they will never attain wisdom if they view creation as human.

Those who are famed for their pronouncements speak of men and ideas. With their thoughts and ideas they set up standards, "live here, do this". However, in their tastes, the minds of men are like their faces, each different from the other, and each takes his own belief to be right, as coming from heaven, or bearing the authority of the ancients. They censure people who do not conform to their standards and believe that such people should be punished or eliminated.

We are not speaking now of men and ideas. In setting up standards for thought and reason, by which we are to understand heaven and earth, there is *jōri*, and that is all. The state of *jōri* is that one endows two, and two possess one. Two is one and one, one and one is one. The key to knowing this is called "seeing unity in opposites, discarding habits of mind and following the correct signs".

One as two I call "division". One with another I call "contrast". The state of one is "swallowing". The state of two is "ejecting". Dividing is like going downstream. Within swallowing and ejecting, one can see the natures of merging, distinctness, separation and combination, and the capacities of union, dispersion, whole and side.

Contrast is gazing at the opposite bank. Within one and one we can see the bodies of body and function, concealment and manifestation, and the functions of division and contrast, opposition and contrast. Then we continue with this device, taking the substantiality of function and the hollowness of position, the equality of strength, and the opposition of traces. We take a blade to gnarled timber and divide it. Wherever we look, there is nothing that does not have a pair. Thus to explain the Way, once we see one, we mark off this one, and take that one as its opposite. This and that combine as one. When this and that combine as one, we might find another one.

By separation we can understand opposition, by combination we can understand comparison. By repeated combination we can return to the source, division comes to an end. If you pursue enquiries into that which is mysterious, when you catch the robber, you find he is your own son.

You have shown a special talent, by the strength of your art you trace the intricate movements of heaven. I am short-sighted. My measurements are clumsy. When I observed celestial phenomena in my youth I had not abandoned the old teachings. Every book I read reveals my ignorance.

At the beginning of this spring, I reread several of the passages you recommended. I spent several days unrolling volumes. At last I understood your meaning and became overjoyed. I applauded you and sighed "Oh my dear friend, your understanding is almost godlike. What things you have seen!" Hundreds of scholars have studied calendrical science, but none has reached your level. How fortunate I am to be living here at the same time, and to hear your words.

With an instrument you made yourself you discovered black spots moving on the surface of the sun. You discovered the intricate details of the jagged surface of the moon. You learned about the phases of Venus, the movements of the satellites of Saturn and Jupiter, and the orbits of the woof stars [planets] around the sun. You have observed lunar eclipses, and found out about a large continent at the South Pole. And apart from all these, you have studied the line of the ecliptic. You have astonished people.

Although I cannot understand all your methods you have given me a great notebook for the study of *jōri*.

The axis of the western orbit [equator] holds steady at the centre and does not change, the stability of the six directions depends on this. The axis of the eastern orbit [ecliptic] turns around it, leaving the traces of ten thousand changes without end, the changes from past to present all arise from this. Thus they meet as one. At the two solstices the sun is at the same distance from the centre line. They part at the one to move to the two solstices, towards the two poles. When they conjoin, axis returns to axis, and ring to ring. When they separate, axis meets ring, and ring meets axis. While they are meeting and parting, there is no place where

the ring is not revolving and the axis is not pointing. There is no place in which the sun does not stay in a fixed position from the earth, or where heaven is not the interchange of *ki*.

Throughout eternity, winter and summer change places and day and night succeed one another. So we understand the changes of the intermingling yang force and yin force. Plant, tree, bird or beast, there is none of the ten thousand objects that has not benefited, and now there is great variety. The eastern and western orbits combine to become one. Then this transformation into one culminates in a great storm, there is nothing that is not affected by its strength.

In the Hōreki period [1751-1763], when you were still with the fief, there was an eclipse which the official calendar failed to predict. Independently, you predicted accurately that there would be an eclipse of the sun on the first day of September. You were still only a youth and many people did not believe you. When the time came it happened just as you had said. Seven years ago I wrote about this in a letter ["Letter to Asada, 1763" was much earlier, but there were many others].

According to your advice, in 1786 there will be a full eclipse of the sun at midday on the first day of January, and it will be total at 3 p.m. When I tell people about this, they should not doubt you this time because the evidence is before them. It will happen next year, we shall be able to see it for ourselves.

As for my theory of eastern revolutions, we shall have to wait for two million years! For signs of these eternal things, we grope in the dark, it is like speaking of the closed and open. The more advanced my investigations, the less they will be accepted. But that does not matter.

In ten million years, you alone have followed the movements of heaven. Among ten million people I alone have harmonised our evidence with *jōri*. The ancients did not devise these theories. Anyone who follows after us will without doubt adopt these methods.

My two books, *Gengo* and *Zeigo* still may not accord with heaven. I am already old. Heaven alone knows whether I shall succeed or fail.

You have said that you would like to read my manuscripts. If you should point out any flaws in them and could correct my errors I should consider myself very fortunate. I have no copies because I have not yet finished. I have had my pupils copy out eight volumes of *Gengo* which I shall send you. *Zeigo* will be ready a little later.

Further, in a letter to me you once said that to see objects, the mind cannot be the master. If the mind is the master, then it will inevitably seize an object according to its own prejudices. I appreciate your kind interest, but now I would like to tell you what I think:

In the method of enquiry according to *jōri*, if I have one trace and cannot find a pair for it, I postulate some other object and try to pair it. If this does not give me the truth I pair it with another object, if that fails, with another, and so on, stopping when I reach a pair that match. Before hitting on the straight line as the pair for the circle, one might first try the square, before pairing the sun with shade one might first try the moon, and finally arrive at the straight line and shade in this way.

Since the time of the ancients no-one has put forward the theory of *jōri*. I myself do not expect to have found all the true pairs, although I have devoted my efforts to this for fifty years. Therefore in my book you will find true and false intermingled.

I value greatly many things that you have explained to me. The world has no intellect as talented as yours. You have discovered what no-one else has discovered before, but it has not yet been written down. What you have opened might become closed again, and what you have clarified might become obscured. Your person conceals a great treasure, but it is unfair not to offer it to people. If you keep this treasure to yourself it will be no use to anyone, please have consideration for those poor people who come after you.

Time is passing quickly, it will not wait for me. When you get this letter, please take up your brush and write. If by good fortune I should receive a reply during my remaining years it would be a great blessing. "Like-minded people join together, like-afflicted people sympathise with one another." I write this letter with my own body and soul, oblivious of the mountains and seas that lie between us.

REPLY TO KŌ TAKAOKI

Zeigo Zenshū I 663

[Baiken had corresponded with Kō Takaoki earlier in his life, but their correspondence was very brief. Kō died before he could read this letter, if it was ever sent. It was published in *Zeigo*.]

Summer of Ansei 5 (1776)

Miura Susumu of Kyushu replies humbly to Katsuba Sensei of Kyoto. As I am of country stock, how fortunate for me that one of Japan's great teachers should remember me. I have read through your letter three or four times, with a mixture of shame and joy.

Shunkei is a good friend of mine. For many years you have shown great kindness in instructing him. In conversation with him you referred to me. Although it has been to my advantage, I am afraid Shunkei has been impertinent. He has behaved badly. Moreover, he has taken the liberty of showing you my work, *Kango*, and I am embarrassed that he should carelessly praise things with which you are not familiar.

Previously, hearing of my liking for produce, you bestowed on me several kinds of rare goods from distant places. Stored away in boxes they will last for many years, they are great treasures for a peasant.

Alas, the eastern and western lands are separated by seas and mountain ranges. I have not yet had the pleasure of meeting you because of the great distance between us. Nevertheless, your servant Shunkei has been working as our intermediary.

Although our correspondence has just begun, our relations are already mature. From now on I shall correspond with you. If two people do not understand how each other thinks, they can never have a close relationship.

Nevertheless, each person has his own opinions, parents cannot persuade their children, nor can masters dictate what their servants should think. The world is wide, and people are numerous. They are not the same, just as their faces are not the same. Surely if one makes friends only among people who think the same, how could one ever find friends? How could it be possible?

Take for example clothing and food. Figured silk and sheer silk, brocade and embroidery, differ in quality, but all alike cover our bodies; grain and meat, sake and fruit are different from one another, but all alike nourish our natures. In the same way, even though people's ideas differ from one another they all alike pursue good. In that they are as one. But what do we mean by "good"? Speaking with truth and sincerity, behaving with kindness and respect, respecting one's parents at home, obeying one's elders elsewhere; withdrawing for self-

discipline, and advancing to promote the happiness of others. Consider our faces, they are each different from the other, yet putting aside the differences, as faces they are all the same.

Nowadays the scholars of the world stick fast to their opinions and wish others to agree with them. They come together in fierce dispute, band together against others, and attack anyone whose opinion differs from theirs. And thus we have Confucianism and Buddhism, and the numerous scholars adhering to these. Furthermore, Confucianist disputes with Confucianist, Buddhist disputes with Buddhist, and each scholar disputes with the others. It is as though they were to confine themselves to a single dish of food, and complain that it does not taste the same as fowl, meat, fish or shellfish. It is like confining oneself to one kind of soup, and detesting it because it does not taste like bitter sake and sweet sake at the same time.

Nevertheless, the world is such that I may prefer sweet sake and others too may prefer sweet sake, I may prefer bitter sake, and others too may prefer bitter sake. In this we are the same and different, like our faces. That is to say, although I do not know whether you prefer ginger, *shobu* pickles, raw or cooked fish, or dates, that is of no consequence.

I grew up in the country, my parents had no servants. Moreover, because of family ties I have not been able to journey abroad to study and make enquiries. In my leisure hours I have read a book or two, but I have not received instruction from anyone. For this reason, I have had to trust that what I have acquired for myself is correct. Now that I am over fifty-four years old, I am firmly convinced that I am correct.

In my childhood before I could read, I harboured doubts about how heaven and earth were made, sometimes missing sleep and meals. But when I was able to read I sought answers in books, and when I was able to ask people I did so. But my doubts were still not resolved.

When I had passed my twentieth year, I learned for the first time the shapes of heaven and earth from Western science and was overjoyed. However, although the shapes had been demonstrated, to say "earth is like this, heaven moves like that" is nothing more than describing heaven and earth as gourds. That which gave me joy did not alleviate my doubts.

At twenty-nine years of age I first recognised *ki*, and finally understood that heaven-and-earth possesses *jōri*.

At that time the way people explained heaven and earth, or the way they explained yin and yang, was like scratching one's foot through one's sandal. Because people did not fully understand when I talked to them, I wrote *Gengo*. The first draft was produced in 1753. I sought my answers from heaven and earth alone, so there were no quotations from ancient scholastic sources. Those who read it could not understand it because they adhered to the old traditions, and they became increasingly critical. Finally, wishing to explain further, I wrote *Zeigo*. I began writing that in 1756. Despite my meagre talents, it covers a wide field. I have revised the manuscripts of *Gengo* twenty-three times, and of *Zeigo* eleven times already, but this is not yet complete.

You have already glanced at *Kango*. That concerns ideas implied in *Zeigo* about rules of conduct. The discussion is not complete, it awaits some unknown future writer to finish it. Beginning in 1760 I revised the manuscripts four times and finished it in 1763. Taken together these works form the *Baien Sango* ["The Three Books of Baien"].

Now, to find *jōri* there is a method. The method is to see unity in opposites and follow the correct signs. Once we have done this the one can be divided, like one net with ten thousand knots. *Jōri* is not random. As we go upstream the many branches combine. Again, the present generation of descendants, however great their number, can all be traced back to the one common ancestor Kōshoku [Hou-chi].

Jōri is one and one. One and one are yin and yang before they have separate names, and yin and yang refer to one and one separately. One and one are originally one, and one is one and one. They combine without seams, they separate as *jōri*. That is to say, one and one dwell in the same place, but take different paths. Their traces oppose one another with equal strength.

Watch children in the garden spinning a top. Nothing of its figure remains. While it turns, the movement of the top dwells in the same place. Its path divides as coming and going. It is neither going rather than coming, nor coming rather than going. But when the top finally falls, it ceases both coming and going. There is *jōri* in their division as coming and going, but they combine without any seams between them.

People do not lack intelligence, but they do not use it to try to understand heaven and earth. With minds confined by their own desires, they speculate about heaven and earth. Mankind differs from heaven and earth in the way people differ from each other within heaven and earth.

If we were to speculate about water without trying to understand fire, or about winter without trying to understand summer, we should remain ignorant. Zen followers say, "When we see smoke beyond the mountains we know immediately there is fire, when we see horns beyond the wall we know immediately there is an ox". This may be simple, but it is the way to reason. When we see opposition, by looking at smoke we can understand water, and seeing horns is enough for us to understand horses.

Let us find an example of one and one.

It has been the custom from ancient times to take the moon as the opposite of the sun, or metal as the opposite of wood. Nevertheless, that is not correct according to *jōri*. In contrast there is opposition and comparison; opposition is vertical, comparison is horizontal. The sun is the gathering in heaven of the object of yang. We find the opposite of this to be the dispersal of the *ki* of yin on the earth. Yang is bright in heaven, yet fills the earth, and yin from the earth fills heaven. Where the sun shines on objects they cast shadows, shade is caused by objects.

But still people conjecture about heaven by gazing out into the vast blueness, finally taking that to be heaven. Chuang Tzu also wondered if the vast distance was blue because it was so far away. [Chapter 1] Western science is outstanding in the world for its advances in astronomical geography. Taking advantage of people's ignorance they say misleadingly that the *ki* of water gathered up under the moon is blue, and that the *ki* of fire and of the sun in heaven is red. Alas, although Westerners have rare skills, how could they make wings to soar into the blue vastness and encircle the sun? Would a blind man on a donkey ignore the fact that he cannot see the donkey and say "This is a camel"?

The sun is an object that radiates light, shade is *ki* gathered as darkness. Where the power of the sun is spent, darkness disperses around it making the blue sky.

To understand how the blueness comes about, take water as an example closer at hand. Water has originally very little colour, thus we can see clearly to the bottom of the water and pick out stones and fish quite distinctly. But where it becomes deeper and deeper and we cannot see the sea floor through the dark green, so we cannot say whether giant turtles and terrapins hide there, or serpents and dragons are concealed there.

So even though water has little colour, when it is collected densely together its brightness is obstructed and the combination forms blueness. Furthermore, blue and yellow make green, and blue and red make purple.

If someone were to ask for an example of contrast, saying, "What is the opposite of the image of yang that hangs in heaven, shines on earth and makes day? The answer must surely be "the *ki* of yin on earth that spreads beneath heaven as night". Thus sun pairs with shade. Therefore although sun and moon are as separate as water and fire, they are both alike images, and both alike travel around heaven and shine on the earth. How can they make night?

Trees pair with grasses, taken together they are all plants. As plants they contrast with animals, which are birds and beasts taken together.

- Animals have consciousness and action, their *ki* is warm and their bodies move, they wander around detached from the earth. Plants have neither consciousness nor action, their *ki* is cold and their bodies are motionless, they stand fixed in the ground.
- Animals have their roots above and their extremities below, their limbs hang down separately, and are of a determinate number. Plants have their roots below and their extremities above, they divide into branches which reach upwards, and are of an indeterminate number.
- Animals are hollow inside, so they take in food and drink to nourish themselves inwardly. Plants are substantial inside, and take up soil and water to nourish themselves outwardly.
- When animals take nourishment they take it downwards from above, whereas plants take it upwards. from below.

- **Animals attract one another as male and female and store their seed within them, whereas plants do not respond to each other, and their seeds are formed on their heads.**

If our eyes should be bewildered by the profusion between earth and sky, there will be no end to those objects. If we think about them according to *jōri*, heaven and earth are stable as bodies, water and fire are natures. Nature and body, yin force and yang force transform as the one, animals, and the one, plants. How simple even is heaven and earth!

Dry land and water are divided as dwelling-places. Scaly fish, bare fish, seaweed and sea-plants on the one hand, and birds, beasts, grasses and trees on the other, take their places accordingly. In opposition to things with internal bones, we find turtles and crabs with external bones, and in opposition to things with limbs, we have shellfish and clams as undivided lumps. In opposition to the plants on dry land that grow in soil, we see plants in water that grow on stone.

Heaven is hollow and moving, earth is stationary and substantial. The stationary and substantial body is divided into the hard and soft things, soil and stone. The body of soil is soft and brittle, when it adheres together it forms clay. The body of stone is hard and brittle, when it adheres together it becomes metal.

Heaven is *ki*, earth is object. The body of *ki* is concealed, the body of object is manifest. Because the body of *ki* is concealed from us, people see it as empty space or void.

A water pot is an excellent illustration. If we think carefully about it, this trivial object can solve our puzzle. A water pot is always made with two holes, one for the passage of water, and one for the passage of *ki*. When water enters then *ki* leaves. When *ki* enters, then water leaves. When *ki* and water come together they vie for a place. There is a door for them to leave by, and a room for them to be in, how could there be void or emptiness?

Now, to dismiss a concealed body as "nothing" and a manifest body as "something", is to fail to understand that light passes through the colours of the earth and obscures heavenly images, and that darkness passes through heavenly images and obscures the colours of earth. It is pointless to say that when it is light we can see objects, and when it is dark we cannot see objects. That is not a thoughtful thing to say.

The concealed is hollow, and the manifest is substantial. The hollow and substantial bodies together constitute exactly the great object. Take human beings as a familiar example. Our bodies are stable on the substantial earth where we eat and drink, our spirits are active and breathe the *ki* of heaven.

Now fish dive in the water. They swim or leap to the edge of the water, but these capacities are restricted to water. As soon as they are taken from the water they perish, because it is

opposed to their natures to be out of water. They do not know that there is a heaven and earth beyond the water.

Birds die if they enter the water, and fish die if they leave the water. That which makes us active makes them die, and that which makes them active makes us die. In these exact contrasts we see opposition. We do not infer these things by conjecture.

Now when we infer about another person in terms of ourselves, this is "grasping an axe to cut off its handle." [Doctrine of the Mean 13] That is the way we come to understand one another. However, for people to infer about heaven in terms of themselves is to climb trees to find fish, and not the way to understand heaven.

The belly of the firefly is bright and shining at night, but when the sun comes up it becomes dark red. We try to apply what we see at night to things as they are by day. But what is correct in terms of night is not how things are by day. Thus if a man, with the spirit of man and using the objects of man, should take himself to the place of another, in the end he must still be his own self. There are people who look for darkness holding a light in their hands. How could they find it?

In the same way, death is the opposite of life, but if we approach death without considering life, how difficult it is to understand. If you not think in terms of opposites in this way, good and evil, grief and fear, will flee from you hand in hand. It is the same as one who, not observing the law of Mt Tai, goes before the Lord of Emma, panicking and causing all manner of strange happenings. Life is the splendour before our eyes, how could the dead enjoy that?

Man is conscious, heaven is non-conscious. Heaven is non-conscious and has being, man has action and not being. Heaven contains man, man dwells within heaven. Heaven gives to man, man takes from heaven. When heaven and man are not distinguished, no understanding is gained.

Heaven is not man, that is, it is the opposite of man. Man takes from heaven, that is, man responds to heaven. Insofar as he responds to heaven, man is provided with the things that heaven possesses. Man, as self, is the opposite of heaven, as other.

Heaven is active through spirit, and man is also active through spirit. Action is the way of spirit, being is the way of heaven. Because being is not obscure, it is the true way of heaven. Because action is not measurable, it is the spirit of the way of spirit. Spirit, as truth, faces us like a mighty ocean every day. And because consciousness is not obscure and cannot be measured, thought and emotion confront us like a mighty ocean every day. This is the advantage that man possesses.

Take that picture of the rats' wedding that we enjoyed as children. Bride and groom, their parents and friends, all have the heads, tails and limbs of rats. Their obis, kimonos, houses, and

utensils are all human ones. From the reception of gifts and the wedding ceremony to the singing and dancing, there is nothing that is not human. Such pictures were to make us laugh.

But man continues to be concerned with man, and is still preoccupied with man, just as those pictures were. If we speculate about heaven and earth in terms of man, heaven and earth becomes completely human. When we approach man in terms of creation and decay, man dwells among creation and decay.

Now, object is stable, spirit is active. Spirit conceals its body in object, but its function is visible as *ki*. One reacts and one responds, this is the state of phantoms and spirits. But man does not make spirit active through spirit, we see spirit by thinking about man.

Wind is wind and nothing but wind, thunder is thunder and nothing but thunder. But people do not see objects as objects. Thunder has a hammer, and the god of wind carries a bag. The sun is an emperor, and a dragon is a dragon king, they wear royal robes, or kimonos. They are either terrible as demons or dazzling in splendour. And so from heaven and earth, mountains and oceans to fortunes and misfortunes, life and death, everything is human in face and form, with human feelings. Wooden and clay dolls are made to behave like people. Thus heaven and man have been confused throughout the ages.

In the same way, in the theory of Five Elements, spring is not spring, on the contrary, it is wood. Autumn is not autumn, on the contrary, it is metal. Propriety is called fire, trustworthiness is called earth. By such speculation they lose sight of the correct signs. When the cowardly walk at night they mistake *susuki* fronds and wisteria vines for hideous demons of some kind.

Alas, a person raised in Mongolia cannot help but speak Mongolian, and a person raised in Yüeh must speak the language of Yüeh. Surely Confucians, Buddhists and the followers of the hundred schools are steeped in what they have been taught. Anyone who deliberately seeks simplicity, does not begin in simplicity. Such a person learns about himself thoroughly, but then applies what he learns to everyone else. This leads him to say that he alone is wise, but he cannot prevent others from saying that they alone are wise. When he fails to win an argument he says "But it was I who was right". His opponent also says "But it was I who was right."

Heaven and earth contain water and fire, animals and plants. It produces wise men and fools, sweet water and arsenic. It conveys *ki* that gathers and disperses, and transmits infectious diseases. For, man who walks upright, beasts which run on all fours, fish which swim in water, birds which fly in the air, upside down shellfish, and sideways crawling crabs, all these alike are contained in heaven and earth. The bodies of men are contained there along with these things, and because they have superior intelligence, they are able make great use of the ten thousand things of heaven and earth. Once we make use of the ten thousand things of heaven and earth, these things are our possessions.

Thus it is that in almanacs we plot the course of the sun, moon and stars; we apportion out mountains, rivers, and seas, using water for irrigation and fire for heating. In land and forest,

among birds and beasts, there is nothing we do not use. We have superior intelligence, we respond and react through our feelings and appetites, we kill or let live that which we have plundered.

When we do these things, safety and danger, peace and turmoil follow. We must carry in our minds love of good and detestation of evil, we must discriminate in our judgment by praising the right and shaming the wrong. This is why wise men teach us to follow our natures, which gives rise to moral training, and duties and obligations.

Thus the pair, man and woman, may be designated husband and wife. According to birth, we are ordered as superior and inferior, or as father and son. We are classified as ruler and subject, and stand as master and servant. In scholarship likewise, there are teacher and pupil, and in society there are host and guest. We relate to one another as friends and companions. If things were not like this there could not be peace among us. Where there is a thing there is a rule. [Ode 260] Man, who contemplates heaven, and heaven, which is non-conscious, stand together as one and one.

Man has consciousness, in which bias gives rise to prejudices. Heaven, which gives to man through spirit, is the opposite of man in terms of the presence or absence of consciousness. Peace is heaven and earth, but unrest is also heaven and earth. Order depends on man, and disorder also depends on man. However heaven, as spirit, operates as motive power, whose truths are found in its traces.

The way of man is to make judgments about man by thinking about heaven, to study the ancients and act according to the present, withdrawing for self-discipline and advancing to promote the happiness of others. Self-discipline is self-happiness, the happiness of others is the discipline of others. We value good and avoid evil, praise right and shame wrong. That is how things go.

Therefore, those who teach others have the same objective of self-discipline and peace among men. Nevertheless, the ways of bringing this about are not alike, tastes differ also. Each school separates from the other, each protests its own idea of right and wrong. I may say scornfully, "He is wrong", but he may regard me in the same way. Branches give rise to more branches, schools divide into schools. In order to support one's own school, one quotes the ancients arbitrarily. Brother quarrels with brother, household confronts household. The path of discipline and peace is like a law court in which the parties suddenly become enemies.

Take as a metaphor partiality for some dish. A person with a preference for one food, tries to flaunt it before others, as though they could forget the cooking of their own households. Nevertheless, do I myself not have preferences? I myself am already myself, and I am the same as other men in that I stand separately from other people. How could I alone be without preferences? However, I do not force the food from my own pot on other people, and that is all there is to it. If someone should wish to dip in his finger, I would not begrudge him a bowl of soup.

I was born on the slopes of Futago Valley, this is what heaven has bestowed on me. And growing old on the slopes of Futago Valley is also something that heaven has bestowed on me. People may not know about me, but I am content to live humbly, that is my lot. When the sun rises I do things, when it sets I rest. When flowers bloom I look at flowers, when fruit is formed I eat the fruit. I take pleasure in heaven and destiny, my body belongs with the objects of creation. As it says in the Book of Odes, "When the vast heavens are bright I get up and go, when it is dawn in the heavens I play."

I have been speaking at great length, taking up your time with matters of no importance. I shall not ask you to comment on them, and beg you not to take them as correct. I am grateful for your enquiries. I am making myself known to you from this great distance, and hope to provide a little entertainment in the years to come. If you do not reject my views that will be my good fortune.

Furthermore, it is not that I do not enjoy material things, but my mind is directed to *jōri* alone. And I am not uninterested in geography, but I am interested in the entire universe.

Concerning the lands in the south of the Pacific Ocean, I am as yet unsure of their boundaries. I do not know whether or not some foreign explorers have gone there.

In October, Hōreki 13 (1763), a sailor called Magotaro of Kanpakura, Chikuzen, went with many others to Mutsu and Sendai. When they were out at sea they were struck by a sudden storm from the north-west. It did not cease for many days, they were driven across the ocean from east to west. They were taken prisoner in Kunlun [Shantung], and finally sold to Java. After all manner of fortunes and deprivations, hardships and suffering, in June of the summer of Meiwa 8 (1771), Magotaro returned home. They had left home as twenty men, but he was the only survivor. That was because a Dutch merchant ship bought Magotaro and returned him home.

The globe is not small, it is unusual for someone to go around it. However, as this sailor had nothing in his mind, although he happened on this rare adventure, he could not tell others about the rare things that he saw. Therefore his stories tell us little. That is a great pity.

In olden times, Suan Shen and Ma Chu [Manchuria] were human habitations, but nowadays we do not hear of drifting ships arriving there. It seems that Karafuto [Sakhalin] is in contact with Ezo [Hokkaido], and that is not very far. I do not know what the place is like. I have heard also that Minamoto Kimmi [Arai Hakuseki] has written a book called *Ezoshi*. [History of Ezo]. I have wanted this book for a long time. Do you happen to have it in your library? If you have, may I borrow it to read? [Baien borrowed this book the next year from Nakai Riken. Nakao 1988 40] And so I have not written anything about geography, or anything else beyond what is in *Gengo* and *Zeigo*.

Also, in conclusion I should like to say that although *Gengo* is being published, heaven and earth is vast, and it is still not an easy matter to probe the mysteries of creation. "At twilight the way is far." [Book of History] I do not yet know when my writings will be complete. With the addition of *Zeigo* they amount to 300,000 words. Even were they complete, these works would still be inadequate. And even if they were not inadequate, they will never sell. They will just remain in a box for worms to eat.

I have written these personal ramblings to you at great length, on matters of little account, and you will see from them how much I do not know. One piece of hempen cloth is a wretched gift. You may use the volume of *Kango* as a stopper for a sauce bottle.

LETTER TO YUMISAKI YOSHITADA

[Yumisaki Yoshitada, 1746-1787, was a scholar and physician, and some time pupil of Baien. This letter has been published twice in *Baien Zenshū*, in *Zeigo* I 345f., and in "*Baien Bunshū*" (Baien's letters) II 748f. Each of the above occurrences of the text contains one or two omissions, but all the omitted passages are included here.]

Autumn 1976

The following is a letter to my pupil, Yumisaki Yoshitada:

I enjoyed talking with you the other day. I have not yet completed my explanation of yin and yang, so I am applying my brush to refine it with some further remarks.

The items "yin" and "yang" are first seen in I Ching. However, their sense there was sometimes the Way, sometimes the Forms, and sometimes the Lines. Although I Ching is an account of divination, to look at heaven and earth through that text is like scratching an itching foot without taking off one's sandal. With the *kozato* radical they represent the earth facing or turning away from the sun. Because I have borrowed them to convey a different meaning here I do not use the *kozato*.

This study has a long history, and the number of persons involved has not been few. However, when we looked at heaven and earth it is as though we were gazing across the ocean. It seemed as though we are gazing across the ocean because we did not understand yin and yang.

In seeing heaven and earth, there are two things to avoid. We must avoid looking at other things in terms of ourselves. And we must avoid adhering to what we have been told when there are no signs of its truth. Although I cannot be compared with the ancients, I will not bow to them, because I understand yin and yang.

Yin and yang are *jōri*. "*Jōri*" is derived from the "*ri*" of plants and trees. "*Jō*" runs through from beginning to end. "*Ri*" divide left from right as opposites. Trunk, root, flowers and leaves are merged within the seeds of plants and trees. When they meet with motive power, they open as objects. The one divides and separates. Through division and contrast *jōri* emerges. In this way *ki* is carried along the *ri*.

Thus, although the tree may grow with a thousand flowers and ten thousand branches, however luxuriant it should become, it still has the nature of the single seed, forming an object by following the *ri* and distributing the *ki*. The distribution of *ki* forms objects.

In this way the One primal *ki* takes the form of just one *ki* and one object. And that *ki* and object are heaven and earth. One and one are yin and yang. When the one *ki* has action, the great object has being.

"One and one" is the name for "yin and yang" before they have those names. Yin and yang are one and one once they have names. *Ki* and object are one and one.

One and one are called "yin and yang", and *ki* and object are called "heaven and earth". Those who do not understand that one and one, which are "hollow", divide from *ki* and object, which are "substantial", take them as unconnected. That is because they do not understand clearly what *jōri* is.

When a person sets aside that which dwells in his self alone and pays attention to that which resides elsewhere, when he sets aside what the ancients have said, and when he follows the correct signs, then we can begin to speak together.

Heaven and earth is being. Action is nature and body, *ki* and object. Being is yin and yang, heaven and earth.

Nature and body conceal and manifest *ki* and object. When *ki* and object are manifest, nature and body are concealed. But when the concealed is visible, the manifest is invisible. It may still be difficult to understand how the invisible may be manifest. But because it is visible the concealed does not elude us. That is the state of *jōri*. If we should now see the manifest but not yet detect the concealed, or should see the visible but not yet know the invisible, we cannot yet say we have arrived at their meaning.

The number of heaven and earth is simply one. We meet it as one and one. Numbers from three onwards, even numbers and odd numbers, and ten taken as one again to make hundreds, thousands, ten thousands, hundred thousands, and so on, are not functions of heaven. We seek in heaven what are not functions of heaven. Three talents, four masters, five elements, six *ki*, nine mystic markings, ten mystic diagrams, that is all the wisdom of the blind.

One endows objects with their natures and forms wholes, merged without seams. Two are the bodies of objects which divide and contrast. When they stand distinct *jōri* is apparent. Two standing as bodies is one shifting to dwell in two. To dwell is to reside by division and contrast. Two separate the one by the opposition of their natures. When they are opposed, as bodies they are stable by means of yin and yang. When they combine, as object they are active by means of heaven and earth.

Thus nature is invisible within body, and bodies separate within object. When they are invisible, this dwells in that. When they are separate, they stand as one and one. So when natures divide, one becomes two, that is the warp. When one body contrasts with another, they are a pair. That is the woof. Warp and woof are bound together. Division contrasts with contrast.

The signs of yin and yang cannot be concealed. So people speak of yin, and of yang, but they do not see the bodies of yin and yang. Therefore people stick to the old theories of yin and yang. Yin and yang become bodies by division, by contrast, and by swallowing and ejecting. Their dwelling is the same but their paths are different. Their strengths are equal, their objects are opposed. As bodies they stand side by side. Through contrast they oppose one another. Through opposition they combine. By residing within one nature, one and one swallow one another. By residing within two bodies, one and one eject one another. In the state of opposition, objects are opposed as tenon and mortise; in the state of comparison, warp and woof alike are threads.

To use the familiar example of our own bodies, spirit makes body active, body makes spirit stable. This is what I mean by the state in which spirit and object swallow one another. Because spirit is active, it separates from object, because object is stable, it separates from spirit. This is what I mean by the state in which spirit and object eject one another. Spirit dwells because it possesses body, body conveys because it possesses spirit. This is what I mean by dwelling in the same place. Spirit is fixed by that which it conveys, body runs by that which it makes stable. This is what I mean by different paths. When the spirit is exhausted the body dies. When the body dies the spirit is exhausted. One and one are equal in strength. Spirit is fine and concealed, body is coarse and manifest.

Objects are opposed as this one and that one. Thus one and one are bodies, *ki* and object are object. Object is the manifestation of *ki* and object, bodies are visible as one and one. The visible conceals objects, the manifest makes bodies invisible. So one and one return to *ki* and object, and yin and yang are not the same as heaven and earth.

Body is invisible within object, but nature is visible through *ki*. Thus nature endows one and one, *ki* functions as the intermingling yin force and yang force. Thus when we speak of heaven and earth, water and fire, male and female, animal and vegetable, then yin and yang are concealed; and when we say this is yin and that is yang, we lose heaven and earth, water and fire, male and female, and animal and vegetable.

By means of the body of an object we can point to any object and discuss it. Objects have bodies, so we can point to a yang image, and we can point to a yin image. Without bodies, how could objects have shape and content, how could we point to them? Yet in our own understanding we are able to distinguish quite naturally, "This is yang, that is yin".

Now, objects are generated. They are generated as the binding of objects, they decay as the degeneration of objects. Those who think that generation is yang and decay is yin, and not that yin is binding and yang is degeneration, are confused. Only those who are not confused about this do not need instruction.

However, if the ancients were to have turned their doctrine on its head, so that left was yang and right was yin, man was yin and woman was yang, white was yin and red was yang, if we did not follow our own judgement we should have to be very clever to sort out the confusion.

How can my obstinate self be so bold as to compete with the ancients in intelligence?
Nevertheless, in seeing heaven and earth with far-sightedness, I will not bow to the ancients,
because I know how to seek *jōri*. There is no other way but to seek *jōri*.

For the opposite of fire which rises and is dry we must look for something that falls and is damp, which is the nature of water. Seeing that earthly matter is damp, dark and impure, we should then look for something dry, bright and clear, which is a heavenly image.

Thus by seeking that as the opposite of this, with clear eyes and sharp ears, mankind may understand heaven, by understanding life we may understand death. By taking that key we shall unlock the gates of heaven. The key and lock to the gates of heaven are seeing unity in opposites, discarding attachments of mind and following the correct signs.

Those who simply repeat what is written are treacherous and malicious, and are likely to deceive us. If we take the earth as like a cannon ball and heaven as like blue lapis lazuli, and simply imitate empty written words, we shall take things for what they are not. Although it would give me eloquence, I am devoid of such artfulness.

GLOSSARY OF JŌRI PAIRS

(Note: The English order of the pairs of terms in the list below corresponds to the usual order of the two Chinese characters.)

active and stable	活立	animate and inanimate	動植
action and being/form	為成	birds and beasts	鳥獸
body and function	体用	body and position	体位
bright and dark	明暗	centre and present	中今
chaotic content and dynamic flux	混淪鬱渟		
concealed and manifest	沒露	contain and dwell	容居
conveyance and action	運為	disperse and bind	散結
division and contrast	剖對	endowment and deficiency	具闕
essence and spirit	本神	event and object	事物
fine and coarse	精粗	fish and reptile	魚鼈
generate and decay	生化	give and take	給資
grasses and trees	草木	heaven and destiny	天命
heaven and earth	天地	heaven and <u>ki</u>	天氣
heaven and man	天人	heaven and motive power	天機
heaven and object	天物	heaven and spirit	天神
hollow and substantial	虛實	hour and place	時処
house and path	宅路	image and matter	象質
invisible and visible	隱見	<u>ki</u> and body	氣體

<u>ki</u> and colour	氣色	<u>ki</u> and image	氣象
<u>ki</u> and matter	氣質	<u>ki</u> and object	氣物
<u>ki</u> and shape	氣形	light and heavy	輕重
light and humidity	華液	line and circle	直圓
man and object	人物	man and woman	男女
merging and distinctness	混粲	mind and <u>ki</u>	心氣
motive power and body	機體	motive power and traces	機跡
movement and stillness	動靜	nature and body	性體
nature and object	牲物	open and closed	閉開
opposition and comparison	反比	pair and member of a pair	偶雙
pass through and fill up	通塞	perpetual ongoing and all-pervading	袞々央々
phantom and spirit	鬼神	pure and impure	清濁
radiate and gather	發聚	rise and fall	升降
sagacity and spirit	聖神	separation and combination	分合
shape and body	形体	shape and <u>ri</u>	形理
space and time	宇宙	speech and behaviour	言動
spirit and object	神物	spirit and soul	神靈
sun and shade	日影	swallowing and ejecting	食吐
turning and holding	轉持	turning and revolving	轉運
warm and cold	溫冷	warp and woof	經緯
water and dryness	水燥	water and fire	水火

Way and power	道德	whole and part	全分
whole and side	全偏	word and subject	声主
yin and yang	陰易	yin force and yang force	絪縕

SUPPLEMENTARY GLOSSARY

[Characters not given in either "Glossary of Jori Pairs" or "Bibliography 2"]

Arai Hakuseki	新井白石	Asada Gōryū	麻田剛立
Ayabe Keisai	綾部綱齋	ayui	足結
benshōhō	弁証法	bunri	文理
bunshō	文章	Chan kuo ts'e	戰國策
Cheng I	程	Cheng Sssu-hsiao	鄭思肖
chih (to point)	指	chih-chih	致知
chōnin	町人	dōtoku	道德
Erh ya	爾雅	Fu Hsi	伏羲
Fujitani Nariakira	富士谷成章	funsatsue	糞雜衣
gainen	概念	gen	玄
Gomō-jigi	語孟字義	hai	配
hankan gōitsu	反觀合一	hantai	反對
hazu	筭	Hiraga Gennai	平賀源内
hiyu	譬喻	Honda Toshiaki	本多利明
Hsia hsiao-cheng	夏小正	Hsieh Chao-chih	謝肇制
Huang Ti	黄帝	Hun-yu wai-chi	渾興外記
Hung fan	洪範	ichigenki	一元氣
Inao Jakusui	稻生若水	Itō Jinsai	伊藤仁齋
itsu-soku-itsu-itsu	一即一一	jitsugaku	実学
jōri	条理	Kado no Azumamaro	荷田春滿
kagaku	科学	Kaibara Rakuken	貝原樂軒
Kaitai shinsho	解体新書	Kaitokudō	懷德堂
kakubutsu (ke-wu)	格物	Kamo no Mabuchi	賀茂真淵
kawappa (river child)	川童	kesa kudoku	袈裟功德
ki (ch'i)	氣	kiyu	窺窬
Kōjien	広辞苑	Kojiki	古事記
Kōshoku	后稷	kozato	阜
Kuo Shou-ching	郭守敬	Kuzubana	葛花
kyaku	客	kyūri	窮理
Li Shih-chen	李時珍	Ling shu	靈樞
Liu Hao-piao	劉孝標	Lun-heng	論衡
Matsuoka Joan	松岡恕庵	Minamoto no Shitagau	源順
Miyazaki Yasusada	宮崎安貞	Motoori Norinaga	本居宣長
mujun	矛盾	Mukai Genshō	向井玄松
na	名	Naitō Konan	内藤湖南
Ōtsuki Gentaku	大槻玄沢	Ōtsuki Nyoden	大槻如電
Pei Lo	伯樂	Pei Sung-chih	裴松之

Pen-tso kang-mu 本草綱目
 rei 例
 ri (li) 理
 San kuo-chih 戰國策
 Setsuyōshū 節用集
 Shao Yung 邵雍
 Shibukawa Harumi 渋川春海
 Shih-kyo 食鏡
 shisō 思想
 Su-wen 素問
 Suirinji 垂綸子
 tan [end] 端
 tao 道
 tenmei 天命
 tetsugaku 哲学
 Tominaga Nakamoto 富永仲基
 Ts'ui Yu-hsi 崔禹錫
 Wei Chih 魏志
 Yamagata Bantō 山片蟠桃
 yosoi 装
 Yume no shiro 夢の代

Rangaku kotohajime 蘭学事始
 reishi 例旨
 rui 類
 setsu [node] 節
 Shan hai-ching 山海經
 Shiba Kōkan 司馬江漢
 Shih-shuo hsün-yu 世說新語
 Shinsen yogaku nenpyō 新選洋学年表
 Shutsujōkōgo 出定後語
 Sugita Genpaku 杉田玄白
 Tamura Ransui 田村藍水
 tang (fit) 当
 Tenkei wakumon 天經或問
 Tenmon giron 天文義論
 Tōga 東雅
 Tseng Ts'an 曾參
 Wamyōshō 和名鈔
 wu-hsing 五行
 Yamawaki Tōyō 山脇東洋
 Yu-yang tsa tsu 酉陽雜俎

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