RARA: Rover chairs

An adventure in adhocism

Rodney Gordon Adank, 2015

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An exegesis presented in partial fulfilment
of the requirements for the degree of
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Abstract

This practice based research explores the nature of opportunity availed by an adhocist strategy employed in seating design. It is inspired and sustained through a focus and reflection on Ron Arad's *Rover Chair, 1981*. Characteristics of adhochism such as opportunity, heterogeneity and value are unpacked through case studies. Seating concepts developed through research practice are examined. RARA (Ron Arad: Rod Adank) incorporates the appropriation of design and cultural references as a part of a hybridization strategy. It considers the role of immersive experience, physicality and affective design in the development of a body of work tethered to a design precedent. It postulates that by pursuing the pleasure of design through a practice of playfulness, humour, irony and compulsiveness, diverse and creative solutions to seating may be found.

Keywords:

adhocism, chair design, creativity, furniture, hybrid, prototyping, sensory experience

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Table of contents

Preface

Let me tell you a few things about my journey into adhocism and my introduction to the *Rover Chair, 1981* by Ron Arad...

To make things you need 'stuff'. We had a drawer full of stuff in the kitchen when I was a child. It was universally useful for all sorts of ad hoc making and creating. We called it the junk drawer because it was filled with left over bits and pieces that could be useful for some other later application. You could always find something useful inside: string, tape, buttons, needles, skewers, wool, crayons, wire, glue, all to be pressed into action to serve a creative compulsion.

An early memory is of making a simple stool. It consisted of timber sides salvaged from the ends of a fruit box. Importantly, this gave me two equal length legs— it was tricky to get sawn legs the same length, or to cut them straight–and a length of timber nailed on top to make a simple three-piece stool. I coloured it with green wax crayon and signed my name on it in orange. I must have been about seven years old, subconsciously engaging with usability and complementary contrast. I remember this stool because later I used it to barter with my younger brother. Making had generated something of value that I could translate into some other form of benefit.

By 1980 I was operating as a sole trader making leather bags and belts, cane furniture and deck chairs from a small garage at the front of the house. An extension lead from the house provided lighting and power. This, along with some basic tools and a borrowed tank of compressed air driving an industrial staple gun, provided the means of production. I supplemented the modest income with part time work at Bon Brushes, a local brush making company. One of their many products was 1⅛ inch diameter broom handles, made in large numbers. A percentage were rejected due to material flaws. These rejected handles were of considerable interest to this budding entrepreneur. They represented a material that had been vested with added value through processing to a uniform size. They were available at no cost. Imported cane for furniture was expensive: could I do a material substitution with the timber handles with a cane lashing? The problem with timber handles is they don't readily bend and so the form-giving qualities of cane were lost. This required a rethink of the product concept. The resulting plant stand showed promise but never generated enough interest or demand to make in any quantity.

In 1982 I bought a business that laminated glass with decorative and protective films for automotive, domestic, and commercial use. The purchase included

some imported high technology mirrored films that were now outside their factory warranty. These films contained considerable embedded value, but it was a challenge to recover any value from this stock. I decided to use it for promotional wrap around sunglasses. An architect friend developed the design, a stamp dye was made, and the components —consisting of solar film, double sided tape, cardboard backer and an elastic headband— were assembled. Thousands of these 'Solar Shades' were produced and distributed. The step from concept to product was rapid, executed with urgency and purpose and without iteration. It was as little as could be afforded for this disposable product. Some years later I rebuilt a Lotus 7 sports car from Ford and Standard-Triumph parts sourced new, secondhand or salvaged from wrecked cars. Over many years I developed an eye for seeing individual components within larger assemblies of parts. It was empowering to make something exciting from an assembly of innocuous components.

My first experience of the *Rover Chair, 1981* came in 1988 after my first year studying industrial design. My girlfriend introduced me to a friend. He had a wide-boy style going on, with winkle picker shoes, sideburns and an edgy look. He sat in an old leather car seat mounted in a steel pipe frame, looking at me cock-eyed through a green beer bottle trying to work out an angle.

"This is a Rover chair designed by Ron Arad," he said. "Do you recognise it?"

" No," I replied. This ad hoc assemblage of a chair had some form of power.

I smile now to think that while Ron Arad was cutting a swathe with adhochism and high-tech style in the punk hyper city of London with his creative salvage, I was on the margins of viability, trying to reappropriate the surplus value availed by the 11/8 inch broom handles in a material substitution for a product no one really wanted.

In a compulsory third year industrial design project, our tutors loosened the previously tightly constrained chair design project. We were unleashed. I unknowingly embraced a postmodernist style that lifted me up creatively. I must have spray painted that chair half a dozen times just trying different colour combinations and then with photography tutor Helen Mitchell experimented with film processing to invert colours, turning it into a lustrous golden plastic finish. I had designed my first chair and it provided a lasting sense of satisfaction and achievement.

My second chair was the *Madonna Chair, 1994*. A chair that you really couldn't sit on for any extended period as it was ergonomically challenging. For this chair that literally was the point, it was designed as a niche café chair. My research around the emerging café culture of Wellington identified that cafés needed to turn over tables to make a buck. Having customers too comfortable was not an objective. That provided the impetus for this Jean Paul Gaultier bustier inspired chair. There was no way you would be able to relax on the seat, but you would sure turn up to the café to see it or try it out. The *Madonna Chair* featured on the TV news during our final year exhibition. This chair showed me that designing things that worked as they were expected isn't always an objective. Making things that engage with something else can offer a richer quality of experience, generating surprise, pleasure, and enjoyment.

After several years teaching product development, I became an industrial design lecturer. In 2006 I developed and coordinated a third year industrial design paper with a recycling/upcycling focus. Small teams of students were given a Neolt folding drafting table. These tables, previously highly valued by students, were becoming redundant due to advances in computer software and hardware. The collective time and effort put into this project was well in excess of what most upcycling type projects would ever receive. A remarkable diversity of ideas and designs came from this redundant Neolt table. The playful fun and engagement from students made this paper a joy to be involved in. There were dramatic variations in the perception of where the value was to be exploited. I gained several realizations about adhocism from this project. I saw that adhocism as a design strategy often picks the low hanging fruit. The marginal condition of the practice does not warrant or justify standing in the ground for too long. A constraint on supply or access to the source material limits the ability to extend into other solutions, and does not justify investment in further design time. But I saw that there are other solutions waiting to be found if you can stand in the ground for longer.

Building on the enthusiasm and positive engagement I had experienced working in the undergraduate programme, I developed a design competition for researchers. The competition, *Surplus & Creativity: Design and the Readymade*, built on the concepts of adhocism, readymade, recycling, repurposing, up-cycling, and extracting surplus value through design. The competition exhibition was installed at the Department of Conservation, Te Papa Atawhai, Wellington and opened to the public in November 2009. My experience of the project was that it generated a good deal of excitement, interest and enthusiasm among participants, visitors and staff.

A notable thing that I observed across these experiences was the pleasure of designing and making. I found that making and having interesting stuff around stimulates creativity. It builds community in and around the local environment. Making builds knowledge about the artifact being built and extends the ability to interact with a materially rich environment. The opportunities and ideas provided by just one or two found objects can be many and varied. Dealing with a material reality that has history and form brings its own constraints and challenges, and also has much to offer. This study, with the *Rover Chair, 1981* as its anchor point, follows from these experiences, learnings and understandings.


kiosk

Introduction

My design education and practice originated in an environment of materiality, ergonomics, idea generation and making. My background also includes product development, affective design and entrepreneurship. And there have always been cars...and chairs. Increasingly, I see that three-dimensional design happens in virtual environments, mediated through screens rather than through direct experience in the physical environment. This can be freeing but we also need to better understand what physicality has to offer and its role in the design process.

In this Master of Design project, I use a discovery led research practice to identify latent opportunities from the origins of Ron Arad's *Rover Chair, 1981*. The research question that guided this study was quite simple: what further understandings will be gained by privileging the making of an idea early in the design process, and by exploring the immersive experience of physicality? By utilising adhocism, immediacy and pursuing opportunity and spending longer to explore other opportunities from the provocation that a salvaged car and a joining system can provide? By using the constraints of the physical systems used by Ron Arad to investigate and answer the questions about what is left in the ground by his repurposed pipe and clamp system and salvaged car seat? I want to realise the opportunity the pipe and clamp system might provide, and develop my understandings about adhocism, appropriation and bricolage. The aim of this Masters of Design study is to discover latent seating possibilities, opportunities and insights inspired by a sustained focus on Ron Arad's *Rover Chair, 1981*. This was achieved by navigating, through iteration, design and making, to identify the aspects that intrigued me about Ron Arad's chair.

My understanding of prototyping strategy within a product development process, of human factors and elevated levels of human experience, and of affective design has influenced this study. My previous experience of adhoc and the readymade and the infective enthusiasm and playfulness that is part of the design process is another strong influence.

This research-through-design practice enables discovery (a heuristic approach) and informs the overall process and navigation of and to opportunity. I make designs. I develop concepts and make them. I live with them. I share them with others. I reflect on them, discuss them with others, and even develop an imaginary discourse between myself and Ron Arad in order to propose other concepts and ideas. It is an immersive process that provides a rich sensory experience. I lift the realized objects —the chairs— I shift them, I store them, I assemble and adjust them. I gain a deep and abiding experience of them. I love the new ones, I move

on to the new ideas, I suffer the details, I struggle with the complicated ones, I laugh at some and my indulgence in making them and others I love, some longer than others. I reflect on the theory and characteristics of sensory experience previously developed as an approach to affective design. Some designs hold the temporality of sensation and affective response for longer. With some it is just the quick frisson of creation, later discarded as a red herring, but I'm always hunting for the essence in what I'm aiming at. Where is it? Further on... the next idea? I can't put my finger on it but each chair moves me closer. Will I know it when I see it? Questions, questions and more questions. My aim in this project is to privilege the genesis of ideas, and make them as designs, to embrace the creative nexus of brainstorming concepts and building them.

Figure 1. Arad, R.,1981. *Rover chair*. [Rover P6 leather seat, tubular steel, cast-iron Kee Klamp joints, 80 x 61 x 91.4cm]

My investigation starts with Ron Arad's *Rover Chair, 1981*. What is it that I sense is unrealized or now achievable that can be gained from an investigation of this chair? I have a sense of something else to be gained from this, some insight, some unrealized opportunity. It is the unrealized opportunity that I want to navigate to from an immersive design and making process, reflecting on each new piece and synthesizing information and insights as they develop in this practice based research.

The designs I make are chairs. Making chairs is my process. I am immersed in the design and making of a number of chairs, each individually named, and collectively referred to as RARA chairs. The name derives from a coincidence of initials and an imagined discourse. During my design exploration, RARA signifies Rod Adank addressing Ron Arad and investigating what remains to be found in the space left by his *Rover Chair, 1981*.

My investigation is exploratory in nature and is situated in the activities undertaken in the early stages of new product development (NPD). New product development seeks to develop new and meaningful products that provide benefits to end-users. It is structured, scientific, engineered, rational and based on evidence and research. Design exists within NPD's structure and operates across a range of areas and through a range of inputs. NPD increasingly recognizes that success in product development depends on the quality and range of ideas that enter the front end of the design process in order to discover new opportunities (van den Ende et al., 2014). NPD has embraced disruptive technologies and methods in the pursuit of innovation and product success.

In this investigation I adopt a strategy of introducing adhocism to the early stage of idea generation. My aim is to force the generation of a finished product earlier in the process than usual. My intention is to produce comprehensive physical prototypes–adhocism as finished design—providing a rich sensory experience to inform and accelerate the process of innovation. Lene Tanggaard (2015, p. 113) states that living with each successive built design will provide an

enriched aesthetic and sensory experience that will inform and enhance creativity. I used an iterative design method that contains a range of industrial design processes and methods, such as upholstery, engineering, fabrication and prototyping. The principal constraint of this project was to stay within the basic adhoc combination used in the Rover Chair, 1981: a salvaged seat and a supporting pipe and clamp frame.

This exegesis will cover the definition of adhocism and its contribution in art and design practice. It will discuss and explain how it is used by different design practices and in its various manifestations through examples in chair design. An analysis of the *Rover Chair, 1981* and the context that brought it into being is outlined. Examples from the RARA chairs are presented and discussed that navigate to key findings and outcomes from the investigation. A discussion of the theory related to adhocism and its potential contribution to creativity, design, and product innovation is made.


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Adhocism: vernacular to spectacular

Adhocism defined

Adhocism is a term first used in architectural criticism by Charles Jencks in 1968. It combines ad hoc, meaning for this particular purpose and ism, referring to a movement in the arts. 'Adhocism' writes Jencks 'denotes a principle of action having speed or economy and purpose or utility...it involves using an available system in a new way to solve a problem quickly and efficiently' (Jencks and Silver, 2013, p. 9). Adhocism expresses a new concept or invention and represents the creative genesis of an idea at or close to its inception (Jencks and Silver, 2013, p. viii).

Jencks characterises adhocism as a catch-all term for a multiplicity of ad hoc approaches used in creative endeavours. The approaches include bricolage, found objects, assemblage, readymades, mixed media, works-like prototypes, low fidelity prototyping, do it yourself (DIY), repurposing, and creative salvage. Adhocism uses deconstruction and play to embrace post-modernist ideals of pluralism. These adhocist strategies span quotidian choice, social activism, arts practice, design, technology and scientific discovery. The elements used by the adhocist may come from any source, deconstructed from other objects and systems and drawn from a plurality of possibilities. Jencks (Jencks and Silver, 2013) further develops characteristics and philosophies of adhocism in his *Adhocist Manifesto*, reproduced in Appendix 1.

'Adhocism privileges the moment when creation takes place just after two or more elements, systems or components are brought together in a new combination or synthesis' (Jencks and Silver, 2013, p. viii). This fusion presents the already known deconstructed elements simultaneously as the new hybridised concept. This produces a mix of experiences due to interaction with the object or product involving nostalgia, déjà vu and surprise, an important concept in creativity (Bruner, 1962).

Nathan Silver (Jencks and Silver, 2013, pp. 139–143) considered that an adhocist sensibility might include eight affective elements. These are: the pleasure of unexpected recognition; the appreciation of hybrid forms; contrived spontaneity (evinced by an extensive search and free spending to 'come across' a 'bargain'); the appreciation of 'function', meaning supposed utility; nostalgia; identification (either reinforced or contradicted); the superiority of the perceiver (anyone could do that!); and the principle you love to hate. Later, Silver (Jencks and Silver, 2013, p. 209) developed a taxonomy of adhocism. The *Adhocism Tree*, copied in Appendix 2, has two branches. The largest branch, practical adhocism, is estimated to

be approximately 98 percent of adhocist activity. It is described as being unselfconscious, indigenous and natural—unintentional design. Intentional adhocism, the smallest branch, is the focus of this study. It comprises 'the 2% that's deliberate' from which other categories of adhocism–developmental adhocism, singular adhocism, high adhocism, and adhocist mannerism–stem. Some of these concepts are illustrated in the chairs below.

Arts practice and adhoc design

Art has long used adhocist practice that relies on a combination of components in new perspectives to achieve its objectives. These practices have their origins in the early twentieth century movements of dada and surrealism. Art critic Robert Hughes (1991, pp. 61, 213) traces the origins of both movements to the reaction to World War One and the political and social upheavals across Europe from the early twentieth Century.

According to Dietmar Elger (2004, pp. 7–8), the Dadaists' active and spontaneous engagements succeeded in finding pioneering creative processes, including surprise and shock. Dada '...stood for a wholly eclectic freedom to experiment; it enshrined play as the highest human activity, and its main tool was chance' (Hughes, 1991, p. 61). Surrealism wanted to set people free and the dream was the device by which it was achieved. The artistic act often happened in neutral surrounds where incompatible things met in clear light by chance association (Hughes, 1991, pp. 212–213, 221) and was achieved through a juxtaposition of seemingly different realities, evoking what psychologist Jerome Bruner (1962) describes in relation to creativity, as effective surprise.

Heralded by Elgar (2004, p. 80) as the most influential artist of the Twentieth century for his invention of the ready-made, Duchamp is undoubtedly the intellectual powerhouse behind adhocist approaches that flowed out of both movements. His first readymade: *Bicycle wheel*, 1913 is considered by Jencks (Jencks and Silver, 2013, p.139), to be 'probably the first artistic work to explicitly present the adhocism of mere choice and combination as art.'

This is not to say that readymades were arbitrary. According to André Breton (cited in Girst 2014, p. 154) the definition of a readymade involved 'manufactured objects promoted to the dignity of art through the choice of the artist.' The question of choice by the artist was either 'intentionally inviting randomness, as in a blind date or rendezvous, or following complex instructions', which may involve choosing the manufactured object/s against artist-defined criteria in advance of the predetermined rendezvous (Girst 2014, p. 155). The critical ingredient of readymades is the action that elevates them to art.

With Duchamp's most famous work *Fountain* 1916/1974 this was achieved by placing a men's urinal (the selected quotidian object) on a plinth in a different orientation to what it would ordinarily be seen from, signing and dating the item (R. Mutt 1917) and recontextualizing it in an arts context by entering it in an exhibition of contemporary art. Duchamp recognized that an object is defined by its context. Changing the context changes how the object is perceived or understood (Elgar 2004, p. 80). A changed context surprises. It has the potential to dramatically shock or change our position or view. The object in a new context presents as a new creative idea—and this is very interesting to design.

Adhocist practice transcended these art movements, to flourish in the mid century pop movement (Hughes, 1991 p. 344). Adhocism today has an established arts practice and scholarship. With its attributes of hybridization, double coding, deconstruction and pluralism, adhochism became an active agent in critiquing modernism (Jencks, Branscome, and Szacka, 2011). It provided a set of approaches that supported the larger postmodernist movement, refuting the modernist agenda across the broader arts and humanities. In design, adhocism was particularly active in architecture and graphic design and existed as niche excursions in product design.

Figure 2. Duchamp, M., 1913. *Bicycle wheel*. [Metal wheel mounted, wooden stool, 130 x 64 x 42cm]

Returning to a more concrete representation of theorized creative practices, the ad hoc and combinatorial activity of fitting parts and components together by do-it-yourself means in quotidian activity captures the vernacular practice of bricolage. Anthropologist Claude Levi-Strauss (1962) writes that the bricoleur makes do with whatever tools and materials are at hand, or were previously purloined for their potential to play a role in some subsequent yet unknown project. As a result, a taxonomy of components is derived that is diverse—heterogeneous. It is through the combination and assembly of heterogeneous components that solutions are arrived at and solved. That said, the components signify a past experience and understanding, and they provide signs or reference to a culture. Their selection by the bricoleur is not independent of this past and with co-dependent combination, creates new meaning and knowledge within that cultural understanding (Levi-Strauss 1962, pp. 17-19). Rob Pope (2005) argues that the bricoleur operates in the 'spaces within and around commodity culture for the *modestly* creative re-appropriation and re-use, including recycling, of commercial "goods."' Pope theorizes that bricolage practices 'seek out *surplus* or *supplementary values* in personal and social terms, over and above —or between and beyond— those of *commercial value* narrowly conceived' (Pope 2005, p. 35). (Author's italics.)

Contemporary bricolage operates across two central themes and polar extremes as identified by Anna Dezeuze (2008). One 'revisiting the past utopias of avant-garde movements' in self-reflective artist studio practice; the other, reflecting 'everyday activism' related to life and survival in developing economies engaged with social and political concerns (Dezeuze 2008, p. 34).

It is from the bricoleur described by Dick Hebdige (1979), involved in everyday activism, that we see the development of spectacular subcultures, styles and identities. Although Hebdige was concerned with subcultural dress styles, his work is relevant to adhoc design because it is achieved through the reorientation and combination of objects, clothing and artifacts of culture, producing overtly subversive assemblages, fabricated to emphasise their new code of meaning. An example of this is the spectacular sub-culture Punk and its 'confrontation dressing' strategies employed by fashion designer Vivien Westwood (Hebdige, 1979, p. 107). It is the '...communication of a significant *difference*... that is the 'point' behind the style of all spectacular subcultures.' (Hebdige, 1979, p. 102). (Author's italics.) In terms of product design this provides an approach to explore, adapt and negotiate responses to the everyday.

Philosophically at the other end of the subculture continuum, NPD has similarly identified the communication of difference aligned to new perceived benefit as the 'number one driver of new-product profitability', Robert G. Cooper (2011, p. 31). Difference aligned with benefit provides a stimulus for design activity to disrupt the status quo, providing new products and new revenue streams for commercial interests.

When subcultural style expands to represent a market opportunity it can be quickly reappropriated by design and developed as saleable style, what George Melly (cited in Pope 2005, p. 35) hailed as the transformation of 'revolt into style'. In the foreword to *High-Tech: The Industrial Style and Source Book for the Home* (1978), industrial designer and architect Emilio Ambasz said of High-Tech style that it uses anonymously designed industrial components and objects created outside the realms of consumer culture. Unencumbered with the trappings of status, these industrial objects and assemblages brought into the domestic environment express a determination to turn away from mainstream consumer culture through the democratizing agent of a utilitarian industrial aesthetic. This is harder than it seems, as Ambasz (cited in Kron and Slesin 1978, pp. x-xi) warns: 'There is always the risk these products will become the new fashion of a subculture that will assign these industrial objects pseudoliberating powers. This may in turn lead to the same consumption-inducing mechanisms this group was trying to escape from.' Ambasz's point was borne out ten years later when, as Deyan Sudjic (1989, p. 49), recounts, the *Rover Chair, 1981* was used in a 1988 Holsten beer commercial, in which an heroic artisan designer builds a Ron Arad *Rover Chair*, and upon finishing tosses the incumbent pink Memphis styled armchair out of the loft window. The revolt into a new style is celebrated with a sponsor's product.

Adhochism in design practice

Designers often adopt adhocist approaches unconsciously and for different purposes than their use in the arts. The use of adhoc strategies as a part of everyday practice in design precedes the coining of the term adhocism. The chairs below show the scope of adhocist sensibilities and taxonomy across sixty years of adhocism in chair design. Only one is an example of the largest branch of the adhocism tree, practical adhocism, because this is not the focus of this study. The others illustrate elements of intentional adhocism, including blended categories.

Chair **by Anatoly Yamanov, 1993**

This chair is an example of practical adhocism and the practice of bricolage. Unselfconscious, functional, reflecting the consequence of survival and 'making do' in the marginal existence poverty provides, it embodies a sense of urgency and purpose.

'There was no furniture at all' said Anatoly Yamanov, (cited in Arkhipov 2006, p. 276) 'so I made the most essential things: a table, a bed, some chairs, out of anything I could find lying around.'

Figure 3. Yamanov, A., 1993. *Chair*. [Wooden stool, chair back, wood, nails, screws]

Figure 4. Andersen, G. A., 1952-1953. *Chair*. [Chicken-wire, newspaper]

Chair by Gunnar Aagaard Andersen, 1952–1953

This chair is an example of developmental adhocism in that it uses ad hoc processes to investigate aspects of the chair design in a process of design development. Done with purpose, this chair encapsulates the 'eureka' moment close to its inception. This prototype was made from chicken-wire and papiermache. The Andersen chair predates by seven years Verner Panton's Panton Chair. Designed in 1959-60, the Panton chair was the first production single-material, single-form injection moulded chair (Fiell and Fiell, 1997, pp. 365, 425). The Andersen chair is also understood as a focused physical prototype described by Karl Ulrich and Steven Eppinger (2012), within a broader product design and development process. As is common in the use of adhocism in design practice, it was undertaken for a specific purpose, in this case a check that the innovative concept's single form shell can stack.

Figure 5. Stiletto Studios, 1983. *Consumer's rest* [Varnished steel, plastic, 94 x 73.5 x 76cm, seat height 45cm]

Consumer's Rest by Stiletto Studios, 1983

Consumer's rest is an example of singular adhocism. A ubiquitous everyday object reborn with a new function, overt, unashamed and critical, it provides a seating solution for the consumer in the basket of their consumption. This chair evokes the pleasure of unexpected recognition along with an appreciation of the functional utility provided by the repurposed shopping trolley. It displays stylistic pluralism with an ironic sub text. (Adamson and Pavitt, 2011, p. 260).

Café Chair by Fernando and Humberto Campana, 2006

Part of the Campana brothers' *TransPlastic* collection, *Café Chair* is an example of singular adhocism. The wicker component embraces and engulfs the plastic chair components, producing a new concept of seating through a mashed up hybridization. This chair provides identification with a political agenda and the development of meaning as an ironic comment on the invasion of plastic in the Brazilian quotidian.

'We wanted to create a kind of fantasy. We imagined the world being attacked by nature. There would be so many plants that they would gradually engulf all man-made objects, becoming inseparable from them.' (Alfred et al., 2010, p. 217)

Figure 6. Campana, F. and Campana, H., 2006. *Café chair*. [Plastic, iron, natural fiber]

Sedia 1 by Enzo Mari, 1974

Sedia 1 was designed by Enzo Mari in his subversive educational design project *Autoprogettazione* (1974), against a backdrop of commercial disinterest in his proposals for solid timber furniture. *Sedia 1* extended the reach of adhocism, democratising access to design by involving the end user in the making. What was essentially required for the chair was the ability to arrange the supplied cut components as per the supplied instructions, and to hammer a nail. Sedia 1 is an example of high adhocism designed to develop meaning through the act of making. Self-assured, plain and non-confrontational, it evokes the adhocist sensibilities of the superiority of the perceiver, bound up with a utility of purpose and a nostalgic reflection back to childhood days of making simple objects with a hammer and nails.

Mari gave away the designs to the public, a utopian gesture, described as anti-industrial design (Mari, 2014, p. 35). Mari sought through radical pragmatism to democratise access to well designed basic furniture at modest cost. His radical strategy constitutes an early act of open sourcing industrial design.

Figure 7. Mari, E., 1974. *Sedia 1*. [untreated pine, nails, 52 x 50 x 85cm, seat height 47cm]

Figure 8. Himmelblau, C., 1989. *Vodöl*. [Varnished steel, brushed high grade steel, leather upholstery, 78.5 x 200 x 90cm, seat height 42cm]

***Vodöl* by Coop Himmelblau, 1989**

Vodöl is an example of adhocist mannerism displaying a contrived ironic spontaneity. The work's main preoccupation is with the progression of a deconstructionist style. It provides a sense of nostalgia and pleasure through the unexpected recognition of its source components—the classic of modernist furniture design the *Fauteuil grand confort, Model No. LC2*, was designed by Le Corbusier, Pierre Jeanneret, and Charlotte Perriand in 1928, and the dynamically placed 'I' beam referencing master modernist architect Mies van der Rohe. The rectilinear architecture of the original chair has been manipulated to produce a subtle dynamic shape. The chrome frame appears to have been pulled out like a toyed-with paper clip. The name *Vodöl* is a translation of the French word fauteuil (armchair) written in Viennese dialect and thereby referencing and acknowledging the chair that inspired the design (Vitra Design Museum, 1996, p. 234).

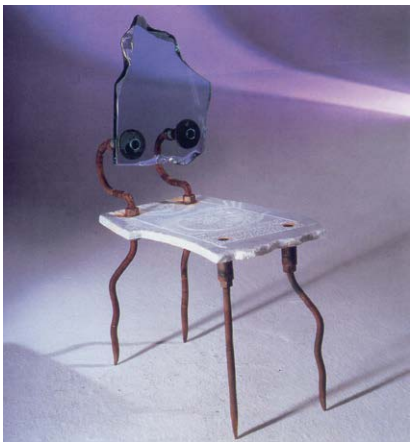


Figure 9. Lane, D., 1984. *Etruscan chair*. [Glass, forged mild steel, carved marble, 66 x 47 x 88cm]

***Etruscan Chair* by Danny Lane, 1984**

The *Etruscan Chair* spans categories of singular adhocism and adhocist mannerism. It displays a contrived spontaneity, with unashamedly blatant incongruity. The seat presents as an experimental art piece in an expression of the manner of adhocism. It offers a confrontational invitation to sit on the antiquarian remnants of past utopias.

Chair 'treated' with crutch by 5.5 Design Studio, 2004

Chair 'treated' with crutch combines categories of singular adhocism and adhocist mannerism. It embraces the hybrid form emphasised through the overt fluroscent green prothesis, unashamed and confronting. The aim of the project *Réanim: the medecine of objects*, was to 'reeducate' the damaged furniture piece by systemising the intervention allowing the piece to regain its right to live. Undertaken as a performance design intervention, the 5.5 designer surgical team operated for the love of imperfect objects often forgotten, as a socially conscious questioning of the proliferation of products (5.5 Design Studio, 2004).

Figure 10. 5.5 Design Studio, 2004. *Chair 'treated' with crutch*. [Wooden chair, plastic, steel, 50 x 45 x 76cm, seat height 46cm]

Mezzadro Stool by Achille and Pier Giacomo Castiglioni, 1957

Mezzadro (sharecropper) is a sophisticated example of intentional adhocism that spans categories of singular and high adhocism and adhocist mannerism. It embraces the appreciation of the hybrid form through its careful selection of components and the use of colour, texture, form and materiality in a manner that enhances their heterogeneity. New function and nostalgia are delivered in a confident self assured design for domestic consumption. This production stool expresses adhocist style, the early design characteristic of the Castiglioni brothers, noted by Sergio Polano (2012, p. 122) as '...a sort of Dada montage, a poetic of the ready-made, with touches of irony...' A radical design for its time, it was not produced until 1970, thirteen years after it was designed (Fiell and Fiell, 1993, p. 82).

Figure 11. Castiglioni, A., and Castiglioni, P. G., 1957. *Mezzadro stool*. [52 x 49 x 53.5cm, seat height 52cm]

Designers use adhocist approaches and strategies because they provide an easily accessible method to designing from what is at hand. The examples above of approaches within chair design span radical pragmatism, evinced by Mari, social intervention, as with the Campana Brothers, and on to highly conceptual practice, for example Himmelblau's deconstructionist *Vodöl*. Jencks and Silver note that adhocism as a design strategy is expected to deliver some utility, in contrast to its use in arts practice. Adhocism as a consequence of its very nature is a contentious industrial design practice, '...prosper[ing] like most hybrids on the edge of respectability' (Jencks and Silver, 2013, p. vii).

Gerry Beegan and Paul Atkinson (2008) categorised designers as professional, dilettante and 'do it yourself' (DIY) amateur designers. They identify the dilettante designer as having a strong interest in *particular* areas of design, employing characteristics of dabbling, combining across disciplines, and encouraging hybridity. Amateur design practices are not wedded to a particular discipline but to a particular purpose or area of interest. They commonly use adhocist methods and approaches in a problem driven process.

To the professional designer, an adhocist design created by the amateur or dilettante can appear as a first concept, or proof of concept prototype when in fact it is the finished product. A dismissive reaction is fuelled by the adhocist sensibility that anybody could do it, reinforcing the impression that the creative outcome is trivial. Another factor that separates the amateur and professional, beyond formal training and expertise, is that the professional is more likely to be developing designs for manufacturing. Design for manufacture requires a level of design resolution, product performance, quality, usability, and aesthetic refinement beyond an adhocist response. Yet another adhocist practice, the use of found objects, is problematic in design for manufacture. Chris Ford (2010, p. 2) notes the decision to include a found object impacts the nature of a design problem by introducing a high degree of new intelligible information related to structure and compositional qualities. This suddenly advances the design and emphasizes the importance of good decision making in selecting the found object. Incorporating found objects into the design can only be limited, as volume production and economy of scale would require supply of identical found objects. In some instances, for example, where remaindered stock can deliver components in sufficient volume and quality, batch production may be viable. But the ability to scale production based on this strategy is a significant limiting factor. In the 1980s in this narrow space of limited edition studio design Ron Arad established himself with his creative salvage described by Gareth Williams (2006, p. 20) as 'filling a space between craft, art and design...'

Product designers engaged with larger product innovation projects in the manufacturing industry tend to regard adhocism as a stage in a development

process. Here, adhocism is used in prototyping in the early stages of design enquiry, leading to an iterative cycle of development and prototyping in a solution-driven process. Within these larger design operations the development of prototypes is managed and planned. Prototypes are developed purposefully to speed the product development process. They are useful in addressing issues related to learning, communications, and integration and as project milestones. As Ulrich and Eppinger (2012) write, prototypes are classified according to the degree to which the prototype is firstly, physical as opposed to analytical and secondly, comprehensive as opposed to focused. Many prototypes may be generated in the development of a new product. Focused physical prototypes such as looks-like and works-like prototypes will be created in order to quickly and independently examine the aesthetic or functional performance of a product concept. But in industry the focus is never the adhocism produced but rather the development of knowledge generated to advance the product development process.

Adhocism requires a conjunction of components. This critical aspect of adhocism is expressed in industry in the form of modular product architecture. Manufacturers have gained many benefits by developing products as functional modules that combine together using similar mechanisms of combination, for example the ubiquitous USB connector. These benefits include stylistic variety, product upgrades, expansion and maintenance achieved by changing out or adding modules (Ulrich and Eppinger, 2012, p. 187). Developing this connection utility allows integration across a taxonomy of other similarly connected components. The common system of connection provides tremendous flexibility and creative opportunity. Examples from seating include modular office chair components, such as the gas struts and castors, or the Kee Klamp fittings used in the *Rover Chair, 1981*.

Adhocism uses improvisation for a given purpose, resulting in a creative act and a creative output. Adhocism is not so much about design as it is about creativity and discovery. To that end it comes to the service of design. It is an agent provocateur, a guerrilla tactic used to shake things up creatively. Adhocism leaps to an improvised solution or response unfettered by iteration or detailed resolution. Adhocist improvisation tends to generate a particular aesthetic, which may in some instances be part of a design objective—adhocism as style. The *Rare Rover* and the *Adorer Chair* below represent two extremes of the adhocist aesthetic. At one end of the continuum of design, adhocism provides democratization of design and immediacy in resolving design problems; at the other it is repudiated for its lack of resolution, performance and aesthetic refinement.

The nature of adhocism involves acts of appropriation. These vary dramatically across the continuum of adhocism. At the bricolage, DIY amateur end of the scale, appropriation is a necessary strategy to gain a supply of materials and content for use. It is small and local and generally for a one-off purpose. It is appropriation of a discarded object, a salvaged part, a repurposed item, without guile. It is appropriation of embedded value or embedded energy. When appropriation is used as a strong signifier in adhocism, other factors, such as the respect and acknowledgement due to the author of the original item, come into play. Initially I was challenged by this with the *Rover Chair, 1981*. The issue for me as an industrial designer was that Ron Arad did not design the Rover P6 seat—the Rover car component. References to the chair and reported interviews with Ron Arad

mention the origins of the Kee Klamp system (Collings, 2003, p. 40) but there is no explicit enquiry or acknowledgement of the design input into the other major component, the Rover seat. That was designed by a group of British Leyland designers led by David Bach in the 1960s. Their contribution is acknowledged by the naming of the chair.

The adhocist superiority of the perceiver can in part be generated by appropriation. When I first saw Arad's chair, I thought, "I could do that", seriously undervaluing Arad's design input. I see now that my response to this chair was entirely determined by the nature of adhocist product experience as I have discussed it above.

We turn now to consider Arad's *Rover Chair, 1981* and my RARA chairs.

The Rover Chairs

Rover chair 1981 by Ron Arad

As Ron Arad tells it, from a scrapyard, he purchased two red Rover car seats for £29 each. He designed a frame made from pipe and Kee Klamp connectors and created the *Rover Chair, 1981*. '...and it was right first time. It didn't need to be improved' (Collings, 2003, p. 42).

The chairs sat unsold in his Covent Garden studio until Boxing Day 1981, when Jean Paul Gaultier, an emerging French fashion designer at the time unknown to Arad, knocked on his door wanting to buy his chairs. After initially being told they were closed, Gaultier insisted and purchased six chairs with a cash payment of £99 each. That was Ron Arad's first sale of his *Rover chairs*.

Figure 12. Arad, R.,1981. *Rover chair*. [Rover P6 leather seat, tubular steel, cast-iron Kee Klamp joints, powder coated, 80 x 61 x 91.4cm]

"This chair sucked me into the world of design"

— Ron Arad. Barbican London (2010)

Born in Tel Aviv in 1951, Ron Arad studied art, was trained in architecture and was drawn into design. His body of work spans architecture, furniture, product design and limited edition works. (Compton, 2014) By his own account Arad had a privileged upbringing in Tel Aviv by progressive liberal and artistic parents. He followed their example studying at the Bezalel Academy of Arts and Design in Jerusalem. In 1973 Arad moved to London where he was offered a place at the Architectural Association School of Architecture (AA, London) (Sudjic, 1989). At the AA he studied Architecture under Peter Cook of Archigram,

deconstructionist Bernard Tschumi, Rem Koolhass, author of the influential text *Delirious New York* and Charles Jencks, the postmodern architectural theorist and inventor of the term adhocism. With contemporaries such as Zaha Hadid it was a rich creative environment (Collings, 2003).

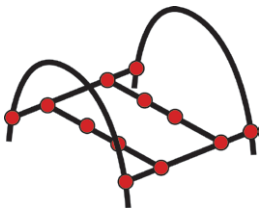
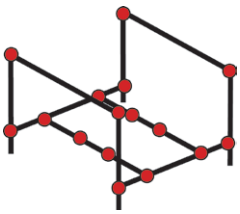
In Sudjic's (1989) account of Arad he writes that upon graduating in 1979, Arad worked briefly in a Hampstead architectual practice before setting out on his own. Serendipitously he met up with Dennis Groves, a furniture entrepreneur with an interest in the Kee Klamp system and its application to furniture. Together they formed the business *One Off* at the peak of the High-Tech style revolution. Arad had been working with the pipe and Kee Klamp system for some time before his Rover chair "eureka" moment, synthesizing and understanding the limitations and opportunities that the system provided. He was surrounded by pipe and clamp concepts and components as a consequence of his immersive practice developing bespoke spatial elements for interior arrangement. The structures allowed functional sharing between different components. For example, the side of an elevated sleeping platform could also be the side of a storage shelf and support a clothes rail. It relied on an integrated product architecture matched with modular components to deliver function, economy and versatility. The arrangement of pipe and connectors was the product, the result of working within the pipe system. Arad augmented the opportunity availed by the pipe and clamp system through hybridization and moved to making recognisable products such as the *Rover Chair, 1981*, which visually referenced earlier work by Jean Prouvé (Griffiths, 2014). This strategy provided Arad with a creative direction but a difficult business model for Groves who soon departed, leaving Arad to progress *One Off* alone. Business difficulties ensued until he formed a business partnership with Caroline Thorman (Collings, 2003, p. 53). 'Arad was on the margins of the furniture industry' writes Sudjic, 'surviving by using his wits, and working in what came to be defined as creative salvage' (1989, p. 29).

Arad's early pipe and clamp works has much in common with Mari, in that they both worked within a materials system. Their designs are democratic, accessible and pragmatic. Their products can provide multiple possibilities of arrangement. They are nevertheless trapped within the materials system and their products are the system.

The *Rover Chair, 1981* ticks many of the boxes of Jencks and Silver's *Adhochist Manifesto*. It combines components of different systems: pipe and clamp, and an automotive seat. Arad acknowledges the origins of the components, in this case reinforced through the naming of the chair. It contains radically democratic accessibility and pragmatic sensibilities. The method of creation relies on resources (existing pipe and clamp components and capability and an abandoned Rover car) that are readily at hand (Jencks and Silver, 2013).

From a product design and development perspective the Rover chair utilises a simple modular product architecture consisting of the salvaged Rover P6 seat and the supporting pipe and clamp frame. The semi circular sides of the frame provide arm support, the legs of the chair, and also locate the height of the seat. This functional sharing minimises the number of pipe and clamp components required. Compared to a simple rectilinear frame, Arad's frame is extremely clever and economical, needing approximately 2/3 of the components required by a simple rectilinear frame. This demonstrates a considered understanding of structure and design efficiency.

Figure 13.
Frame analysis: components

		
Frame Type	Semi Circular (Arad Rover)	Simple Rectiliner
Pipes	6	10
Clamps	12	16
Total Components	18	26

A trade-off of this functional sharing is that one's arms are not well supported by the semi circular pipe sides. You can't rest anything on them and they are cold to the touch. The weight of the frame at approximately 37kg (15kg: P6 seat + 22kg: pipe and clamp frame) makes the chair difficult to move around. The hard-edged and open-ended pipe legs easily compress or scrape flooring. The chair has a particular aesthetic: High-Tech style with its revealed industrial structure of pipe and clamps. It has a brutalist appeal and is visually differentiated through the contrast provided by the two main components. The seat is refined, tactile and redolent with the smell of leather. The frame is industrial, hard, unforgiving and cold. The comfort and adjustment of the chair is achieved through the salvaged P6 seat, with an integrated reclining mechanism activated by an ergonomically placed side lever. Occasionally, an adjustable head rest would come with the salvaged seat, extending comfort and usability. Reappropriating the embedded value of the car seat's extensive design development from the design studio of British Leyland provides a significant benefit to the chair's performance and user experience.

Arad encountered obvious issues in scaling his production, due to the variable supply and quality of Rover P6 seats. Arad's decision to only use the Rover P6 seat, which was produced by British Leyland between 1963 and 1977 (Taylor, 1996) allowed for a greater impact from his limited production, as the visual representation and subsequent publication of the chair continually referenced his chosen selected seat and frame.

Arad used his pipe and clamp sytem to develop other furniture apart from his *Rover Chair, 1981*. In my design exploration I restrict my investigation exclusively to seating . My frame analysis (above) provided necessary information for my first RARA chair, which I undertook from an industrial design perspective. With other chairs I expanded the enquiry. I turn now to discuss the RARA chairs.

RARA chairs 2015

This Masters of Design study is chiefly a work of practice based design research, of which the chief product is the RARA chairs I made. To explain this body of work, I have selected ten of my RARA chairs, chosen to exemplify my research process and the progression of the concept development. In the following section are images that illustrate these chairs. I reflect on the design and making of the chairs, concretize some aspects of the theories discussed earlier and develop some themes that arise from this experiment with repositioning adhocism in design practice. Although I don't consider all the chairs successful, each offers understandings, insights and value to the project of investigating what remains to be found in the space left by Arad's *Rover Chair, 1981*.

Figure 14. Adank, R. G., 2015. *Utility Rover*. [Rover P6 leather seat, steel pipe, cast-iron clamps, wheels, 110 x 73 x 82cm]

Utility Rover, 2015

Not so much a new chair concept, but a customising process, this design looks towards pragmatic industrial design practice to improve the utility of the Arad chair's manual handling abilities—important in chairs as in cars. Components from pipe system catalogues are added to reduce potential damage from the pipe legs. The alteration means the user can move the chair without lifting its full weight, a hefty 39 kilograms.

Reflection

Dealing with the actual product engages the designer directly in the physicality of the product. It is possible to improve the handling by adding components that make it easier to move and less likely to damage surfaces but doing so adds another two kilograms. It's impossible to get away from the weight issue when using steel pipe and cast iron clamps. Customising the components of a system (in this case the flange component) extends the benefit they offer the system by establishing a new use or application for that component and effectively extending the boundaries of the system.

Colour is an additional benefit provided by the selection of the castored wheels. The red centre of the wheel closely matches the leather upholstery of the seat component. It provides a visual bridge between the heterogeneous major components, subtly shifting towards a more harmonious aesthetic.

The Rover P6 seat component, which at the time of production was very advanced, provides a great deal of the comfort of the chair. In keeping with Rover's luxury image, the P6 had plush, comfortable leather seats. The armrest is a trade-off from functional sharing. It is cold to the touch and provides no support for an arm, cup or book.

I am engaging here with what I know. This iteration reflects industrial design and product development sensibilities: a pragmatic design response working within the system of components with minor modification of components. I'm staying in my comfort zone as I consider the seats from my industrial design perspective and experience, appreciating their ergonomic and affective qualities. Where did these come from? Investigation reveals that David Bache, the British Leyland head of styling who led the development of the Rover P6 seat, was an early proponent of ergonomics. In the Rover P6, Bache's team developed a new lightweight and physiologically correct seat form, introducing a patented frame designed to reduce injury, and providing individual rake adjustments. The early version was ready in 1959, and the production design was developed in 1962 (Taylor, 2012, p. 43).

Rocking Rover, 2015

This chair came about through a playful engagement with the Rover chair frame and considerations of what Ron Arad might want in a chair thirty-three years after the original Ron Arad *Rover Chair, 1981*. Physically turning the frame over presented a rocking frame—he might like some additional comfort?

I judged the result as successful aesthetically and functionally; and it engendered an amused response from colleagues. Building the chair reemphasised the weight of the steel and iron components. It called for greater engineering control in bending. It is the heaviest chair, requiring an additional 7kg counterweight in the front rail to balance it in position.

Reflection

This chair is a hybrid with two distinct components. In order to achieve its function a prototyping regime was entered into. A focussed physical prototype developed understanding of where the chair needed to be placed on a frame to achieve rocking, and what was a comfortable arc to use on the rocking component. This is a synthesized adhocism due to the efforts of design and development required prior to making.

Weight in a full size prototype is not an illusion. With weight comes physicality. As this chair lived in my immediate environment for some time, I was ever conscious of this when it came to adjusting the furniture in the room, and of how often we alter our environments. After a long immersive experience with this chair I could not see further possibilities for it without involving a materials substitution.

The opportunities for play and humour in considering the gaps between Ron Arad and me were pivotal to this design. Sitting in my Rover chair I considered Ron Arad from my antipodean perspective, where the world is upside down. There he sat in his *Rover Chair, 1981* upside down on the other side of the world. What if we flipped the chair? And there was the rocking frame! I know Ron Arad, like me, likes rocking chairs, and we're both getting along in years...

I am engaging with Ron Arad's work and what I imagine to be his processes. Of course it is a fantasy, but the interior dialogue is an essential characteristic of my design process in this project.

Figure 15. Adank, R. G., 2015. *Rocking Rover.* [Rover P6 leather seat, steel pipe, cast-iron clamps, 120 x 65 x 82cm]

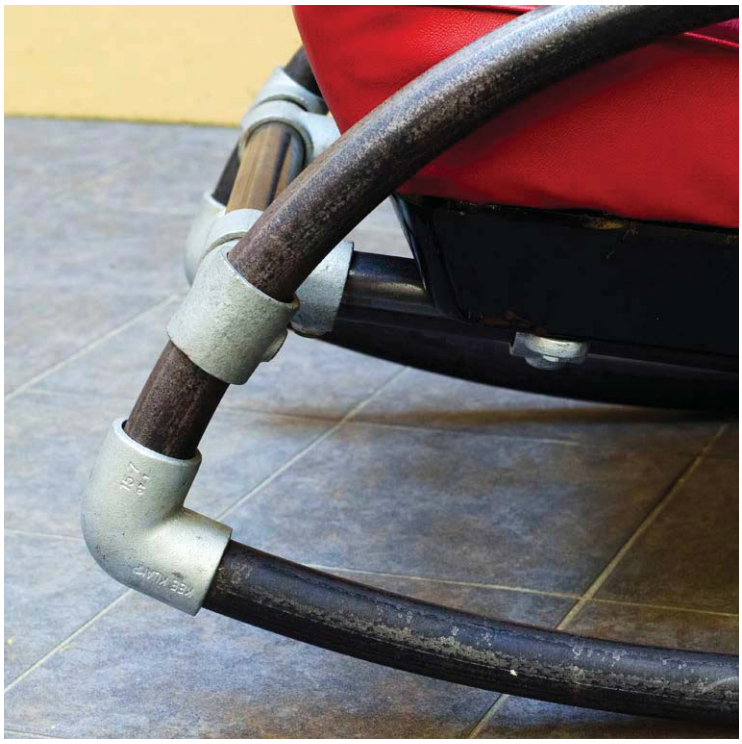


Figure 16. Adank, R. G., 2015. *Rare Rover*. [Rover P6 rear seat, chassis components, steel pipe, cast-iron clamps, wheels, timber, folded stainless steel, carpet, 136 x 168 x 87cm]

Rare Rover, 2015

Looking away from the *Rover Chair, 1981* and back towards the now diminished Rover P6, I consider the opportunity that is left to extract from the last vestiges of value from a car with no front seats. What remains is the back seats. The development of the Rare Rover integrates other aspects of the automobile into the domestic environment—the parcel shelf, boot storage and travel luggage and a space for the dog, to boot!

Reflection

Consideration of the opportunity provided by the back seats was to some degree forced by the declining supply of front seats. It was time to think outside of the front seats. Unlike the modular front seats, the integrated back seat is not self-supporting: it relies on the automotive monocoque chassis for support. This presents a range of difficulties in supporting the seat for domestic purposes.

The concept was relatively quick to intellectually realise but unexpectedly expensive and extremely time consuming to produce. Novel and not without charm, it is impractical, and I think ultimately, unsuccessful due to the lack of modularity of the back seat components, and to the surround space required: it cannot be placed in the vicinity of a wall.

The divergent thinking approach was liberating once under way. It was sometimes difficult to move away from once engaged. Returning to Ron Arad's *Rover Chair, 1981* was a useful anchor, helping to keep the project within boundaries.

I persisted with this design and saw it through as far as I could take its making, despite suspecting that it would not offer much in return. I kept faith with my commitment to experiment with freeing myself of value judgements prior to building, and of my normal designerly constraints; and to the process of making and following through for this project. But on reflection, the *Rare Rover* is an example of going too far. It's all over for this Rover!

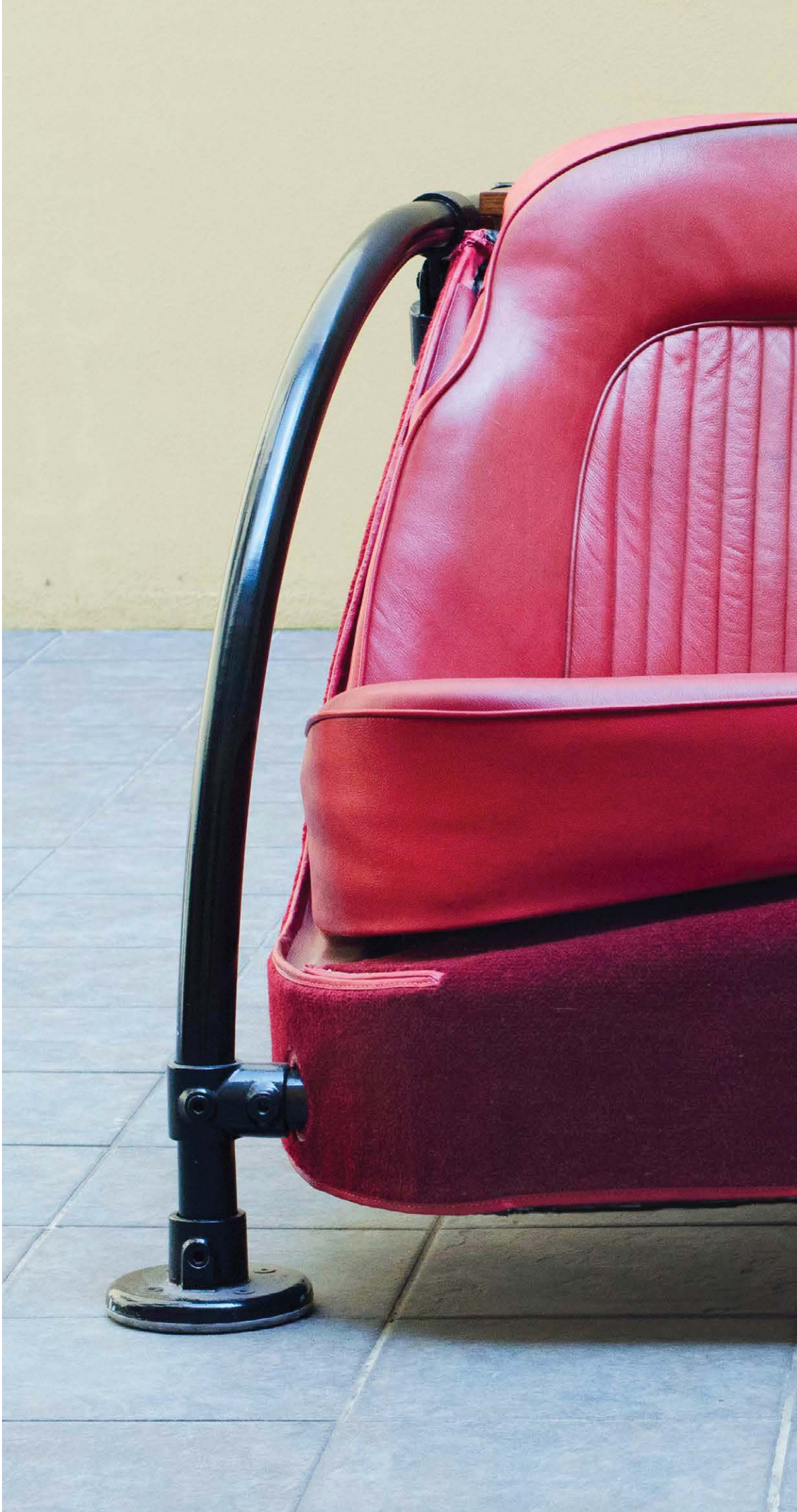


Figure 17. Adank, R. G., 2015. *Move over Rover*. [Range Rover leather seats, steel pipe, cast-iron clamps, 114 x 156 x 175cm]

Move Over Rover

This design extracts the last vestige of opportunity from a scrapped Range Rover seat, resurrecting it as a nostalgic throne to the memory of the jaunty experience of four wheel driving for the domestic market. It incorporates dynamically placed and powered Range Rover seats. The design proposes a more playful solution within a heterogeneous style. It extends the pipe and clamp system literally by a metre and channels the performative characteristics of the Range Rover's previous life.

Reflection

This first, transgressive departure from the original project constraint of using the P6 seat chair was because my project was exhausting the national market on Rover seats. My suppliers were promoting contemporary sourced seats from other Rover models.

The departure was a liberating experience, injecting more freedom into the project. Here I experimented with the freedom to be dominated by the object discussed by Bruner, who asserts the value of allowing the creative project to develop its own autonomy. My experiment with this showed me how much more interesting chairs can be if you let them go where they want to go. This bucking bronco of a seat shook me out of my grounded ergonomic position. This chair embodies what Bruner calls the 'combinatorial activity' of placing things in new perspectives to generate effective surprise, a hallmark of creative enterprise (Bruner, 1965).

On a more somber note, the ecological consequence of my appropriation is that all the old Rover P6 cars are now rendered more useless. Without their seats, they can't be restored.

Morris Rover, 2015

The *Morris Rover* chair really moves things along. A sympathetic hybrid of a William Morris frame and Rover seat, it is comfortable, lighter, easier to reposition, and to be with in a domestic space. The concept was explored in a range of these chairs. A surprisingly elegant solution.

Reflection

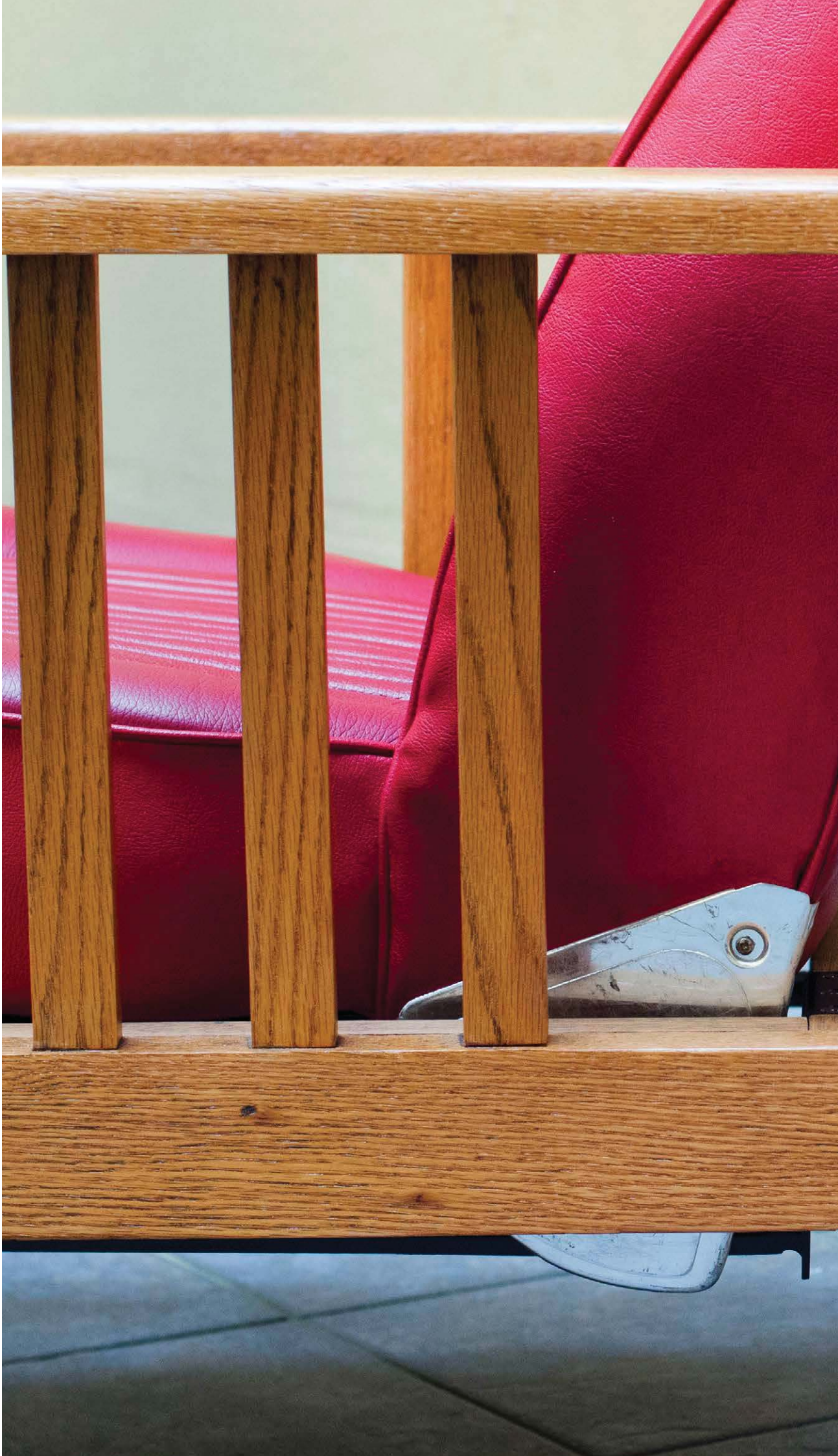
This chair came about through a series of small serendipities: the chance finding of a *Morris Chair*; the decision to move away from the constraints of a pipe and clamp system; and the need to provide a better armrest experience.

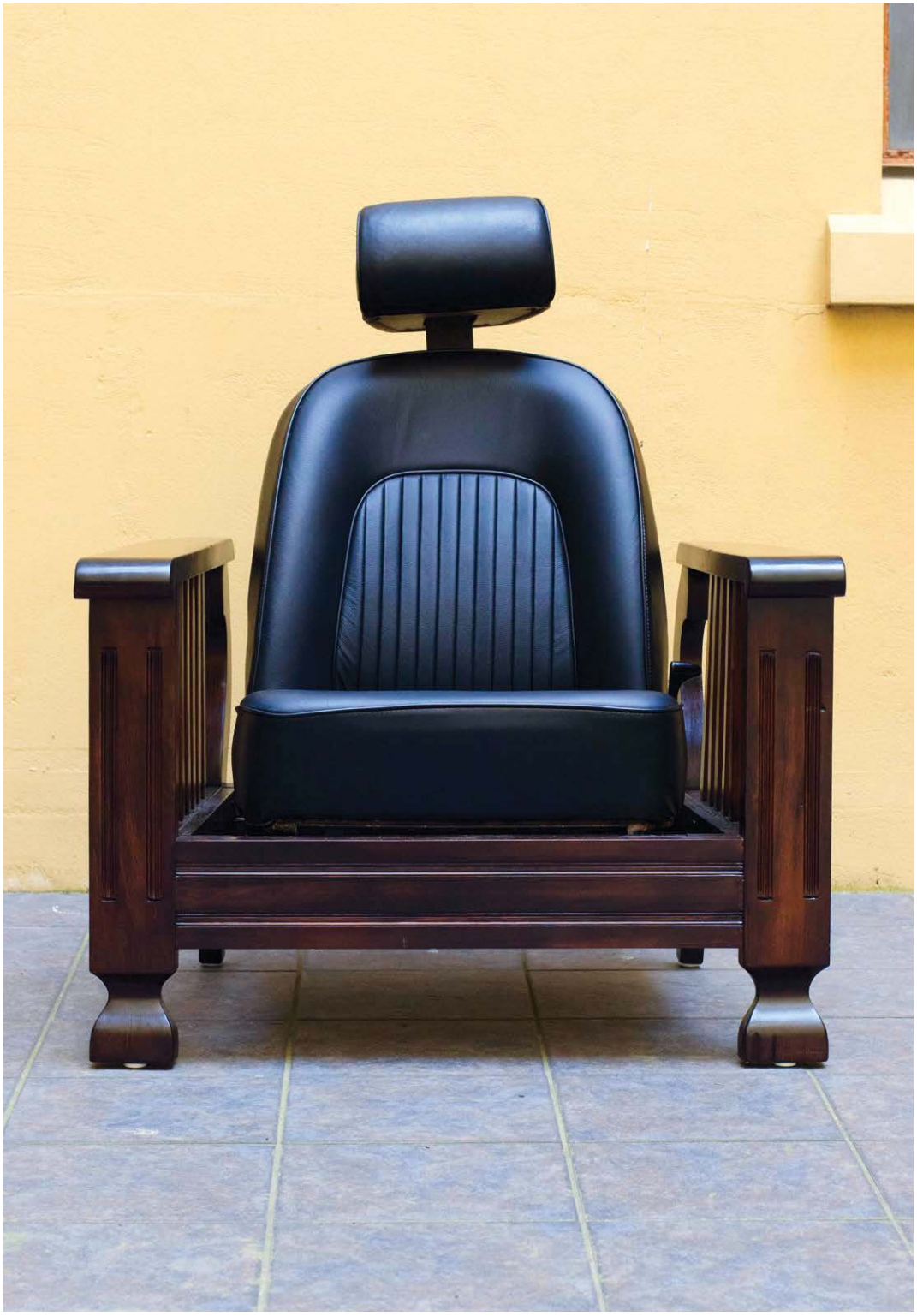
The final design is aesthetically resolved. It evolved from my experience working for some months alongside the *Rocking Rover* and wheeled *Utility Rover* in a large volumetric space with concrete walls and flooring and a 20ft stud. Even so, a colleague remarked that she was sick of barking her legs on the *Rocking Rover.* An unforgiving chair due to its mass and materials, when you run into the frame you feel it. The intimacy of experience left room for development or reassessment.

The overall weight is approximately 27kg, depending on the weight of the *Morris Chair* frame; a 10kg improvement on the *Rover Chair, 1981*. The weight reduction makes for easier handling. I shifted the earlier, heavier chairs at different times to my office and home and loaned them to colleagues. My sense of them was that their visual and actual weight was such that you could not have more than one piece in a room without feeling overpowered, a furniture brutalism due to the strong contrast with contemporary domestic and commercial interiors. These pieces could stand in the High-Tech environment they complemented and contributed to it. But the *Morris Rover* chairs integrate into both environments with great ease.

Inspired by one of Arad's later seats, *Chair by its Cover* a timber frame with a steel cladding, I wondered, why create a chair frame when many existing chair frames could be used to support a P6 seat. A hybridization, but what chair to use for the frame? I happened upon an old *Morris Chair* in a neighbour's firewood pile. The chair was a basic frame in need of TLC. The seat pan and back were a mess. The frame was battered, scarred, patinated: it had had a life. The interesting aspect of a *Morris Chair* is that its open back allows for adjustment of the seat back, also required by the P6 chair. I sat the Rover seat on top of a stack of books to get it to the right height in relation to the Morris Chair spec and I had a new concept *Morris Rover* chair.

Figure 18. Adank, R. G., 2015. *Morris Rover*. [Rover P6 leather seat, timber frame, steel, 91 x 84 x 82cm]





This chair is much easier to move around. It has a different feeling altogether. You sit with the ability to rest your arms on a broad wooden arm; your physical position is different, arms elevated to allow a confident pose. This chair looks after your arms. The armrest is not cold at room temperature, and accommodates a glass, book, or cup.

The chair is bulky, because the front and back rails had to be widened to accommodate the seat adjustment lever. This produced an awkward aesthetic that was resolved by tapering the frame, making it narrower at the back. To understand the concept more fully, a range of *Morris Rover* chairs was made. An iteration with a headrest seemed to draw it too heavily towards a car salvage understanding. The impact of the Rover car seat origin was lessened without the headrest due to the complementary synthesis with the Morris frame.

This was a new thing —unexpected— that the identity of the components, with careful matching and development, occupy their own ground without drawing reference to their origins. Notably, the seat component's overall height is lower than the original *Morris Chair* back and the high-sided Morris frame obscures the P6 seat component, clearly visible in other versions.

The final design has an elegant presence, refined; a complementarity of fine timber joinery and high quality upholstery and leather. It holds together as an integrated concept. Feedback has been widely positive, with colleagues asking to host them in their offices.

This experiment left me with some chairs purchased to make *Morris Rover* chairs that had perfectly good seat pans and back. As these chairs occupied my space over time, and surrounded by the detritus of their production, I synthesized an understanding of their possibilities. From this experience, I noticed that the seat pan and back from the *Morris Chairs* were very similar to the Jean Prouvé model that Arad referenced in his original *Rover Chair, 1981*. There was something here to be realised.

Adorer Chair, 2015

Not for sitting on but to look at, this chair combines an exuberant postmodernist pastiche of styles and influences current in the project. It uses elements of the *Rover Chair, 1981* leftover components of the *Morris Chair*, and refers back to the chair Arad referenced as his inspiration. The seating component, salvaged from a *Morris Chair*, is covered with an embroidered silk Morris fabric.

Reflection

This chair references the work of four designers: Ron Arad, Josef Hoffman, William Morris and Jean Prouvé, and moves to a different aesthetic, embellished and ornate. I deliberately chose an extravagantly expensive and ornate fabric to give expression to the rich tapestry of joyful experience I was having with this project. It was a crazy extravagance. The upholsterer told me how much he loved the experience of working with this rich material and said I couldn't sit on it. This chair is intentionally impractical, elevating it into a studio piece, in keeping with Duchamp's precept that the readymade should be rare and not functional. Lesser iterations were made for sitting.

Figure 20. Arad, R.,1981. *Rover chair*. [Rover P6 leather seat, tubular steel, cast-iron Kee Klamp joints, powder coated, 80 x 61 x 91.4cm]

Figure 21. Hoffman, J., ca. 1908. *Sitzmaschine*, Model No. 670. [wood, brass]

Figure 22. Morris, W., ca.1910. *Morris chair*. [wood, upholstery]

Figure 23. Prouvé, J., ca. 1930. *Armchair with independently adjustable seat and back*. [folded steel, leather]

Figure 19. Adank, R. G., 2015. *Adorer chair*. [Upholstered timber frame, steel, steel pipe, cast-iron, spectra cord, billiard balls, 114 x 78 x 99cm]

Holey Chair, 2015

This chair takes the existing Rover seat and literally 'digs deeper', removing the upholstery to expose a hidden aesthetic of pressed steel and punched holes. The steel is stripped and powder coated in bold primary colours. A stainless steel insert on the seat pan makes this surprisingly comfortable. The simple pipe and clamp frame is my design, developed for an earlier, discarded concept. The *Morris Chair* armrest has developed here into a new shape.

Reflection

One of my personal favourites, this incorporates several important elements, introducing my pipe and clamp frame design and a koru shaped arm. These concepts were informed by a previous iteration, the Rover 75, in which the immersive experience with the frame continued. Exercising my industrial design sensibilities in the development of the frame and arm, a range of frames of different design and thickness was explored. This work led to the *Holey Chair* frame, which was developed into the final frame design for other project chairs.

While working with the *Morris Rover* chair, I wondered what seat would fit better into a *Morris Chair* frame without having to go to the trouble of splitting frames and tapering. I have always admired Swiss designer Hans Coray's 1938 *Landi Chair* for its perforated shell, the lightness of the shell, and its flexibility. I couldn't source this chair in order to extend this project. Then, when adjusting a back panel on a P6, I saw the inner structure of the chair, which used a perforated sheet metal pressing shell. I removed the upholstery to expose the beautiful substructure of some badly damaged chairs.

Colour can be used to assist homogeneity, as in the wheel of the *Utility Rover*, or heterogeneity, as in the 5.5 Design Studio *Réanim* project, (5.5 Design Studio, 2004) where it is used to emphasise and draw attention to the hybridity. By 'digging deeper' into the flesh of the P6, and using colour in the seat pan and back to emphasise the heterogeneity, I honour the British Leyland designers and engineers who made this exceptional inner structure.

The shape of the arm emerged from earlier *Morris Chair* arms. It can also be seen in Wendy Maruyama's 1981 *Mickey Macintosh Chair*. In the New Zealand context, it is redolent of the koru paintings of Gordon Walters, who received his art education at an earlier iteration of what is now Massey's College of Creative Arts. Walters' work inspired a discussion of cultural appropriation of Māori designs (Waitangi Tribunal, 2011). This adds extra richness and texture to this RARA chair work, with its starting point the *Rover Chair, 1981*, which, in the spirit of adhocism, appropriates the work of British Leyland and Kee Klamp designers.

Figure 24. Adank, R. G., 2015. *Holey chair.* [Rover P6 seat, steel, cast-iron, stainless steel, timber, 80.5 x 79 x 92cm]

Figure 25. Adank, R. G., 2015. *Day out chair*. [*Robin Day chair* plastic seat, steel, cast-iron, timber, single 80 x 75 x 78cm, double 80 x 75 x 165cm]

Day Out Chair, 2015

Returning the pipe and clamp system to the outdoor environment for which it was designed, this chair incorporates Robin Day's ubiquitous seat shell, which was designed to accommodate outdoor use. This carries forward the frame design used in the *Holey chair* with a smaller pipe and clamp connector system.

Reflection

Dealing for an extended time with the materiality of the pipe and clamp system, I considered, what were they designed for? Well, as it happens, for exterior use. After trawling through TradeMe looking for interesting chairs from which to extract further value, it was a simple step to consider outdoor seating using the pipe and clamp system. Result! Ten *Robin Day* chairs for $100. Perfect, a durable material, a proven design that can be supported in a new frame with a new experience.

As with the *Holey chair*, the strong coloured shell emphasises the separate modular architecture of the design, becoming a design feature. Colour had an unexpected effect on my adhochist adventure. It can be used to draw away from or reinforce heterogeneity. I think that it works particularly well with the hybridized nature of the practice, generating a visual building block experience. Colour can be used to emphasise a philosophical or political position. For example, 5.5 Design Studio (2004) uses colour to draw attention to the disposable nature of objects and the possibility of restoring them to usefulness. In the *Utility Rover* I use colour for its subtle harmonising effect.

Where are the possibilities for such a type of furniture? Outside, where their materiality provides a benefit, both because they are weather resilient and because in our windy New Zealand conditions their weight offers the advantage of stability. This successful hybrid design will work in an exterior environment, and suggests a production quality. Here commercial sensibilities enter the project for the first time.

Life Goes on Chair

Eureka! A Formway/Knoll *Life Chair* seat goes onto a new clamp component that allows domestic office seating to be easily integrated into a pipe and clamp framing system. The new clamp component or knuckle locates the chairs gas strut (mounted on the seat pan) and provides location for additional pipe framing mounts to isolate the seat in space.

I am seeking provisional patent protection for this component.

Reflection

This chair design develops a new component for a generic pipe and clamp system. All office chairs with this common gas strut specification can now be integrated into a pipe and clamp system. It achieves this by expanding the possibilities of an existing system. The gas springs themselves operate within a modular component system, while the new clamp solution provides a door from one international system into another. This expands the opportunity window and achieves scalability. It may have significant commercial potential. It came about at the end of the project, after I had had sufficient time to understand the pipe and clamp system and its potentials and limitations. At this point my action was to augment the system by designing a component, because the system couldn't deliver to me what I needed. With this opportunity I choose to step from adhoc product into a design prototype and I am now at the start of a development process.
This iteration, expressing commercialisation and scale, satisfies the product developer in me.

Figure 26. Adank, R. G., 2015. *Life goes on chair*. [Life chair seat by Formway/Knoll, steel, cast-iron, timber, 80.5 x 79 x 97cm]


ROVER
HJY822

Rovers return

FPE Chair designed by Ron Arad, manufactured by Kartel [ca. 1997]. Subsequently chopped, mounted in frame, and returned to a Rover P6.

Reflection

Since developing his Rover Chair, 1981, Ron Arad has risen to international stardom. His work is prodigious, and engages across disciplines. The *Rover Chair, 1981* brought him into the design world and nurtured him. The adhoc design, done because it was doable. The adhoc practice that appropriated the Rover P6 car seat designed by David Bache and his team at British Leyland. Now, with his portfolio of manufactured chairs available internationally, its time to put a Ron Arad designed chair back into the Rover—a playful symmetry.

Figure 28. *Fantastic plastic elastic (FPE) chair.* Ron Arad for Kartel, 1997.

Figure 27. Adank, R. G., 2015. *Rover's return*. [*FPE chair* by Kartel, steel, metal, 52 x 50 x 49cm]

Discussion

On reflection, I want to discuss two questions here, one about my research process, and the other about the place of adhocism in product design. My first question is: why didn't I stop making RARA chairs after the *Rare Rover*? By that stage I had come to the limits determined by the constraints of this research project: the pipe and clamp system, the Rover car seats. But I continued. From then on I let other aspects of my designer sensibility out to play, using other tools from my personal toolbox to produce the other RARA chairs. Why? One reason was to do with the affective qualities of the adhocist approach: the pleasures of the process, the physicality and materiality, and the effects of prolonged exposure to the RARA chairs. Another was the fact that I had not achieved the tacit aims of my research; I knew that there was more to be discovered. And finally, I was empowered to step away from the constraints because of the liberating nature of adhocism in the creative process.

An unexpected learning from this practice based research project was the rewarding nature of the adhocist method. The speed of development meant that very little time elapsed between the beginning of the exploration and the satisfaction that I experienced, as a maker, at its completion. This sense of resolution is the psychological pleasure in accomplishing a task that is described by Patrick Jordan (2000, p. 14). In addition to the pleasures of quick completion, the process offered other pleasures; including fun, play, and sensory experience. This quick pleasure/reward cycle generated an element of compulsion—an adhocist addiction. There was certainly an element of compulsive behaviour in my drive to continue. The materiality and physicality of the process contributed to the pleasurable affective experience and the satisfaction I gained as a designer from applying interventions such as the use of colour.

In addition is the not inconsiderable effect of standing in the ground —physically, conceptually, and over time— among these adhocist products. A selection of products is presented here, each representing several others, part of a body of work. These RARA chairs are imposing physical objects, assertive in their own way. They have a presence and an impact: some are demanding, some more modest. Their limitations and possibilities convey themselves in a rich sensory environment, in a way that is not achieved in a virtual environment. Tanggaard (2015, p. 209) states that contact with a rich diversity of materials and artifacts causes new ideas to develop. Standing in the ground with this project over time allowed a transfer of knowledge that is not usual with adhocism. The transfer to the next project of knowledge about a particular system, component or material doesn't tend to build in an adhocist project. It is quickly finished and there is no

more to be done. But, as Roger Beaty and Paul Silvia write (2012, p. 309), good ideas are more likely to appear later in the design process. Standing in the ground for longer with a divergent practice such as adhocism allows the designer to achieve more distant innovative solutions and that was certainly my experience.

The compulsion and drive to continue was not derived merely from adhocist addiction. As Ranulf Glanville writes, the rigour of the research is achieved by continuing to pursue and question the matter at hand until a heuristic breakthrough is reached (Glanville, 2014 pp. 35–36). I knew I was not finished yet: other opportunities remained to be discovered. I continued to experiment, from the *Day Out Chair* on, with commercial sensibilities, seeking opportunities for commercial value, production qualities and potentials.

And another reason that I stepped away from the constraints? Because I can. I'm making the rules around this project, and if they don't serve my process, I'll change them. And I can do this within this adhocist creative process, because adhocism is freeing. We can see this in subsequent RARA Chairs. The *Rare Rover* was frustrating and liberating. It liberated me from all kinds of designerly sensibilities, leading to the *Move Over Rover*, free of ergonomics, the *Morris Rover*, breaking free from adhocist aesthetic/style, and the *Adorer Chair*, free from financial and practical constraints. Adhocism fosters transgressive behaviour and because transgressive behaviour can produce innovation, this is very useful in the design of new products.

The second question I want to address here is about the contribution of adhocism to product design. What is this contribution, and does adhocism have more to offer? It is understandable that the professional designer may largely overlook adhocism, because the majority of adhocism we see —the 98 percent— is practical adhocism, with its associations with dilettantism and amateurism, and the limitations associated with using found objects. The use of adhocism in professional design practice is largely ghettoised, restricted to early works-like prototypes. But I think adhocism deserves recognition in product design beyond that because it is valid in so many fields of creative enquiry —from arts, design and technology (as described above)— to scientific enquiry, where we see adhocism in the concept of abduction. Abduction, according to Maj-Britt Råholm (2010, p. 266) '...begins with the inexplicable, and orients itself towards satisfactory new knowledge by connecting phenomena and concepts... expressed as hypotheses.' New insights and concepts emerge along with the elicitation of sensations and emotions, by connecting existing ideas and raw data in novel ways as the first stage of creative scientific enquiry. This places adhocist approaches operating beyond finished product or artefact to a conceptual form of broad creativity and enquiry.

My research suggests that there may be benefits in expanding the role of adhocism in the NPD process. Products designed using an adhocist strategy are not prototypes per se, but an end in themselves, comprehensive and physical. In the field of design and in early stages of the product development process, an adhocist approach may exist as part of an early prototyping strategy as a focused physical prototype, the result of which is another prototype rather than a finished product. The prototype is a start to an end, whereas the adhocist product is a start and an end. Ulrich and Eppinger (2012) say that comprehensive physical

prototypes provide the greatest quality of information to a product development team. I contend that adhocist products, being comprehensive and physical, also provide this information. But it is richer for two reasons: because they are real products, and because they provide the information earlier in the product development process.

Adhocism and creativity are closely linked. Creativity theorists writing before the invention of the term, such as Bruner (1962, p. 6), Arthur Koestler (1964, p .27) and latterly Deleuze and Guattari (cited in Pope 2005, p. 27) acknowledge the active combination of heterogeneous components and elements brought into new relationships and combinations with one another as being a fundamental mechanism of creativity. As already discussed, that combinatorial activity is also the fundamental principle and mechanism of adhocism. I think that the most significant thing adhocism has to offer product design is its contribution to the creative process through the physical manifestation of a concept close to its inception. In this project I used adhocism as a creative tool in several ways. As a technique to jump my design thinking and ideation to new and better solutions, it provided a variety of benefits. Chief among them is a shorter product development lifecycle and very quick access to high quality sensory and affective information. The speed is because of the brevity of the process; two steps—conceive and build. Decision-making is faster because we are considering real artefacts, with a full range of information readily at hand.

So the answer to the question about what adhocism has to offer product design is that adhocism is a dynamic creative tool that rewards wider application in product design for the generation of ideas beyond its usual application in prototyping. It offers immediacy of results to rapidly progress innovation, resulting early in the process in a finished product that provides rich information that advances the quality of outcome.

Of course this research has provoked other questions, that I intend to address in further explorations: about the role of disruptive approaches to creativity in new product development; about mapping the creative process; about letting ideas have their head in product development; and about using adhocism as a search engine for innovations in product development. And I will continue to think about how adhocist appropriation fits in the New Zealand cultural context.

Conclusion

This research project involved the production of approximately 45 RARA chairs, all inspired by Ron Arad's *Rover Chair, 1981*. This exegesis supports that body of work by contextualizing my work and by discussing the ten RARA chairs selected to illustrate the research process, the progression of the concept development and some key ideas. The context includes my design history and background and the history and theory of adhocism.

The research question sought to discover, from the basis of Ron Arad's *Rover Chair, 1981*: what further understandings will be gained by privileging the making of an idea early in the design process, and by exploring the immersive experience of physicality? This led me to explore and experiment with adhocist approaches to design practice. The answers to the research question are embodied in my design output.

On reflection, I had not expected that privileging early making would contribute so significantly to the creative process. Making the idea early in the design process provided an enhanced understanding of the materials and systems, and also brought into prominence some aspects of the *Rover Chair, 1981*, that I addressed in various ways. For example the unforgiving steel arms were addressed in the *Morris Rover chairs*. Early making quickly provided rich information. And it meant I was surrounded by the physicality of the designs, amplifying my exposure to this high quality information.

What did I gain by exploring the immersive experience of physicality? As I selected and manipulated the materials I had an empowering, visceral sense of control over the destiny of the designs. But there was an interplay; the designs in my environment formed a context that influenced subsequent designs. From this direct experience, I developed a greater awareness of how the designs would work, what was interesting and useful about them, what looked good. I could interpret their character and nature in a more direct and rounded way than through paper or screen-based representations. Significantly, it was a human scaled interactive experience. The immersive experience, the physicality, meant I couldn't be a spectator. The presence of the objects demanded interaction. I looked down on my creations, I walked around them, sat on them, experienced them in the round. As did others. Their presence in a shared environment sparked discussion, and lively engagement, and it stimulated new ideas.

Initially I used the provocation of the car seats and joining system as a creative constraint. I followed in Arad's footsteps, gaining a deep understanding and appreciation of the elements of the components and systems he used —as I had expected— and of adhocism, which I hadn't expected.

It was fun and educational riffing off Ron Arad and making variations of his chairs, restricted to the same elements and systems he used. But I couldn't get anywhere new with just permutations of Arad's found objects, materials and system. To move on I found I had to extend that understanding to other systems, using other objects in different combinations.

Standing in the ground is not new in design practice but it is not common with adhocism, which as I experienced it, is characterized by mobility. The combination made for a jerky, rather than a continuous development process. It favored the production of new concepts over concept development. That made it a very creative process.

The number and diversity of designs produced from the adhocist practice was significant and in and of itself informed developments and trajectories. I believe I have achieved my aims. I have realised a not insignificant range of seating opportunities from the materials system that provided the scope for my project. In the *Life Goes On Chair* I have extended beyond and back into the materials system by designing a new component with a novel commercial application. The Day Out Chair has possibilities for commercialisation and batch production. There is a potential to adapt Mari's innovative DIY commercial model. Rather than supplying all components, I could supply my knock down frame to be fitted with a locally sourced seat shell—a democratic approach straight out of the *Adhocist Manifesto*.

My experience with this project encourages me to continue to investigate the benefits of adhocist approaches in product design and development. I can use adhocist product development processes for rapid concept generation to provide high quality aesthetic and experiential information early in the process. My experience has been that placing an adhocist method of conceptualise and build at the beginning of a product development process speeds development and forces diversity of creativity and idea generation, and I will test this in other contexts.

The RARA project has proved to be an intellectually stimulating and rewarding experience. The adhocist approach informed and built knowledge of dealing with systems and hybrid design strategies, without dictating a destination. In saying that, the destinations were many. I'm now at an end with several new points of departure fuelled by the creative output from the RARA project.

RARA Dada!

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Figure 13. Frame analysis: components

Figure 14. Adank, R. G., 2015. *Utility Rover*. [Rover P6 leather seat, steel pipe, cast-iron clamps, wheels, 110 x 73 x 82cm] (Wellington, private collection of Rodney Adank) Photographed by R. G. Adank.

Figure 15. Adank, R. G., 2015. *Rocking Rover*. [Rover P6 leather seat, steel pipe, cast-iron clamps, 120 x 65 x 82cm] (Wellington, private collection of Rodney Adank) Photographed by T. Rutledge.

Figure 16. Adank, R. G., 2015. *Rare Rover*. [Rover P6 rear seat, chassis components, steel pipe, cast-iron clamps, wheels, timber, folded stainless steel, carpet, 136 x 168 x 87cm] (Wellington, private collection of Rodney Adank) Photographed by T. Rutledge.

Figure 17. Adank, R. G., 2015. *Move over Rover*. [Range Rover leather seats, steel pipe, cast-iron clamps, 114 x 156 x 175cm] (Wellington, private collection of Rodney Adank) Photographed by T. Rutledge.

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Figure 25. Adank, R. G., 2015. *Day out chair*. [Robin Day chair plastic seat, steel, cast-iron, timber, single 80 x 75 x 78cm, double 80 x 75 x 165cm] (Wellington, private collection of Rodney Adank) Photographed by T. Rutledge.

Figure 26. Adank, R. G., 2015. *Life goes on chair*. [*Life chair* seat by Formway/Knoll, steel, cast-iron, timber, 80.5 x 79 x 97cm] (Wellington, private collection of Rodney Adank) Photographed by T. Rutledge.

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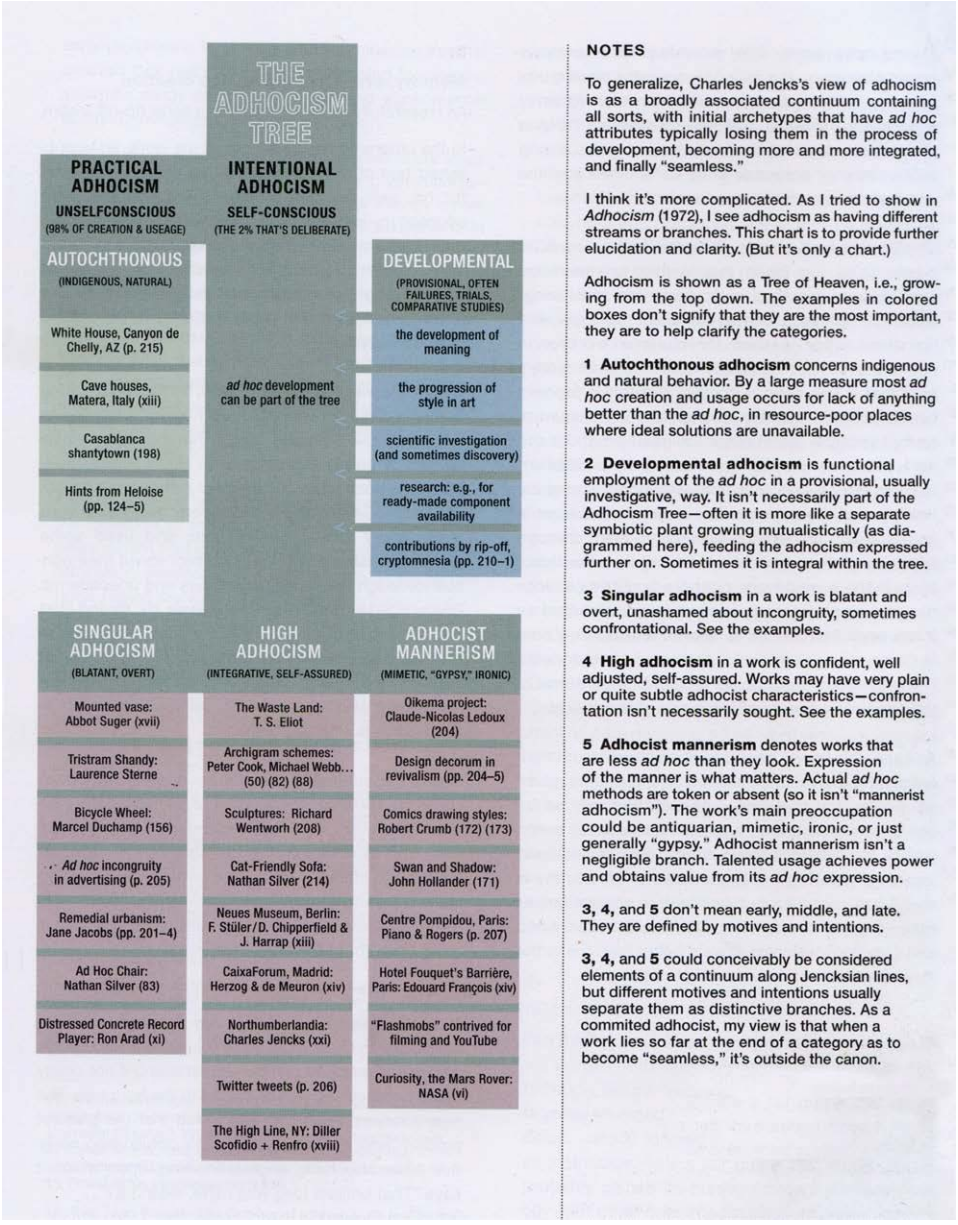
Appendix 1: An Adhocist Manifesto

1. If necessity is the mother of invention, then combining previous systems is the father, and adhocism is the creative offspring. This is true in both nature and culture.
2. In culture, combinations that display themselves, and explain their use and origins, are especially adhocist.
3. Thus adhocism is the style of eureka. It is in the origin moment of new things, when the forms are typically hybrid, and like all creative instants, the conjunction of previously separated systems. Hence, the style must remain heterogeneous to be understood. Like the best surrealism when seen for the first time, it is experienced as an incongruous marriage; often the copulation of incommensurable things. But as species and things evolve, their ad hoc attachments become supplementary, conventional, and usually simulated. Fully evolved this heterogeneity is integrated and non-adhoc. Yet an evolved time-city can be an intentional palimpsest of layers, as with New York's High Line.
4. At a populist level adhocism is radically democratic and pragmatic, as in the first two stages of revolution. It is also evident after catastrophes such as Hurricane Katrina, or the earthquake in Haiti, when people make do with whatever is at hand.
5. At an elitist level it is efficient and perfected in the parts. Like the Mars space program, where each Rover is assembled from the best subsystem without prejudice of stylistic unity, there is tolerance, even love, of mongrel beauty.
6. Adhocism badly done is a lazy put-together of diverse things. It steals from the bank of the world's resources, pays nothing back, and devalues the currency. Plagiarism and theft are redeemable if acknowledged, and if there is added value: the improvement of either the subsystems of the whole. Palladian, as well as Modern, architecture is based on stolen goods duly footnoted. Academics are usually trained in this confessional art.
7. Philosophically, adhocism tends to be opened-ended like an additive list and encyclopedia. Thus it is first cousin to eclecticism, defined as "deriving ideas, tastes, style, etc., from various sources." This is from the Greek eclect, "I choose or select" this part from anywhere. Looking for improvement, we choose the best part without trying to stay with a single canon.

8. If misusing a knife as a screwdriver is forgivable adhocism, then the Swiss Army Knife is its customized, evolutionary offspring. Droog Design is the commercial version, the Japanese Tea Ceremony is the ritualized usage, and Frank Gehry's house for himself typifies informality. The heterogeneous and informal characterize the cultural genre.
9. Try a thought experiment with the smallest atom; hydrogen or deuterium. Even these simple bodies are a historical smash-up of different units––the proton, electron, and neutron. Only quarks and leptons seem to be non-adhoc. Evidently the rest of the world coalesced from difference.
10. If most everything on earth comes from something else and is compound, then we live in a pluriverse. Although the laws may be uniform in our universe today, they evolved during the first microseconds, and may be the bylaws of an ad hoc multiverse.

(Jencks and Silver, 2013, p. ixx)

Appendix 2: The Adhocism Tree



(Jencks and Silver, 2013, p. 209)