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EPISTEMOLOGY IN

ACCOUNTING

A paper presented in partial fulfilment of the requirements for the degree of M.B.A. in Accounting and Finance at Massey University.

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ABSTRACT

The aim of the study was to investigate different epistemological approaches to accounting in order to distill the most appropriate methods for the future. All methods of analysis available in either the social or the traditional sciences have been evidenced in accounting, thus there was no need to examine techniques outside the discipline.

This study examined and compared five approaches to theory construction and knowledge gathering in accounting as representative of the primary methods of epistemology in accounting. These were:-

rules and standard setting,
convention derivation,
induction and scientific analysis,
normative-deductive, and
weltanschauung.

Having defined the limits of the discipline, the study reviewed each approach analysing their strengths and weaknesses. Conclusions and future methodological prescriptions follow logically from the first sections but are normative in nature.

The results indicated that no one method could meet all of the requirements of the discipline, yet empirical research held the most promise for the future. Two further conclusions were made. Firstly, other methods of inquiry may be quite legitimate in certain cases and should be judged on what they offer. Secondly, accounting should now be viewed as a social institution, involving political and social factors in its developmental and theory construction processes as well as in accounting questions per se.

INTRODUCTION

Accounting has developed over many thousands of years in a generally ad hoc manner. The discipline has, in the main, responded to pressures and demands from its environment in a relatively passive manner. The result of this type of growth has been the piecemeal development of conceptual issues and lack of a coherent set of rules and procedures. Those rules and procedures which have been developed tend to be problem specific and hence when complex requirements are made of these, or broad generalisations derived, anomalies and contradictions frequently occur.

*"Accounting practice has evolved to meet the needs of society as accountants have devised techniques and methods for performance of the tasks at hand. For this reason, accounting practice has been greatly influenced by tradition and expediency. Accountants have frequently relied on trial and error as a means to improving accounting practice ... the primary purpose of theory has been to serve practice with the result that practice has sometimes developed in advance of and without due consideration for good accounting theory."*¹

Since the rules, procedures and structures which exist are the result of action to cope with past problems in a very practical manner, they provide inadequate guidance for coping in a dynamic interactive environment. Thus the problem specific approach to 'theory' formulation has resulted in a patchwork of conceptual ideas and relationships.

(1) Imke, F.J., "Relationships in Accounting Theory", Accounting Review, April 1966, p. 318.

Many writers have expressed a desire for a more sound theoretical basis to accounting or, at least in the interim, for a series of conceptual areas covering different aspects of accounting. These views have been coupled with a call for a greater matching of theory and practice in a coherent, logical and complementary manner.²

*"Ideally, good accounting practice can be explained and justified by good accounting theory; but when tradition and expediency (rather than order and logic) influence the development of practice, unsound accounting practice may result."*³

On the same theme Ijiri says:-

*"Unfortunately, conventional accounting is a collection of many different principles and practices, which in some cases are mutually inconsistent."*⁴

Writers in the accounting theory area have been (and still are) plagued by the lack of a clear goal or target. Furthermore, research has been undertaken in a fragmented and compartmentalised manner, resulting not only in repetition but also in a lack of cohesion.⁵

There also appears to have been a demand for theories, per se, as opposed to theory formulation within a broad

-
- (2) Sprague, C.E., as early as 1913 The Philosophy of Accounts (Ronald Press Company, New York, 1913) wrote 'as a branch of mathematical and classificatory science, the principles of accountancy may be determined by a priori reasoning and do not depend upon the customs and traditions which surround the art.' (p. iii).
 - (3) Imke, op cit, p. 318.
 - (4) Ijiri, Y., The Foundation of Accounting Measurement: A Mathematical Economic and Behavioural Inquiry, Prentice Hall, 1967, p. 88.
 - (5) This problem is seen in New Zealand at present where most Accounting Departments are independently pursuing sharemarket research.

conceptual framework.⁶ Thus writers have been motivated by this demand to produce theories for their own sake rather than to advance the conceptual structure of accounting.

The problems may therefore be summarised as follows:-

- there has been a trend for theory to proceed from practice;
- theory development has taken place in a non-integrated manner;
- there has been a lack of clearly stated aims for accounting;
- theory production seems in some cases to have been for its own sake, rather than for the building of a more cohesive and articulated structure.

Hylton has summarised the first three problems when he says:-

*"Up to and including the present time, most accounting theory has evolved from the pragmatic approach ... that the sole test of truth, or soundness lies in practical results ... no control exists over the aims or desires of business ... there exists no usable criterion for testing either theory or application ... one difficulty with present accounting theory lies not in the existing differences of opinion, but in the lack of any sense of direction ..."*⁷

Although the nature of accounting theory has, in the past, been the subject of considerable controversy this debate has not been resolved. Therefore the question still

-
- (6) See Watts, R.L. & Zimmerman, J.L., "The Demand and Supply of Accounting Theories: The Market for Excuses", Accounting Review, April 1979, pp 273-305.
- (7) Hylton, D.P., "Current Trends in Accounting Theory", Accounting Review, Jan 1962, pp 24-27.

remains as to the most appropriate form of future epistemological methodology.

Discipline Parameters

Before addressing the question of theory formulation in accounting, the scope and activities of the discipline should be determined, since methodology will, of necessity, be constrained by the bounds of the discipline. Thus the question of what is actually encompassed by accounting (although, open to dispute) is of critical importance to the ensuing discussion.

The American Accounting Association (AAA) defined accounting as:-

"... the process of identifying measuring and communicating economic information to permit informed judgments and decisions by users of the information." ⁸

This approach clearly defines accounting as a communication system and brings into consideration the users of the information and their uses of it. This definition moved much further than earlier attempts, which had been concerned primarily with such questions as what accountants do and classification/recording functions. The major criticism, however, of the A.A.A. definition is that it does not describe the place of accounting within the community, that is, the relationship between accounting and the various elements of society is avoided.

(8) American Accounting Association, A Statement of Basic Accounting Theory, (A.A.A. Sarasota, 1966, p.1.)

The Accounting Principles Board (A.P.B.) subsequently added a vital new factor to the above definition when they said that accounting is:-

*"a service activity. Its function is to provide quantitative information, primarily financial in nature about economic entities that is intended to be useful in making economic decisions, in making reasoned choices among alternative courses of action."*⁹

The new element introduced here is that of accounting as a service activity, thus placing accounting within the context of society. The main criticism of the definition is the restriction of accounting information to 'quantitative information'. While it is true that accounting is largely concerned with quantitative information, there is now a move towards the inclusion, or at least discussion, of more qualitative information.¹⁰

Both these definitions tend to artificially restrict the boundaries of accounting and a more open-ended definition (one that provides opportunities and which is amenable to new ideas and views) would better serve the functions of providing information useful in making economic decisions. Thus the writer would suggest the following working definition of accounting as the basis for this paper:-

- (9) Accounting Principles Board Statements Number 4, Basic Concepts and Accounting Principles Underlying Financial Statements of Business Enterprise, New York, AICPA, 1970, para 40.
- (10) Mathews, M.R., "New Areas in Accounting: Some Clarifying Comments", Occasional Paper No. 37, Faculty of Business, Massey University, 1981.

"Accounting is a service function, that identifies, measures and communicates economic information to permit informed judgments by the users of that information, within the social, economic and political parameters of the community."

Thus accounting is seen as a structure or subsystem within the greater system of society implying a new emphasis for the place of accounting i.e. accounting as a social institution.

METHODOLOGY

This paper reviews the methods used in theory formulation in the past and evaluates their strengths and weaknesses. A strategy for accounting methodology in the future and evaluation criteria for the same is developed.

Five methodologies will be reviewed:-

- (a) The drawing up of accounting conventions which are essentially policies or guidelines for action. These conventions may be considered to be two steps removed from practice viz:-

Practice \leftrightarrow Rules \leftrightarrow Conventions \leftrightarrow Theory

- (b) The detailed prescription of rules for dealing with specific problems and cases.
- (c) The formulation of methods and principles based on the empirical examination of accounting problems.

- (d) A priori, deductively derived theory.
- (e) The weltanschauung^{10a} view of accounting within the social context.

^{10a} Weltanschauung, meaning world view taken from a German philosophical perspective which was concerned with the nature of the Universe.

THE DEVELOPMENT OF ACCOUNTING RULES AND STANDARDS

The rules and standards approach to accounting structure formulation is based on an essentially problem specific, ad hoc attitude, whereby there is a response by accounting bodies to a particular exigency. Although there has been a common-law like attitude where later standards are to some extent constrained by precedent of earlier standards, (and hence standards have tended to form a whole) there has been no guiding or overall goal whereby the pronouncements have fitted into an integrated matrix. There has not been any particular methodology followed in the deriving of standards although they have been of an essentially pragmatic nature and typically drawn from a small group of eminent individuals' own perceived best approaches.

The experience of the U.S.A. is largely similar to other English speaking countries and will be focused upon. However, the Institute of Chartered Accountants in England and Wales issued a number of statements from 1942-1969 named 'Recommendations on Accounting Principles' which were considered to be the best way to deal with particular events in particular circumstances. These recommendations were largely built into the various Companies Acts (1948 and 1967) and drew some criticism in the late 1950s due to their problem specific nature and the lack of 'proper' research that went into their construction. As a result selected research studies were carried out in the 1960s and from these studies grew the Accounting Standards Steering Committee.

The U.S.A. development was of a similar nature, and grew out of the need for more control of accounting reporting and disclosure. From 1939-1959 the Committee of Accounting Procedure produced fifty one Accounting Research Bulletins, supplemented by Accounting Terminology Bulletins.

The Research Bulletins were not mandatory on the members, however, they were considered as 'generally accepted' for practice. The key to the approach was that the Bulletins were presented in response to specific problems being faced by practitioners. This had two effects; firstly as a problem developed so a recommended method (or methods) of dealing with it was produced, (thus the profession was fairly consistent in its handling of an issue, even if the approach itself could be criticised). Secondly, (and following from the first point), although a method of dealing with the problem was promulgated, the Bulletins tended to be somewhat shortsighted and did not lead to the building of an overall model, or structure. It was this deficiency, and the pragmatic approach, that led Chambers,¹¹ et al, to call for a more scientific and also a more deductive approach.

The Committee on Accounting Procedures was subjected to heavy criticism in the 1950s as its production of generally accepted accounting principles (which were really standards) was proceeding at a slow pace and not keeping up with demands of the practitioners nor with the increasing problems being faced when dealing with new developments. It may be noted that the 1950s was a period when severe deficiencies began to appear in the accepted model, particularly with respect to changing price levels. The other major reason for the criticisms was the lack of research facilities available to the Committee.

(11) Chambers, R.J., "A Scientific Pattern for Accounting Theory", The Australian Accountant, 1955, pp 428-434.
Chambers, R.J., "Blueprint for a Theory of Accounting", The Australian Accountant, 1955, September, pp 206-215.

These problems were addressed by the introduction of the Accounting Principles Board (1959) and the Accounting Research Division (1959). Again it may be seen that both these developments were essentially an attempt to cope with practical problems, and not from a desire to derive a conceptual basis. The aims of the new bodies included the establishment of: general principles to guide practice; specific rules for practice; and a strong research underpinning for the programme. A full time research staff was appointed.

In an attempt to widen the base of the Board and to give it greater credibility, members were chosen from the profession, industry, academia and government. In 1964 the opinions were made mandatory on the members and any departure from these principles required the firm so doing to shoulder the burden of justification.

The Research Studies were carried out by individual authors and were not official pronouncements of the A.I.C.P.A. In fact some of the studies were not well received,¹² as they were perceived as having 'normative' overtones! Thus following ARS 3 a further study was commissioned (ARS 7¹³) and a more traditional statement was produced. This example typifies the standard setting approach, in that if the results of a study do not find acceptance with the practitioners, no matter how well and logical a study may be, it will be revised.

(12) A.R.S. Number 3 Sprouse R.T. & Moonitz, M., A Tentative Set of Broad Accounting Principles for Business Enterprise New York, AICPA, 1962.

(13) ARS Number 7, Grady, P., Inventory of Generally Accepted Accounting Principles for Business Enterprises, New York AICPA, 1965.

Following the 'Wheat Committee'¹⁴ study groups findings, and general comments over the problems of the A.P.B., the Financial Accounting Standards Board (F.A.S.B.) was established (1973). Although the F.A.S.B. was more independent than the A.P.B., and its aims were broadened to include the needs of the entire economic community, and to be seen to operate in full view of the public, the same sort of problems as faced the A.P.B. were encountered.

The F.A.S.B. is attempting to overcome these problems via the establishment of a conceptual framework for financial accounting and reporting. This framework is based on a statement of the goals of accounting,¹⁵ and the gradual refining of these into operational rules and procedures. The statement of objectives is however quite user specific, and more importantly the overall study does not appear to have taken into account the political factors in the standard making process. Thus whether the Board succeeds must be in great doubt. On this question Watts and Zimmerman said:-

*"The history of the Committee on Accounting Procedures, the Accounting Principles Board and the F.A.S.B. are replete with examples of managements and industries exerting political pressure on the standard setting bodies."*¹⁶

The writer maintains that these problems will be evident in any body whose role is to draw up standards for practice as a first priority, rather than being able to follow a more normative approach, as by definition these forms of bodies will primarily be concerned with

(14) The Study Group on Establishment of Accounting Principles chaired by F.M. Wheat proposed a new structure for the drawing up of rules and standards.

(15) Financial Accounting Standards Board, Objectives of Financial Reporting by Business Enterprises, Statement of Financial Accounting Concepts No 1, Stamford F.A.S.B., November 1978.

(16) Watts, R.L. & Zimmerman, J.L., "Towards a Positive Theory of the Determination of Accounting Standards", Accounting Review, January 1978, p. 131.

day to day events. Only with the most aware and skillful leadership will they be able to take a more futuristic and global view. The position of accounting standard formulation is well summarised by Most:-

*"The development of generally accepted accounting principles or accounting standards has been a difficult process. The present state, both in the United States, and abroad, is a mass of opinions, rules and official regulations which ... can by no means ... be regarded as satisfactory. During the nineteen-sixties a mini scientific revolution appears to have started to bring some order into the chaotic situation."*¹⁷

This 'mini scientific revolution' will be discussed in sections IV and V . However, it can be said that although the rules and standards approach has been of great help in the day to day affairs of practitioners, it has added little to our overall stock of knowledge of accounting, except that it has demonstrated the near impossibility of deriving a coherent conceptual structure via this approach. Thus if accountants feel a need for a fundamental underpinning to the discipline they will have to look to other methodologies.

(17) Most, K.S., Accounting Theory, Grid Publishing Co., Inc Ohio, 1977, p. 85.

ACCOUNTING CONVENTIONS

This approach is seen most clearly in the decade of the 1930s and to a lesser extent in the early 1960s. It sought to distill from accounting practice, underlying conventions or accounting policies which could be overtly stated as a guide to practice. This approach did not generally consider the relevance of the conventions in absolute terms but merely distilled them from practice.

Although Paton¹⁸ is generally considered as the milestone writer in this area, Sanders, Hatfield and Moore¹⁹ set out to codify accounting principles so as to improve corporate reporting, and typified the convention formulation methodology.

Unfortunately the 'research' was based almost entirely around a review of the work of existing accountants, and interviews with notable persons in the industry. Their approach was fourfold:-

- (1) Interviews with leading accountants asking what methods were used. Where interviews could not be obtained, selected correspondence was used.
- (2) Review of available literature on the subject which was itself largely based on what accountants practiced.²⁰

(18) Paton, W.A., Accounting Theory, The Ronald Press Coy, New York, 1922.

(19) Sanders, T.H., Hatfield, H.R., & Moore, U., A Statement of Accounting Principles, A.I.A., 1938.

(20) See Scott, D.R., "The Tentative Statement of Principles", The Accounting Review, Vol. 12, No.2, Sept, 1937, pp 296-303.

A.A.A. A Tentative Statement of Principles Underlying Corporate Financial Statements, A.A.A. New York, 1936.

- (3) Review of legal constraints as they affected accounting and financial disclosure.
- (4) Review of selected company prospecti and reports.

The results of the study were presented in three segments:- general principles (including: disclosure, objectivity, consistency, conservatism, allocation criteria, correct coding); - income statement and balance sheet principles (including: realisation, classification, proper dealing with extraordinary items, use of lower of cost or market rule and making proper accruals); - general notes to be used in consolidation and when preparing notes to the accounts. Clearly these conventions were of a 'guide to practice' nature.

This approach was typical of the period, a somewhat ad hoc cookbook method based on a distillation, ex post facto, of practice. Thus although other writers²¹ and bodies produced similar statements and numerous lists, they could in general only provide a guide for practice based on what was being done by the leading practitioners of the time.

This approach could not provide a methodology for dealing with change, nor could it provide a methodology for the selection of one method over another. Finally, this

(21) It is realised that many works were published during this period and again in the 1960s. However, it is not within the scope of this paper to examine these. For reference, the principle works were:-

Paton, W.A.	1922	Paton, W.A. & Littleton, A.C.	1940
AAA	1936	May, G.O.	1958
Byrne, G.	1937	Moonitz, M.	1961
Scott, D.R.	1937	Sprouse, R.T. & Moonitz, M.	1962
Littleton, A.C.	1938	Grady, P.	1965
Sanders, T.H., Hatfield, H.R.		AAA	1966
& Moore, U.	1938	Ijiri, Y.	1967
Gilman, S.	1939	APB	1970
See also Storey, R.K., <u>The Search for Accounting Principles</u> , AICPA, New York, 1964			

approach could not lead to the construction of an overall method or structure for financial accounting. However, this procedure was a necessary step and led logically to the disillusionment in the 1950s of many accountants when they realised that accounting could not respond in a meaningful manner to environmental changes.

Thus, this approach codified accounting practice and led to the establishment of generally accepted accounting principles, which were essentially accounting policies, i.e. guides to action. However, once these conventions were established and generally accepted, their methodological deficiencies became apparent.²²

These deficiencies may be summarised as:-

- conventions were derived from generalisations of practice, and were then used as guidelines for practice, which is circular.
- to be meaningful policy derivation must take place separately from practice.
- researchers were looking for authoritative justification rather than, logical derivation.

Thus these highlighted more fundamental and structural problems and opened the way to an indepth theory and methodological analysis.

(22) To many accountants, but by no means all, see Littleton and Forster, below.

Littleton, A.C., "Choice Among Alternatives", Accounting Review, July 1956, pp 363-370.

Forster, A.A., "Blueprint for a Theory... A Rejoinder", Australian Accountant, October 1955, pp 435-437.

INDUCTION AND THE SCIENTIFIC APPROACH

The process of induction is the basis for the formulation of traditional views of scientific theories, namely Logical Positivism and the Received View.²³ The scientific approach is commonly considered the principle tenet within scientific research methodology, however, this is a misconception.²⁴ Unfortunately accountants turned to this approach when they became disillusioned with the lack of progress of the more traditional methods (conventions and rules). It is interesting that scientific discovery has resulted from a wide range of methods, some being a systematic examination of available data, and others being no more than a hunch or a flash of insight.

Induction is the process whereby general principles are derived from a generalisation of particular observations. The inductive approach thus proceeds from a series of observed events to the formation of an explanatory theory. Hendriksen defines induction as:-

*"the process of ... drawing generalised conclusions from detailed observations and measurements."*²⁵

Although induction is central to the derivation of theory in the 'scientific mode', deduction is important

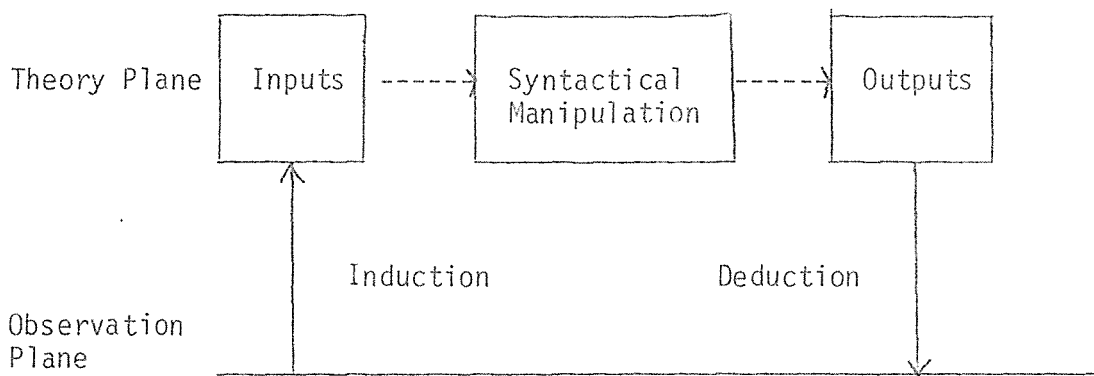
(23) Logical Positivism, an empirical school characterised by the use of logical tools to conceptualise observational language.

(24) Zukav, G., "The Dancing Wu-Li Master", Fontana, London, 1957.

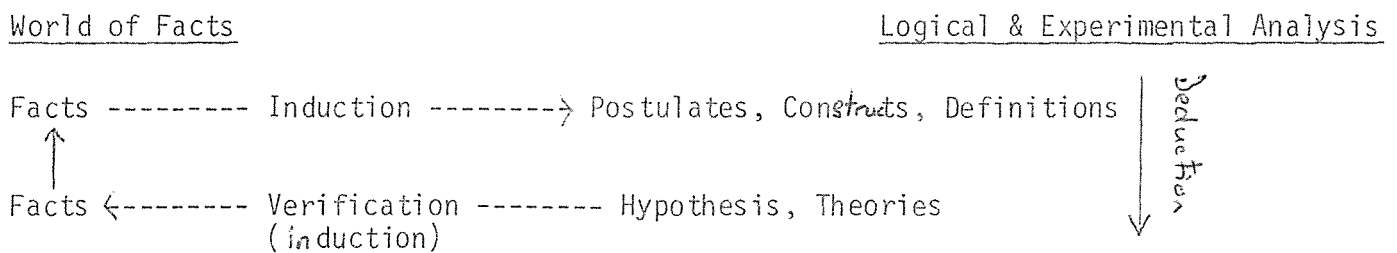
(25) Hendriksen, E., "Accounting Theory", 3rd ed., Georgetown, Richard Irwin, 1977, p.5

as the predictive 'arm' of the method, and the two are used in concert. However, the theory formulation stage is clearly inductive, and the deductive arm is a necessary operational and predictive element.

Sterling has diagrammed the relationship as follows:-²⁶



The relationship between the observation plane and the theory plane are inductive when moving from observation to theory and deductive when moving from theory to observation. Yu²⁷ has described the same process via:-



- (26) Sterling, R.R., "On Theory Construction and Verification, Accounting Review, July 1970, p 448.
 (27) Yu, S.C., The Structure of Accounting Theory, Florida, The University Press of Florida, 1978, p. 24.

This diagram builds in elements of theory construction via the progression from postulates and concepts to theories.

It was the scientific approach that many accounting writers expounded as a way of moving towards a more rigorous theory construction regime. These writers included Kam,²⁸ Tilley,²⁹ Schroder,³⁰ and Chambers^{31, 32}

Observation was the key to the method and was considered by Clover³³ to have four criteria:-

- "(1) Observation must be correctly performed and recorded; data studied must be accurate and must be collected from the universe in which the researcher is interested.*
- (2) Observations must cover representative cases.*
- (3) Observations must cover a sufficient number of cases.*
- (4) Conclusions must be confined to statements that are substantiated by the findings and are not general or too inclusive."*

- (28) Kam, V., "Judgment and the Scientific Trend in Accounting", Journal of Accountancy, February 1973, pp 52-57.
- (29) Tilley, I., "Accounting as a Scientific Endeavour: Some Questions the American Theorists Tend to Leave Unanswered", Accounting and Business Research, Autumn 1972, pp 287-297.
- (30) Schroder, W.J., "An Inductive Approach to Accounting Theory", The Accounting Review, Volume 37, October 1962, pp 645-649.
- (31) Chambers, R.J., "A Scientific Pattern for Accounting Theory", The Australian Accountant, 1955, pp 428-434.
- (32) Chambers R.J., "Observation as a Method of Inquiry- The Background of Securities and Obscurities", Abacus, December 1973, pp 156-175.
- (33) Clover, V.T. & Balsley, H.C., Business Research Methods, 2nd ed., Columbus, Grid Publishing Company Inc., 1979, p. 14.

Thus making a generalised statement from a finite number of observations must be avoided. In other words, all the analyst or researcher can say is that at a given time, under given circumstances, a particular relationship appeared to hold. Unfortunately, many people make universal statements from relatively small samples and pay little attention to the parameters that pertained in the initial analysis.

The inductive approach has several serious shortcomings and these include:-

(a) Induction itself, which is the principal tenet of the "scientific method", whereby observations are used as a basis or legitimatiser for universal statements about reality, has no rational justification. This is due to:-

(i) A premise may be true but the conclusion can be false. Example: large numbers of ravens are observed, they are all seen to be essentially black, and a universal statement that all ravens are black is made, a brown raven is then observed. Thus the conclusion is nullified, although valid inferences were made.

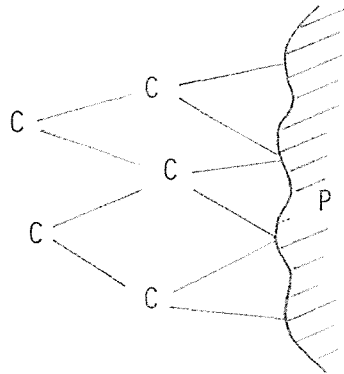
(ii) Induction cannot be justified via an appeal to logic since to do so requires a statement akin to "*induction has worked in the past therefore we can inductively generalise that induction will work*"

in the future." This is not permissible since the justification involves the method itself which is tautological.

- (iii) One way around the problem is a resort to justification via belief or faith. This approach is not acceptable since metaphysical statements are not permissible within the received view.
 - (iv) Probability theory has been suggested as one method of coping with the problem. However, no matter how large the actual number of observations, the total possible number of observations will always be infinity thus making the probability zero. A model with strictly defined parameters will enable this problem to be partially overcome although this is at the expense of abstraction.
- (b) The observation/theory term distinction is not considered valid. The approach implies a distinction between the observation and theory plane which is generally considered to be unacceptable.³⁴

(34) Suppe, F., The Structure of Scientific Theories, University of Illinois Press, 1974, pp 80-86.

Extent of Abstraction



C = Construct

P = Protocol³⁵

In other words, the legitimacy of the method rests on the objectivity and separateness of the observation statement and the theoretical construct (see Margenau's conceptualisation). However, all observations are theory dependant and are involved with a theory element, thus it is impossible to consider these fields discretely.

- (c) Measurement of the attributes of the observed is subject to error and is not precise. Hiesenberg's³⁶ uncertainty principle and the problem with items that have some form of utility element beyond cost means that measurement is not clear cut.

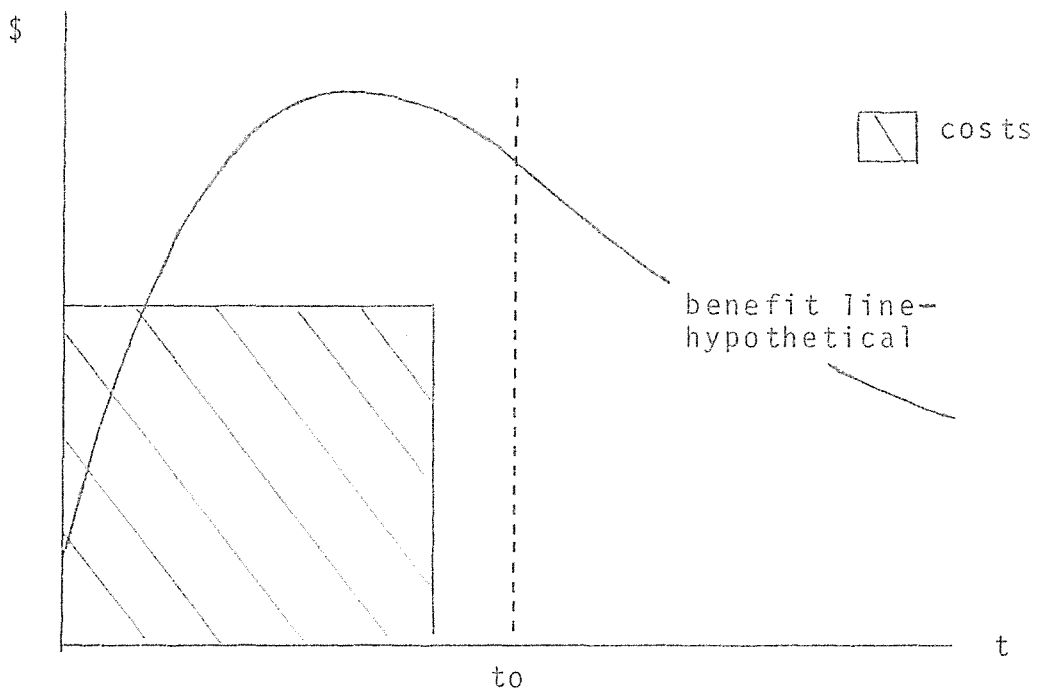
(35) Margenau, H., "What is a Theory", in Staunton, J.J. (ed) Theory Construction and Verification in Accounting, Department of Accounting and Financial Management, University of New England, Armidale, New South Wales, Australia pp 1-11.

(36) Hiesenberg, W., says that there exists a fundamental and irremovable uncertainty in physical measurement. See The Physical Principles of the Quantum Theory, New York, Dover, 1930.

Example: How should an advertising campaign be allocated between periods and segments? It is commonly considered that advertising will have benefits after the campaign is finished, however, if it spans more than one period how should it be allocated? The product advertising itself will typically also have at least two elements:-

- (a) a product element
- (b) a corporate element

Allocations should be made between contributing segments and head office.



Thus there is no logical justification for induction, per se, or for the 'scientific method' per se. There may be justification for the use of the method as the 'best tool available', but not for the method itself. Therefore, in accounting we may legitimately use the scientific method if it increases awareness and helps in explaining relationships in society, i.e. if the tool works then use it.

Alternative Regimes Within the "Scientific" Context

There have been several alternative approaches proposed that can be viewed as attempts to overcome the problems of the traditional "scientific method". Such writers as Lakatos and Popper have been particularly influential in this area, and although they have not been directly applied to accounting (in the literature) their approaches have had a major impact on research techniques across many disciplines, including accounting.

Both Lakatos ³⁷ and Popper ³⁸ were intensely practical in their orientation and both were concerned with reward programme development and the 'proving' process of theories.

Lakatos wrote at length on the methods of research programme contraction, resulting in the concept of a 'hard core', or basic assumptions underlying the theory and a 'protective belt' of conditions and secondary parameters. The theme of his work is that

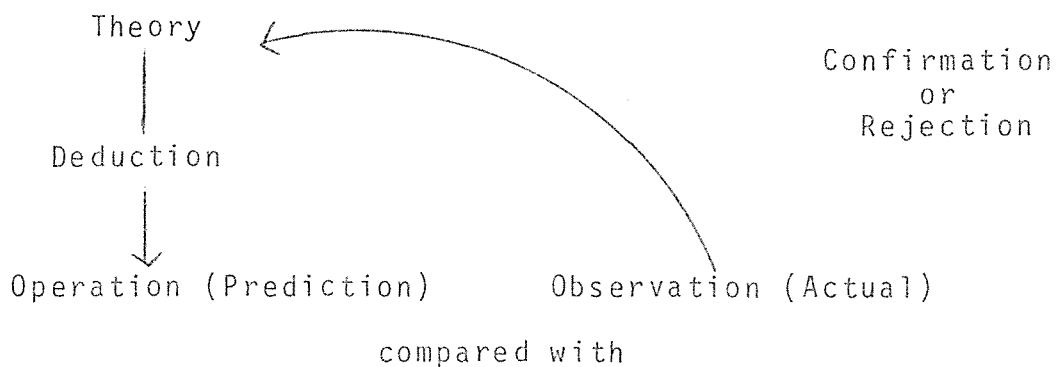
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- (37) Lakatos, I., "Falsification and the Methodology of Scientific Research Programmes", in Lakatos, I. & Musgrave, A. (ed), Criticism and the Growth of Knowledge, Cambridge University Press, 1974, pp 91-196.
- (38) Popper, K., The Logic of Scientific Discovery, London, Hutchinson, 1968. Conjectures and Refutations, London, Routledge and Kegan Paul, 1974, 5th ed.

research programmes must be open ended and lead to further work, rather than forcing closure on an area. Research, therefore, is seen as progressive and dynamic and not subject to ad hoc modifications and abstractions to protect the basic theory. Obviously this is important to accounting in which we hear much talk of forcing closure on an area, or that a theory (hypothesis) is untestable and merely a matter of subjective interest. Lakatos is saying the opposite, that items must be testable and open ended.

Popper introduced the concept of falsification to answer two basic problems:-

- (1) the problem of induction
- (2) the demarcation for science

He avoided the inductive problem by concentrating on the testing and the form of confirmation of a thesis, which he argues is not inductive due to the basic asymmetry of the observation theory linkage. This may be seen graphically.



The major criticism against Popper is that although theories may not be 'proved' but merely confirmed, (when after many tests they have not been found incorrect) a single observation legitimately carried out may be used to falsify a theory. This does not avoid the questions raised in points (b) and (c) previously (page 20 and 21); that observations are not at arms length, there are real measurement problems, that experience and perception will impinge on the observations and that there is no clear distinction between observation and theory planes.

Therefore, there also exist philosophical problems with this approach as with Lakatos, but they have resulted in improved theory construction and testing criteria which are of major benefit to accounting theory construction and research programmes. For example, if writers like Prince, Mattessich, Chambers, and many others of the normative school, had presented their works in more falsifiable and operationally defined terms then their ideas could have been tested or at least subjected to more rigorous criticism. As it stands, many of the normative writers in the 1960s and 1970s produced works under the guise of advancing knowledge in accounting, but which were in essence, little more than statements of personal views.

Thus, this section may be summarised by saying that the resort to induction and the scientific method was initially thought to provide a panacea for accounting. Also some might have thought that it would provide a degree of legitimacy by

espousing 'scientific' approaches in accounting. Unfortunately, the move towards a scientific methodology was made at a time when the philosophy of science had largely rejected the 'scientific' approach. However, the move did have some major benefits (in the writer's view), and these included:-

- (1) A realisation that accounting needed to be more 'hard nosed', empirical and research-oriented if the discipline was to achieve a sound footing. This approach has been particularly evident in the areas of portfolio analysis, stock market reaction times and causes, users of financial statements, efficient market hypothesis et al.
- (2) A resultant discussion in the literature of the best methods of analysis, whereas before this time most writers seemed to accept a convention rules approach.
- (3) A realisation that while there was a place for 'scientific' inquiry there was also a need for other forms of inquiry.

Coupled with this was the growing understanding of the problems of a 'social science' type of discipline within an incredibly complex world of dynamic variables.

- (4) That although there was a great deal of discussion of appropriate theories, their merits and faults, more 'on-the-ground-work' was needed, since the discussion of theories tended to become an end in itself in some people's eyes.³⁹

(39) Watts, R.L. & Zimmerman, J.L., op cit, pp 273-305.

THE NORMATIVE-DEDUCTIVE SCHOOL

The deductive approach was seen as a method of avoiding the shortfall of explanatory theorists via a statement of partially 'what should be' and also a statement unhindered by traditional preconceptions. Several of the early writers⁴⁰ sought theory structures in a manner that was analogous to the search for a theory of the universe in physics and astronomy which rested on two assumptions:

- (a) that an overall integrating explanation does exist; and
- (b) that mankind has the ability to unravel the puzzle.

Unfortunately theoreticians in accounting in looking at the physical sciences have seen an apparently well-codified theoretical basis, when in fact there is a raft of theories dealing with different aspects. (e.g. Physics; wave theory; electricity; atomic, engineering etc).

Many theoreticians appear not to have realised the significant problems of theory construction found in the social sciences which are similar to those which have been encountered in accounting.

In economics, for example, Schumpeter⁴¹ has said:-

"At all times, including the present, in judging from the standpoint of the requirements

(40) See Kam, V., "Judgment and the Scientific Trend in Accounting," Journal of Accountancy, February 1973, pp 52-57.

*of each period ... the performance of economic theory has been below reasonable expectations and open to valid criticism."*⁴¹

And Robinson:-

*"Lacking the experimental method, economists are not strictly enough compelled to reduce metaphysical concepts to falsifiable terms and cannot compel each other to agree as to what has been falsified. So economics limps along with one foot in untested hypothesis and the other in untestable slogans. Here our task is to cost as best we may this mixture of ideology and science."*⁴²

The position of accountants with respect to theory construction is aptly summed up by Buckley et al:-

*"Scholars in other disciplines have not succeeded in encompassing whole bodies of knowledge within a single accepted theory. There is no good reason why accountants should consider themselves unique in this respect. Accounting must be integrated with a wider body of knowledge, and accordingly must meet the tests of the general methodology of the social sciences."*⁴³

The other problem of the overall theory construction period was the desire to think that an overall theory would answer all questions, be completely self contained, and that the

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- (41) Schumpeter, J.A., History of Economic Analysis, Oxford Press 1954, pp 18,19.
(42) Robinson, J., Economic Philosophy, Aldine Publishing Co, Chicago, 1962, p. 25.
(43) Buckley, J.W., Kircher, P., Mathews, R.L., "Methodology in Accounting Theory", Accounting Review, April 1968, Volume 43, p.281

model would be perfect. This predicated a view that anything less than perfect would not be acceptable; hence strong and some times withering attacks were made on theories which, if treated more constructively, might have led to some useful product. (e.g. the reaction to the works of Chambers).

In other words, many writers seem to have been looking for something like a Gestalt switch to a 'model to answer all ills'.

Unfortunately the model was not discovered!

The deductive method is generally considered to be a method of reaching conclusions by use of logic, or of stating premises, a priori, and rationally deriving the conclusions. Thus the essence of deduction is that given a set of agreed upon premises and given that logic is accepted as correct, then the conclusions must be accepted. The only manner in which the conclusions cannot be accepted is via a non acceptance of either the:-

- premises, or
- logic itself.

The interesting twist to this is that conclusions will be 'valid' even if the premise on which they are based is false. Also at some stage in the process a resort is generally made to observation correspondence as a means of operationally relating the theory.

Thus the process of deduction involves moving from the general or global to the specific. The stages may differ depending upon a particular writer's preference

but they typically include the following elements:-

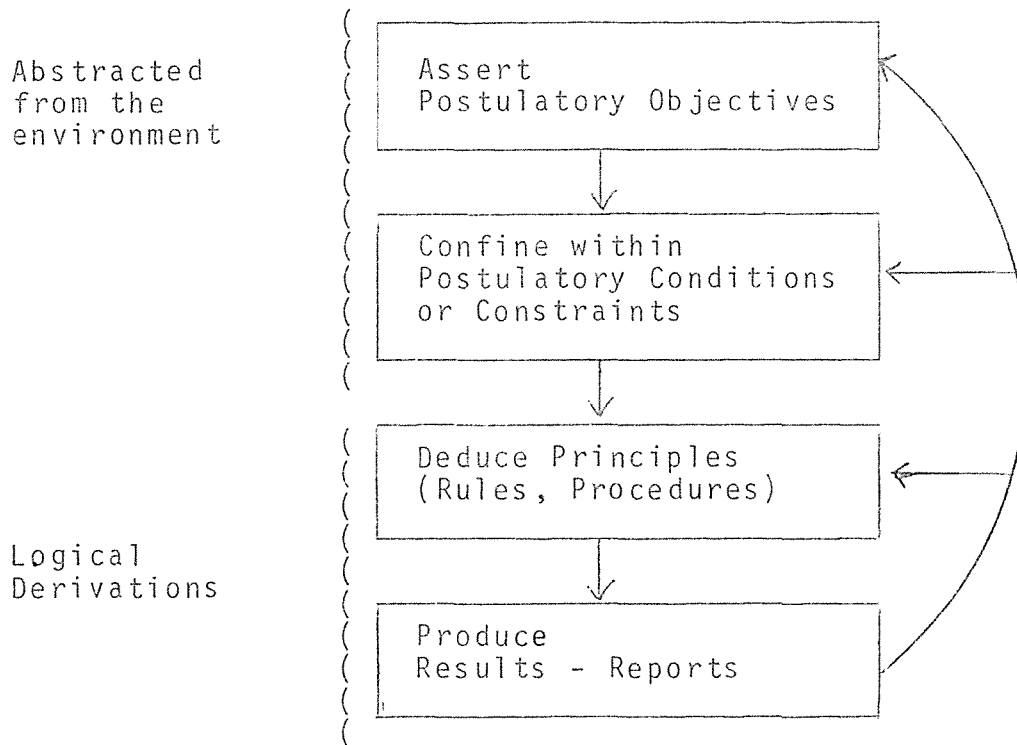
- (1) A statement of goals, mission or objectives, i.e. the long run aim or raison d'etre.
- (2) Postulates concerning the model's parameters, which will include social, political, economic and physical factors.
- (3) Allowable logical connectors.
- (4) A set of accepted symbols and semantics and a basic set of 'building block' definitions.
- (5) Logically derived statements.
- (6) The application of these statements to specific problems and cases which will typically result in the derivation of rules and methods.

From this it is obvious that the critical element is the establishment of phases 1 and 2 above, as accurately as possible, since all later actions are merely refinements upon these.

Buckley, et al have described the deductive process in four stages. In addition they have included upward feedback loops.⁴⁴

(44) J. Buckley, et al, op cit, p. 280

Deductive Methodology



The writers go on to argue that a general framework or methodology, if it were agreed on, would give a much better basis for the development of theories. Thus, what is really lacking is an accepted starting place.

Two particularly interesting statements of postulates illustrating the different starting places of theorists can be found in Grady⁴⁵ and Chambers⁴⁶. These writers illustrate two different approaches, Grady essentially

(45) Grady, P., Inventory of Generally Accepted Accounting Principles for Business Enterprises, ARS No. 7 A.I.C.P.A. 1976.

(46) Chambers, R.J., Accounting Evaluation and Economic Behaviour, Englewood Cliffs, Prentice-Hall, 1966.

stating postulates that supported the traditional model:-

- (1) Private property rights
- (2) Entity concept
- (3) Going concern
- (4) Monetary expression
- (5) Consistency
- (6) Diversity
- (7) Conservatism
- (8) Dependability
- (9) Materiality
- (10) Timeliness

It may be noted that these are very similar to Paton's, (1922) principles.

Chambers postulates on which he derived a new accounting model, namely continuous contemporary accounting, were:-

- (1) Individual thought and actions
- (2) Ends and means, i.e. economic input-output
- (3) Environment of action
- (4) Monetary calculation
- (5) Financial position
- (6) Formal framework of accounting
- (7) Information and processing
- (8) Communication
- (9) Trading ventures
- (10) Accounting for trading venture
- (11) Corporate business
- (12) Financial intra-organisational communication
- (13) Service and government organisations

On the one hand Grady supported largely traditional accounting statements and on the other Chambers, via a calculation of current position in terms of adaptive capability and a capital maintenance 'profit' calculation, derived a 'new' basis for accounting.

Thus for uniformity to be derived from a deductive approach the proponent would state his/her postulates and at that time debate their appropriateness; unfortunately many writers seem to be avoiding the discussions of method and seem to concentrate on the appropriateness of the outcome. This is one of the major problems of the deductive approach as applied in accounting.

Thus the major criticisms of the deductive approach include:-

- (1) Very often the deductively derived theory is not specified in falsifiable terms. In other words, a work such as Chambers' Continuously Contemporary Accounting is accepted or rejected as a matter of faith by readers. Chambers' work cannot be tested in the sense of being right or wrong since either the postulates are accepted or they are not. At the same time, postulates are often worded (and this is partly due to their abstract and general nature) in such a way as to be very difficult to criticise. Postulates, when examined individually, may not appear the same as when several postulates are examined collectively, i.e. the whole

often takes on qualities, by way of association, that is more than the sum of the parts. An example is seen in the elements of the disciplinary matrix.

- (2) If any of the assumptions are false then the conclusions, although derived logically may also be false. Example: all sheep observed are white. Joan has a sheep. Therefore Joan's sheep is white (note this form of example may be similarly applied moving in the other direction as in induction).
- (3) The assumptions or postulates are derived from a human being's experience thus are themselves largely inductive and subjective. Therefore all the problems associated with the traditional scientific method may be levelled against the appropriateness of the initial assumption.
- (4) Deduction does not exist, in vacuo, but needs an inductive counterpart to test it.
- (5) Many have argued that deduction is very theoretical and abstracted from reality. Chambers⁴⁷ agrees that if theory is carried on at an abstract level then it is of little worth; however he argues that in many cases the criticism is pernicious on three grounds:-

(47) Chambers, R.J., Goldberg, L. & Mathews, R.L., The Accounting Frontier, Melbourne, Cheshire, 1965, Reading Two 'The Development of Accounting Theory', Chambers R.J., pp 18 and 19.

- abstraction is necessary for a human being to cope with complex issues, and thus is inevitable;
- the use of terms such as 'impractical' and 'unnecessary' are themselves abstract conceptual terms and imply by definition that the user is using abstraction;
- *"... to condemn theorising is to reject the value of giving thought, to deny that the discovery of orderliness, relation and consistency among the uniqueness and diversity of things experienced is of any use in the world of affairs. Few would overtly make such a denial."*⁴⁸

(6) Criticism has been made that the normative approach tends to force value statements upon the theory and what is needed is an analysis of an empirical approach. The answer to this criticism must be with an individual's own viewpoint.

Unfortunately, the problems encountered in discussions of this kind often end with questions such as those raised in point (6) above, i.e. questions of individual preference and 'faith'.

Advantages of deduction tend to reflect counter arguments to the criticisms rather than being of an entirely separate nature. These include:-⁴⁹

(48) Chambers, R.J., *ibid*, p. 19.

(49) For a particularly good discussion see Hakansson, N.H. "Normative Accounting Theory and the Theory of Decision", International Journal of Accounting, Spring, 1969, pp 33-47.

- (1) Deduction forces a basic statement of goals or mission, it defines a starting place; very often, however, little agreement can be reached over these basic statements and thus the applications never reach the testing place.
- (2) Internal consistency within the model is achieved, the model progresses logically and given accepted propositions the results must be also accepted.
- (3) The deductive approach can lay a sound starting place for building on detailed prescriptions; this will provide evaluative benchmarks with which to compare future results.

The deductive-normative approach to theory formulation, which in essence is a framework for practice, can be criticised as being a somewhat esoteric methodology akin to 'ivory tower' thinking. However to say that is to dismiss the usefulness of giving thought to problems rather than merely 'plunging into them'. The deductive-normative approach can be likened to zero based budgeting - without preconceptions of past practice, you state your goals and refine these to operational terms. There are clearly times when accounting would benefit from this approach.

One example at present is that of price level adjusted accounts. This area could benefit from a rigorous examination as to the purpose of the accounts and only then should the details of how to achieve the end be specified. Unfortunately at the present time discussions appear to be centering on the methods of application with

the aims being taken for granted. Thus the question may be raised as to how many accountants have considered whether the goals of C.C.A. accounts as specified in New Zealand's N.Z.S.A. Guidelines Number One are appropriate,⁵⁰ or whether a more appropriate measure of income would be end-of-year dollars with fewer mixed purchasing power dollars in the income statement.

Thus this section may be concluded by saying that there are times when a discipline benefits from a clear statement of goals, and of what should be. However, this approach does have faults, not the least of which is the inability to obtain agreement by accountants on what the actual goals of financial accounting really are.

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- (50) These are (a) A financial position statement showing value to the business.
(b) Amount of distribution profit without impairing operating capability.
(c) Amount of distributable profit without diluting owners' investment.

THE SOCIAL CONTEXT OR WELTANSCHAUUNG VIEW

Following the late 1920s, accounting has tended to become inward looking in that the profession has spent a great deal of time addressing questions of approach, procedure, and method. Changes in society tend to have had little effect, or at least are only now being felt. Such developments as inflation accounting, social accounting, the call for greater accountability, pollution control, efficient use of resources, the realisation of the importance of the legal and political environment, have all tended to come to a head in the last ten to fifteen years. The result of these pressures has been a growing awareness that accounting exists within a changing social context and is shaped by and subject to social parameters, hence the concern over social accounting. This recognition could demand a radical change in traditional accounting practices.

Prince ⁵¹was one of the first accounting writers to adopt a revised notion of income that included utility, social and wider ethical considerations. He argued that the long run goal of the firm was profit maximisation, however to this he added a number of factors that should be considered. He reasoned that:-

"One of the basic concepts of pragmatism is the interaction of the organism and its environment ...

Thus inquiries were made into the following areas; economic theory - both the deductive and empirical studies - biology, psychology, sociology, anthropology and management science - decision theory, human research,

(51) Prince, T.R., Extension of the Boundaries of Accounting Theory, Burlingame, South West Publishing Company, 1963, pp 167-183.

motivational theory, administrative theory, communication theory, motivational research, and operations research."⁵²

The result of his inquiries was the conclusion that a much greater number of adjusting entries were needed not only to approximate business income but also to take account of behavioural and environmental factors in a more methodical and indepth manner. Prince said that the role of the accountant should be to consider:

*"Every element in the environmental setting that the accountant acknowledges as existing ... In other words, an attempt is made by the accountant to reflect all the activity that would result if the business enterprise could directly respond to the pure long term motivational model."*⁵³

Although Prince's writing was not followed up in any major way he should be noted as producing a major alternative statement of the relationship between the accountant and the business enterprise and in this sense the article was a milestone.

While Prince was redefining the role and place of accounting, Kuhn⁵⁴ was offering an alternative view of the development of scientific knowledge which also took a world view. Kuhn took the view that knowledge progressed in a series of tradition breaking events caused by Gestalt or paradigm switches. The idea of the paradigm (later

(52) Ibid, pp 167 and 168.

(53) Ibid, pp 177 and 178.

(54) Kuhn, T.S., The Structure of Scientific Revolutions, International Encyclopaedia of United Science, and enlarged edition, University of Chicago Press, 1970.

renamed as the disciplinary matrix) was new and encompassed four key events:-

- (a) Symbols and terminology common to the discipline and understood by its members.
- (b) Beliefs and shared commitments that all members of the discipline adhere to.
- (c) Qualities and values that members of the discipline may expect in the work of others.
- (d) Exemplars or problems with particular solutions that may be used as a teaching model to show students how research and procedures should be followed.

The idea that knowledge itself progressed in a revolutionary manner within a social context subject to norms, values and prejudices of society was itself a revolutionary view.

Chambers⁵⁵ was the first accountant to apply these ideas to accounting when he described the cultural background of accountants as significant in their interpretation of change and important factors. Wells⁵⁶ took the application of Kuhnian 'progress' to accounting in much greater depth in 1976. In a major departure from the traditional view of development of accounting Wells argued for the revolutionary view. This approach is important since it implies three factors:-

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- (55) Chambers, R.S., Accounting Evaluation and Economic Behaviour, Prentice-Hall, 1966, pp 373-376.
 - (56) Wells, M.C., "A Revolution of Accounting Thought?" The Accountin Review, July 1976, pp 471-482.

- (a) There will be periods of gradual change and refinement.
- (b) At times there will be periods when the total existing structure is overthrown.
- (c) That research development, theory construction, the entire act of thinking about problems takes place and is conditioned by our social, economic and historical environment.

Due to the significance of these factors, that knowledge is not objective, and that man cannot avoid his/her own subjectivity, the application of Kuhn's work to accounting will be discussed in more detail.

The Application of Kuhn to Accounting

Traditional views of theory development have argued that the development has been evolutionary "*the evolutionary view of accounting theory formulation has considerable appeal.*"⁵⁷ The thrust of this approach is that the accepted methods and structures respond to change and anomalies via the resolving of issues and incorporation into the old structure. This is based on the acceptance of an existing theoretical structure and implies that if a misfit between the structure and reality is to be avoided then the structure must be constantly changing and responding.

(57) American Accounting Association, Statement of Accounting Theory and Theory Acceptance, A.A.A. 1977, p.41.

The American Accounting Association⁵⁸ has argued that the fundamental structure may change in such a way as to no longer provide the foundation for the achievement of its original goals. The response will then be a series of ad hoc adjustments to meet anomolous positions. Clearly, examples of this are seen in depreciation allocation techniques (see NZSA SSAP No. 3). Due to these problems the American Accounting Association looked beyond the traditional boundaries of accounting in search of a better framework for development. The result was an embracing of Kuhn's thesis.

Kuhn maintains that knowledge does not advance through accumulation but via a number of 'tradition shattering revolutions' when an established theory is discarded in favour of a replacement that is incompatible with the first.

Thus new structures are considered unique with respect to the previous ones and are not an additive factor but a replacement factor; "... *seldom or never just an increment to what is known.*"⁵⁹

The movement from one complex of ideas to the next is via a specific series of steps. Wells⁶⁰ outlines these as:-

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- (58) Ibid.
(59) Ibid, p. 7.
(60) Wells, M.C. op cit, p. 472.

- "(1) *Recognition of anomalies.*
- (2) *A period of insecurity.*
- (3) *Development of alternative sets of ideas.*
- (4) *Identification of schools of thought.*
- (5) *Domination of new practices or ideas."*

There are alternative pathways from (2) above, these being:-

- (a) Continue via, (3), (4), (5) above.
- (b) The old disciplinary matrix may take account of the changes and incorporate within the existing structures.
- (c) There may not be the development of alternative schools of thought and/or if there is, dominance may not be achieved. This results in the breaking down of the discipline and the period of competing paradigms continuing into the future.

If change does occur it will only be after the old disciplinary matrix is shaken to the core by fundamental change and problems. However, the basis of Kuhn's thesis is the revolutionary nature of change rather than the idea of the disciplinary matrix.

The key to the concept of the disciplinary matrix is found within the individual's own perception of his/her reality and relationship to their environment. Kuhn says that the individual perceives reality via a

"... conceptual perspective which determines in large part which questions are worth investigating and what sorts of answers are acceptable; the perspective provides a way of thinking ..." ⁶¹ It is for this reason that Kuhn is considered a weltanschauungen analyst. ⁶²

Different accounting writers have considered accounting to be in different stages of the process, and some accounting writers do not even consider that it is applicable.

Wells considers that accounting is in a state of crisis with well defined alternative structures, and is thus approaching a revolutionary phase. He argues that the period of accounting principle formation saw the establishment of a normal science of accounting. Since then there has been a gradual building and growth of the basic model since the work of writers such as Edwards and Bell, Chambers, Baxter, Gynther, Jones et al. Today we have several competing paradigms in the form of:-

(61) Suppe, F., Op cit, p. 138.

(62) Several severe criticisms of Kuhn's methodology have been made and these include:-

- (1) Kuhn confuses the three forms of relativism (subjective, group and objective) and although this does not undermine his theory it does raise questions over the reasoning.
- (2) Kuhn uses historical justification to support his thesis which may also be used to counter it.
- (3) His model is considered as a process structure with causal elements, however it might be maintained that it is in fact merely correlative.

- "(1) Price-level adjusted accounting,
- (2) Replacement cost accounting,
- (3) Deprived value accounting,
- (4) Continuously contemporary accounting,"⁶³

which Wells argues can only be accepted as a matter of faith based on the underlying assumptions.

The American Accounting Association (SATTA)⁶⁴ agrees with Wells that there are substantive divisions in the views of accountants with respect to the historical cost model. However, they say that competing paradigms are not sufficiently defined. They do, however, make a plea for accountants to "... accept one of the competing paradigms and begin to do puzzle-solving and mopping up operations of normal science."⁶⁵

Peasnell⁶⁶ is unsure of ^{the} fit and considers that the discipline either fits into the pre-paradigmatic stage or that Kuhn's thesis is not applicable at all to accounting.

What can be said of Kuhn and Accounting? The arguments for a revolutionary nature of accounting are not convincing⁶⁷ and other writers besides Peasnell share this view.⁶⁸ In fact, Danos argues that accounting cannot even be discussed as part of the Kuhnian model as what is being observed is a development within proto-science.⁶⁹

(63) Wells, M.C., op cit, p. 478.

(64) A.A.A. op cit.

(65) Ibid, p. 45.

(66) Peasnell, K.V., "Statement on Accounting Theory and Theory Acceptance - A Review Article, Accounting and Business Research, Autumn, 1978, pp 287-297.

(67) Ibid, p. 218.

(68) - Tilley, I., "Accounting as a Scientific Endeavour - Some Questions the American Theorists Tend to Leave Unanswered", Accounting and Business Research, Autumn 1972, pp 287-297.

- Danos, P., "A Revolution in Accounting Thought? - A Comment?" The Accounting Review, Volume 52, No. 3, 1977, pp 746-747.

(69) Ibid, p. 746.

However, this writer maintains that Wells and others have missed the essential ingredient of Kuhn's work that is applicable to accounting, that being the concept of the paradigm or disciplinary matrix.

The disciplinary matrix implies a cultural setting that goes beyond the material of the discipline whether it be physics or accounting. The setting, elements of which are quite unrelated in a strict sense to the discipline, provides a much wider model with which to perceive accounting. The model is of society itself with accounting being determined by (and to a small extent determining) societal presence in the general sense. Thus, when Solomons ⁷⁰ and Gerboth ⁷¹ discuss accounting as being no longer non-political but subject to the national and local political and economic structures due to the importance and impact of accounting information, there is an implication of accounting being more than an arms length reporting mechanism. Solomons said on the political implications:- ⁷²

"Accounting rules therefore affect human behaviour ... It is then only a short step to the assertion that such rules are properly to be made in the political arena, by counting heads and deciding accounting issues by some voting mechanism."

(70) Solomons, D., "The Politicisation of Accounting", The Journal of Accountancy, November 1978, pp 65-72.

(71) Ibid, p. 65.

(72) Ibid, p. 72.

From this and other writers it is seen that accounting must act within the goals* of society just as the institution within which accounting operates must do so. Does this imply however that accountants should do what politicians require them to, as the politician may argue that he/she is the mouthpiece for the majority wishes? Solomons sees no choice at all in that the long run survival and good of the profession is what is important, and in his view this can only be fostered (using a cartography example) when accountants:-

*"... make the best maps we can. It is for others, or for accountants acting in some other capacity, to use those maps to steer the economy in the right direction."*⁷³

It is a nice idea that the role of accountants should not be constrained by the political environment, as if we were physicists dealing with 'fixed' relationships; however, the writer considers that this approach is avoiding questions of reality and we are not ostriches.

Clear indications in other writings⁷⁴ indicate a level of increasing social involvement and concomitant with this, increasing political and economic interaction. Thus accounting theory construction must be seen in light of its political, social and economic parameters, and can no longer be perceived as existing in vacuo. This view will obviously constrain the outcome of epistemological methods and research.

(73) Ibid, p.

(74) Examples include:-

A.A.A. SATTA op cit

Watts, R.L. & Zimmerman, J.L. op cit.

Kelly-Newton, L., Accounting Policy Formation the Role of Corporate Management, Addison-Wesley Publishing Coy, Reading, 1980.

SUMMARY AND CONCLUSIONS

This paper has addressed the question of alternative approaches to accounting theory formulation with the view to recommending an appropriate approach for the future. The writer would not pretend to be able to force closure on an area that has attracted a plethora of writings from some of the finest minds in the discipline. However, there is a need for a statement of future direction and of likely avenues for future research.

It has been seen that there is no single accepted approach to the establishment of a conceptual base for accounting, in fact many writers have argued that this is not relevant, due to the nature of the discipline (Littleton (1956) in particular). However, there are theoretical aspects of accounting that cannot be avoided, and no matter how practical the discipline, there must be conceptual matters and considerations. Once it is accepted that there are conceptual matters, then the question of how best to deal with them should be raised.

In the accounting context there have been many approaches which for the purpose of this paper were classified under five broad headings. To some extent these categories are an abstraction and do not do justice to the large number of writings that fall within them. It should also be noted that some works have been classified in one area when a strong argument could be mounted for inclusion in another. This is found especially in the following two groups: conventions and rules, and, induction and deduction.

None of these approaches has been able to establish its credibility as the appropriate vehicle for accounting theory development, and in many ways these alternatives have polarised writers and resulted in clearly alternative camps being perceived. In this sense the development of appropriate methodologies in accounting better fits the Kuhnian model of competing disciplinary matrices than does the competing methods of price level adjusted accounts, (as argued principally by Wells⁷⁵ and SATTA).⁷⁶

Few accounting writers have argued for a composite approach to the methodology formulation problem with the exception of Goldberg⁷⁷ when he maintained that a mix between induction and deduction was necessary. The criticism of Goldberg is that researchers had been mixing the two approaches, covertly if not overtly for some time. Nevertheless, Goldberg's approach was an improvement over that of the pragmatists.

The pragmatic approach is seen most clearly in the rules and standards setting area where a specific response is made to a specific problem, and particularly in the Accounting Research Bulletins, Accounting Principles Board Opinions and later in the Financial Accounting Standard Board Statements and Interpretations.

To a large extent this approach has been successful in the setting of desired practice and in establishing benchmarks for the industry (accounting). The approach is not born out of a striving for a more integrated

(75) Wells, M.C., op cit, entire article.

(76) SATTA, op cit, entire article.

(77) Goldberg, L., "An Inquiry into the Nature of Accounting A.A.A. Monograph No. 7, 1965.

theory or structure of accounting, however, but arises from specific anomalies and/or problems. To many this approach is ideal and all that is necessary - yet severe criticism of it may be raised, and these include:-

- (a) that rules and standards typically do not lay a framework for the future since they respond to present and past problems; thus they do not help to direct change and merely attempt to keep up with it;
- (b) the setting of rules and standards takes place in a political environment whereby decisions may be made more for political reasons than for rational reasons concerning the practice of accounting, per se.

*"... an accounting rule making body will not succeed on its technical competence but rather on its political competence."*⁷⁸

- (c) Since rules and standards are problem specific they do not provide a sound conceptual structure but tend to be fragmented with few linkages between different standards.

Notwithstanding these criticisms, the raison d'etre of accounting lies in the business environment and to succeed there it must cope on a day to day basis, and in this respect a rules and standards setting approach for all of its problems (and conceptually they are great) fulfills an essential role.

(78) Gerboth, D.L., "Research Intuition and Politics", Accountin Review, July 1973, p. 479.

The conventions and principles approach was one step more abstracted from that of rules and standards, and involved the statement of more general relationships:-

Practice --- Rules --- Conventions --- Theory⁷⁹
&
Standards

This approach was invariably based on a review of practice and derivation of conventions from practice. The principle benefits of this method were that general statements could be derived and used as benchmarks against which practice and/or rules could be judged; in other words, a series of criteria were established. Secondly the determining of conventions demonstrated to many in the profession that there remained very real problems in the theoretical structure of accounting. These problems resulted from the derivation of conventions prior to the specification of overall goals and aims of accounting.

Thus conventions were drawn up as distillates of practice, but in vacuo of goals and fundamental structure. This meant that anomalies were evident and that conventions could result in contradictions when applied to practice as in:-

(79) It is realised that this diagram could be more detailed via tighter definitions and the inclusion of such terms as postulates; however, the purpose of the diagram is merely to show the place of rules and conventions in the practice-to-theory progression.

- conservatism and objectivity clashing when inventory is valued, via the lower of cost or market rule.
- objectivity and cost conventions clashing when term assets are considered for valuation under inflationary times.

This second pragmatic approach has received strong support from practicing accountants as they perceive it to be a theoretical basis and to provide justification for their actions. However, this is not so, conventions were derived in similar fashion to the work of Sanders, Hatfield and Moore⁸⁰ and were no more than generalisations from practice. The question must be raised that if conventions were to provide some theoretical basis due to the inadequacies and problems of practice, then any derived conventions must embody these same inadequacies but at a more generalised level.

The principle of conventions as benchmarks for practice is undoubtedly sound; it is the derivation of these conventions that has not been sound. Instead of deriving convention from practice they should be derived from a cohesive conceptual structure. Thus if meaningful conventions can be derived then they would be of enormous benefit to practitioners.

The inductive approach, essentially a method of research based upon "scientific" methods, was espoused as a way of defining accounting in a more rigorous manner. There is no question that the scientific approach, as a method, has yielded extremely rewarding results, yet many of the claims made *for* it are unjustified. It might also be suggested that some accountants saw the use

(80) Sanders, I.H., Hatfield, H.R. & Moore, U., op cit.

of "scientific" techniques as a way of lending credibility to accounting, i.e. borrowing 'mana' from such areas as astronomy and physics.

Unfortunately accounting moved to the "method of science" at a time when within the traditional sciences, the method was largely refuted as having any rational basis. Thus accounting took it on board when other areas had already, or were in the process of, rejecting it. The major criticisms of the method itself are briefly contained in the text, but it must be stressed that although the method of science is itself not rational (and can only be accepted as a matter of faith) the use of the method is justifiable on rational grounds as it is the best method we have available for research. Popper has said:-

*"knowing full well that science often errs and pseudoscience may happen to stumble on the truth."*⁸¹

This statement is considered by the writer to go to the essence of the debate around the use of the "scientific" approach.

The real benefit for accounting has been an upsurge in empiricism and hard nosed research⁸² seen particularly in finance, management accounting and investment analysis. Increasingly, therefore, the view seems to be one of research, measure and

(81) Popper, K.R., Conjectures and Refutations, 1974 p 33, op cit.

(82) The writer would not argue that the upsurge was entirely due to the espousing of "scientific" methods in accounting but that it was of some contributory effect.

quantify, wherever possible. Of all the approaches this one can offer paybacks via an increase in our stock of knowledge. However there are many areas where an empirical approach is not readily amenable, due to the complexity of the variables and it is here that the deductive method has had real benefits.

Hendriksen has defined deduction as the "... *process of starting with objectives and postulates and, from these, deriving logical principles that provide the bases for concrete or practical applications.*"⁸³

And Nelson has described the 1960s as:-

*"A golden age in the history of a priori research in accounting ... certainly no ten year period has brought forth an outpouring comparable to that of the 1960s."*⁸⁴

The normative deductive approach is characterised by two writers in particular, Chambers and Mattessich, who advocated an approach based on the initial statement of goals and aims followed by the derivation of specifics. This approach sets aside existing practice and states what should be, or what one is trying to achieve. In other words, it makes a break from existing extrapolation of practice to theory and derives practice from theory and this is its major advantage.

(83) Hendriksen, E.S., Accounting Theory, 3rd Ed., Irwin, 1977, p.7.

(84) Nelson, C.L., "A Priori Research in Accounting", in Dopuch, N. & Reysine, L., Accounting Research: 1960-1970: A Critical Evaluation, Centre for International Education and Research in Accounting, Monograph No 7, University of Illinois, 1973, p.4.

This approach has been criticised for being abstracted and not in touch with reality, but to deny the use of conceptualisation is to deny the use of thought itself, since by definition thought is conceptualisation. These criticisms are only valid if the structures concerned are so abstracted as to be worthless in practice, and only in this case would the writer give credence to the critics' views. The normative approach has meant a fresh look at accounting, its aims and its role, resulting in such works as Chambers' continuously contemporary accounting and Mattessich's works on axiomatised foundations. Leaving aside technical criticisms of the method (see section V "The Normative Deductive School") the approach has provided few tangible benefits: it has nevertheless produced many new ideas and much debate, in short it has made some accountants think anew about problems. This must be in the long-term interest of the profession as a whole.

The other major result has proceeded from the deductive approach itself. Deduction begins with a statement of objectives or goals which are gradually refined until operational procedures are constructed. This a priori need for a statement of goals resulted (in the financial accounting area) in several alternative ideas as to the goals. For example, the goals of an area that had apparently 'obvious' goals of merely producing financial information for unspecified users. Thus the work of Trueblood⁸⁵ and later the

(85) Study Group on the Objectives of Financial Statements, Objectives of Financial Statements, New York, AICPA, 19

Financial Accounting Standard Board ⁸⁶ attempted to produce a definitive statement of the aims of financial reporting. When these aims are coupled with efficient market hypothesis we are left in an interesting position with respect to a priori methods, that is, if a premise is unsound then the conclusions may be incorrect. Thus the normative statements on aims of financial statements may not be in line with what empiricism would suggest. (This area has yet to be resolved).

Thus deduction has the benefit of starting without an existing structure, from a clean slate, and building a fresh and new structure. This approach has had real benefits, in that it has provided a 'breath of fresh air' in an area that has traditionally been somewhat stultified by an overemphasis on practice.

The final approach in this study of epistemology is the weltanschauungen view. This says that accounting exists within a social matrix, and cannot be considered as objective, 'arms length', nor absolute. It is only recently that this view has begun to gain some degree of limited acceptance. Kelly-Newton⁸⁷ when discussing standard and policy formation argues that standard setting is increasingly becoming a political factor and not the result of accounting arguments, per se.

(86) FASB Statement of Financial Accounting Concepts No. 1. Objectives of Financial Reporting by Business Enterprises F.A.S.B. Stamford, 1978.

(87) Kelly-Newton, L., op cit.

*"The F.A.S.B. derives a significant amount of its legitimacy from the S.E.C. and must respond to Congressional investigations into its activities. The S.E.C. on the other hand, is directly dependent on Congress for its standard setting authority. Thus ultimately both policy boards are subject to the jurisdiction of the legislative branch of the U.S. Government."*⁸⁸

Thus accounting standard setting in the U.S.A. (and the author maintains, internationally), is subject to political considerations of a direct nature. It is also a product of the cultural, social and economic environment.

Mankind exists within his own subjectivity, experience and perceptions (see Heidegger and Kierkegaard)⁸⁹ and therefore cannot treat any item as objective, rational and at 'arms length'. 'Reality' can only be perceived via participation and involvement of the individual, and the individual is to a large extent the product of his/her upbringing. This being the case then a 'social science' type discipline like accounting must, to a large extent, be moulded by the cultural and economic base of society. A conceptual structure of an absolute nature cannot exist, since any structure will itself be a product of the same cultural and economic base. The writer would not go so far as to advocate the total acceptance of a Marxian model of accounting theory development despite the many similarities. In particular, accounting concepts and structures, in different countries and cultures, seem to be very much a function of the economic base of that culture.

(88) Ibid, p.7.

(89) See Russell, B., History of Western Philosophy and its Connection with Political and Social Circumstances from the Earliest Times to the Present Day, Allen and Unwin, 1957.

The result of these observations must be that:-

- (a) No single conceptual basis exists in what could be termed an absolute sense, since accounting is the product of the cultural, economic and political environments of the particular country.
- (b) Given similarities between cultures, for example, Australia, United Kingdom, and U.S.A., the methods adopted in these different countries will have many similarities, but at the same time will have differences that will tend to take on a cultural distinctiveness.
- (c) There are many ways of improving the performance of accounting, one of which is the striving for a conceptual framework. The movement towards the framework has taken several forms, none of which has been able to force closure on the area. Each of the approaches however, has made significant contributions to the development and practice of accounting.
- (d) The scientific-empirical approach for all of its problems provides the greatest advantage to researchers, and must be recommended.

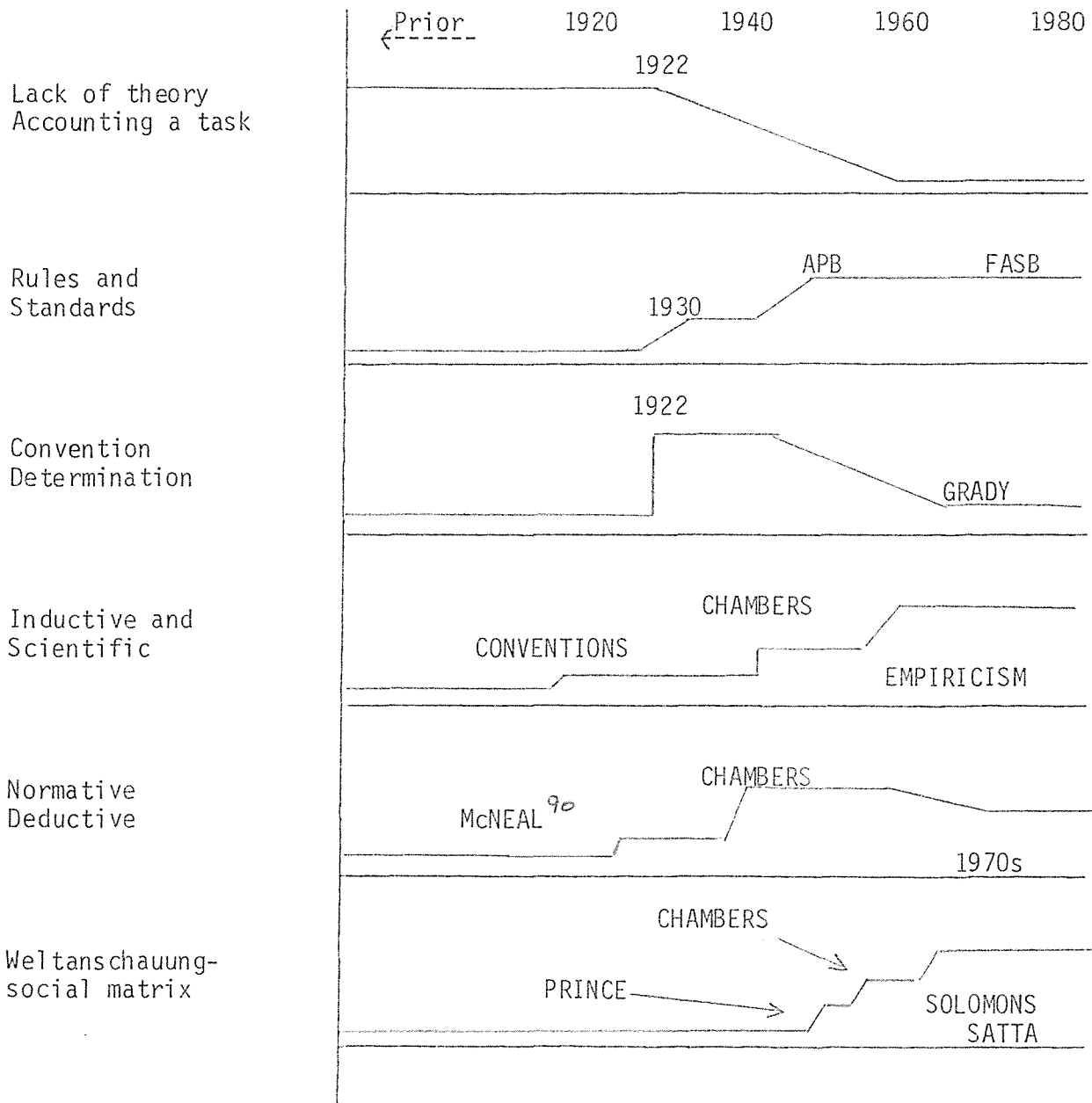
The position is thus reached where accounting must be viewed in a cultural context, that accounting theory construction methodology has taken several forms, from a very pragmatic to a highly conceptual, and, that each of these approaches has provided practice with real

benefits. Finally accounting does not have any absolute nature nor principles, and is in a constant state of flux. The question posed at the beginning of the paper is repeated, 'what methodological prescriptions are recommended for the future?' The answer can only be that no one method of theory construction can be absolutely recommended, however the scientific approach is the 'best' tool available. In the past, accounting knowledge has been derived from numerous sources and it would appear that it will continue to do so in the future. Thus methods should be evaluated on their output 'the goods that they produce', and as long as a method is useful, whether it be normative or pragmatic, borrowed or derived, then this must be the criterion.

There will in the author's view be methods of knowledge-gathering that will tend to be more productive than others, in particular, empirical research and the scientific approach. However, in the foreseeable future accounting must draw from whatever sources of knowledge it can, so as to best meet the needs of the marketplace and in the longterm society as a whole, thus a weltanschauungen view of accounting is advocated.

APPENDIX ONE

Periods of importance of the various approaches to theory formulation.



At all times there are elements of all the approaches present, it is the relative weights of the different approaches that is of interest.

⁹⁰ MacNeal, K, Truth In Accounting, University of Pennsylvania, 1939.

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