

**TOWARDS A BETTER PARADIGMATIC PARTNERSHIP BETWEEN
DESIGN AND MANAGEMENT**

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Abstract

Design Management is an academic area that straddles the disciplines of design and management, as well as the practice of managing designers and the emerging corporate interest in the design concept. Drawing on Burrell and Morgan's (1979) paradigmatic framework, we problematize the way knowledge from design merges with knowledge from management. We claim that design management is a partnership between "main-stream management research" and design. We draw attention to other management paradigms – and discuss how many of them may better suit the design discourses.

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Both management and design are practical areas with academic aspirations that have been – and sometimes still are – questioned by the traditional disciplines, who regard them as “pseudo-academic” or not rigorous enough (O’Connor 1996, Yagou 2005). Management builds on a multidisciplinary platform of applied social sciences (and some humanities and others) for studying organizations. Design, while difficult to define absolutely, includes art, technique, and ergonomics. Both areas have developed an identity of their own, while remaining a combination of many disciplines as well as a combination of practice and academia.

Whether management is a science or art of practice has been a subject of differing opinions for the last 100 years, or for as long as the academic subject has existed. For example, the Stockholm School of Economics in Sweden has, since its founding in 1909, discussed whether the education it provides should be “academic” or “practical”. In the US it may be professors from physics or engineering who may consider management as a non-scientific academic subject. However, at the same time as being criticized for not being academic enough by “scientific” scholars, the academic area of management is often criticized for being too academic (Mintzberg, 2004).

If management has been questioned whether it is an academic or practical subject, design has been so to a much higher degree. Many professors of design are appointed not because of academic merit and research prowess, but because of practical expertise. And the discussion about whether there is and should be an academic place and the nature of the knowledge produced in the design field still has the character of a new subject trying to gain legitimacy.

Within both management and design a number of sub fields exist, (for example, organizational behavior, organizational development, strategy, human resource management for the management area, and fashion design, industrial design, and graphic design for the design area). Both areas embrace research with different epistemological underpinnings, although there have been more articulated discussions within management (where perspectives range from positivism to critical management and hermeneutics – to name a few).

Within the area of management, scholars recognize that different paradigms or schools of thought co-exist and develop although they were originally created in different historical contexts. Most primers present divisions among schools of management thought, such as, scientific management, human relations, contingency and systems thinking, power and management, cultural theories, strategy, and so on. There are, however, some more complex, meta-level ways of dividing management history. The most well known are Burrell & Morgan's (1979) sociological paradigms for organizational analysis (functionalist, interpretive, radical humanist, and radical structuralist), Morgan's (1986) division of the management history into different metaphors (seeing organizations as machines, organisms, brains, cultures, political systems, psychic prisons, flux and transformation, and instruments of domination), Hatch's (1997) enunciation of three master paradigms (modern, symbolic and postmodern) and Sköldbberg's (2002) division of management styles of thought into four master tropes (metaphor, metonymy, synecdoche and irony). We use Burrell & Morgan's framework due to its claim to be the innovation that sparked interest in management paradigms and tropes, although, as Deetz (1996) notes, it has shortcomings.

In the design area to the best of our knowledge parallel paradigmatic overviews have not been considered. Instead, design has been more concerned with problems and possibilities of design competences, or of how to go from practical wisdom to articulated knowledge and *episteme*, and the practicality of such aims. We do not enter into that discussion. Instead, we prefer to consider different ways of making sense of the meaning of "design," and relate its epistemological and paradigmatic grounds to the foundations of management thinking. Our starting point (thought not, of course, the starting point of "design") is the writing of Herbert Simon (1969) who considered both design epistemology and management theories in his work on decision-making. We continue with the work of other design researchers and their discussion of what is specific with design, (Alexander 1964, Buchanan 1992, Cross 2001, Edeholdt 2004, Krippendorff 1989, Lawson, 1989, among others). While each of these authors have engaged in systematized thinking and made contributions to the design discourse, there has

been little attempt to categorize the network of assumptions that they represent, or to connect these to schools of management thought.

Drawing on Burrell and Morgan's approach, we have developed a rudimentary paradigmatic framework for the discipline of design as an entry to our main purpose, which is to make a contribution to the theoretical underpinnings of the discipline of design management. In our opinion there is an urgent need to give credibility to the discipline of design management in the eyes of both management and design scholars who do not subscribe to a purely functionalist view. In addition, the field of design management as an academic discipline in contrast to an area of practice can grow only through lively debate among scholars with differing paradigmatic perspectives.

The paper begins by introducing Burrell and Morgan's analytical framework and discussing its relevance for management as well as the design area. Next we provide an overview of existing management discourses and how they relate to each other before presenting similar overview of design discourses. The fourth section contains an analysis and reflections on the discourse of design management and its taken-for-granted paradigmatic platform. Finally, we demonstrate alternative paradigmatic partnerships between design and management and discuss how some of these may inspire new debates and directions for design management.

Burrell and Morgan's paradigmatic framework

In this section we describe Burrell and Morgan's analytic framework and then use their matrix to place (1) management theories, (2) design theories, and (3) design management theories. Our aim is to clarify the different paradigmatic distributions in the respective fields. We also want to highlight the specific – and to our mind problematic – paradigmatic relations underlying design management, which is a discourse that bridges management and design.

In 1979 Gibson Burrell and Gareth Morgan presented their influential *Sociological paradigms and organizational analysis – elements of the sociology of corporate life*. This treatise can be seen as a social

science analysis of the paradigms of management/organizational¹ research. Influenced by, but not strictly following, Thomas Kuhn's (1962) concept of a "paradigm" as a fundamental view on life, or a broad view that affects the way particular aspects are understood. Burrell and Morgan analyzed organizational/managerial research to reveal the paradigmatic grounds or taken-for-granted assumptions that guide all approaches to research in social science, and to articulate distinctions between different schools of thought. Their aim was "to show what each of the paradigms has to offer, given the opportunity to speak for themselves." (p. 395)

Burrell and Morgan's analysis scheme focuses on the following two dimensions that represent the different ways in which scholars view the social world and the nature of society:

Objectivism versus subjectivism (Ch. 1 pp. 1-9) The objective-subjective distinction relates to the philosophical underpinnings of different approaches to social science. This distinction relates to the debate on the nature of organizational phenomena (ontology), and the nature of knowledge (epistemology) in social sciences and philosophy during the last centuries. It also relates to the debate about "the model of man" and methods for investigating the social world (methodology).

One endpoint of this debate is grounded in **the subjectivist approach**, representing:

- A nominalist ontology (assumptions that the social world external to individual cognition is made up of nothing more than names, concepts, and labels that are used to structure reality.)
- An antipositivist epistemology (the social world can only be understood from the point of view of the individuals who are directly involved in the activities that are to be studied.)
- A voluntarist view of human nature (man is completely autonomous and free-willed.)
- An ideographic methodology (the social world can only be understood by obtaining first-hand knowledge of the subject under investigation.)

The other endpoint of this debate is **the objectivist approach**, representing:

- A realist ontology (the world is made up of hard, tangible, and relatively immutable structures.)

¹¹ Organizational refers to a sociological approach that embraces both organization and management, the latter by Academy of Management being defined as "building and testing theory about organizations their members and their management, organization-environment relations and organizing processes".

- A positivist epistemology (the social world can be understood through regularities and causal relationships between its constituent elements.)
- A deterministic view of human nature (man and his activities are completely determined by the situation or “environment” in which he is located.)
- A nomothetic methodology (focus on an analysis of relationships and regularities between the various elements which it comprises.)

Burrell and Morgan’s division into objectivism and subjectivism is therefore grounded in a complex and multidimensional conceptualization. Not only is it a sociological analysis, but it also refers to a much broader philosophical discussion about what is knowledge and what is the (objective or subjective) world that we try to research, reflect upon, and examine by experimenting.

Research for regulation or radical change. The second dimension of the analytic framework is grounded in whether the research presupposes to contribute to a society in social order or to social change. These research ideas can be both conscious strategies and taken-for-granted assumptions. This dimension is not as complicated as the subjective-objective dimension.

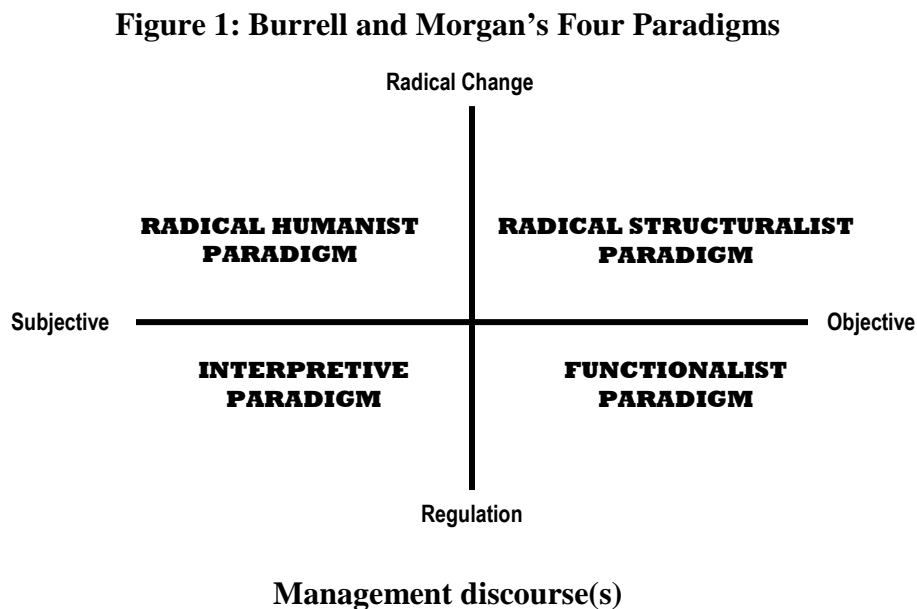
Burrell and Morgan introduce the term “sociology of regulation” or **regulation in human affairs** (p.17). Research with this concern emphasizes unity and cohesiveness, attempting to explain why society tends to hold together rather than fall apart. It is concerned with social order rather than conflicts, with integration and cohesion rather than contradiction, and with solidarity rather than emancipation. It also is concerned with actuality rather than with potentiality.

The opposite endpoint from research for regulation is **research for radical change**. This type of research is concerned with finding explanations for structural conflict, modes of domination and structural contradiction. It is concerned with man’s emancipation from the structures that limit and stunt his potential for development (p17).

Paradigmatic framework. The two dimensions form a grid with four quadrants. Although each dimension is identified by its end-points, in practice each forms a continuum expressing a range of

assumptions and approaches. Together the two dimensions form a 2x2 matrix with four distinct paradigms that encompass a wide range of social theories, as shown in Figure 1. The four paradigms are labeled:

1. Radical humanist paradigm (with endpoints of subjective + radical change)
2. Radical structuralist paradigm (with endpoints of objective + radical change)
3. Interpretative paradigm (with endpoints of subjective + regulation)
4. Functionalist paradigm (with endpoints of objective + regulation).



There are many ways to divide the research area of management. Most divisions fall, in some way or other, into a historical sequence. This does not mean that one theory displaced another in chronological order. Rather, each topic area was born in the academic conversation of a particular context and emerged to take care of deficiencies and criticisms of the then-current theoretical perspective. Key components of the previous theory remained and continued to influence the practice of management. Therefore it is more relevant to regard the different areas as family members born in different times but most still alive and having quite different and complicated relationships with each other.

The starting point of management research is often traced back to the beginning of the last century when Frederick Winslow Taylor (1911) published his book on *Scientific Management*, thereby indicating

that his treatise was *not* about rules of thumb but science. Taylor's theories about how to manage workers were widely accepted in businesses of that time because they created efficiency and promised a system that would standardize the work of artisans and labourers. The rules and ways of making sense of management that characterize Taylorism (the belief in objectivism and the possibility of finding an optimizing and universal way of managing work) have been both heavily criticised and defended. There are still many active scholars, even if they themselves may not recognize their roots, among scholars proposing theories of Business Process Re-engineering (BPR), lean production, and many of the fads of the 1980s and 1990s. Morgan, in his book *Images of Organizations* (1986) uses the metaphor of *machine* to describe the way these theories picture the organization and its character.

During the 1930s and 1940s Taylorism became heavily criticized, in particular after the famous Hawthorne experiments that could not be interpreted within the framework of scientific management (Roethlisberger and Dixon 1961). As a consequence, relations between human beings rather than on their physical actions formed the grounding for the human relations movement. In Morgan's (1986) characterization, this view looks at the organization as an *organism*. This view is also still common under the name of HRM (Human Resource Management) and naturally a large number of new studies and perspectives have been added, including the prevalent discourse on diversity. For the most part research is concerned with investigating functional cause and effect relationships, but some falls into the interpretive paradigm with concern for subjective impressions of organizational life.

During the 1950s and 1960s management theories were influenced by a number of new fields, in particular the diverse fields of computer science, systems theory, and psychoanalysis. Emerging discourses considered the organization as a system, and many models of an organization resembled those drawn by computer scientists (Katz & Kahn 1978). Open systems theory led to consideration of organizational environments, and the influence of political and societal changes on the internal and external relationships of organizations (Emery & Trist 1965). Also theories of power merged into management theories, and theories of leadership were developed as a separate area, as well as organizational development (representing a merger between organization theory and pedagogical

perspectives) (Levitt & March 1988). Morgan's metaphors for the main theoretical developments during this period were the organization as a *brain* and as a *system*.

During the last two decades of the 20th century, the 1980s and 1990s, cultural perspectives of organizations recognized individual members within a specific context and its specific taken-for-granted and institutionalized assumptions (e.g., Hofstede 1980, Powell & Dimaggio 1992, Schein 1985). What has been labeled as "cultural theory", however, consists of research with different paradigmatic underpinnings, ranging from anthropological case studies (e.g., Kunda 1992, Van Maanen 1988) to more positivistic survey studies (e.g., Hofstede 1980). Theories of organization change emerged, ranging from structural perspectives (Hannan & Freeman 1984) to from values driven organizational development (Beckhard 1965), to ethnographic studies (Czarniawska-Joerges & Sevón 1996). Morgan's metaphors of organizations as *psychic prisons* or as *flux and transformation* capture the variety of perspectives active in organization theory during this period.

Another stream from this period, not the least important for design management, is the strategy stream that continues to be popular among researchers, educators and practitioners alike. While the roots of strategy may be traced back to military endeavors in ancient Greece and in China over 2,500 years ago, the subject of strategic management as applied to organizations and businesses draws heavily on the work of Michael Porter (1980, 1985) and his concepts of competitive strategy and competitive advantage. Strategy is clearly functionalist in the nomenclature of Burrell and Morgan, and is so dominant within the management discourse that it lays claim to being a "paradigm" of its own (Prahalad and Hamel 1994).

During the last decade both traditional "main stream" and more "critical management" (see Alvesson and Wilmott 1992 for an overview) perspectives have become equally accepted within the Academy of Management. Even so, the number of scholars working with the critical radical humanist perspective are far fewer than those with mainstream functionalist viewpoints, and critical scholars who desire radical structural change are even fewer in number.

Management research/discourses within Burrell and Morgan's paradigms

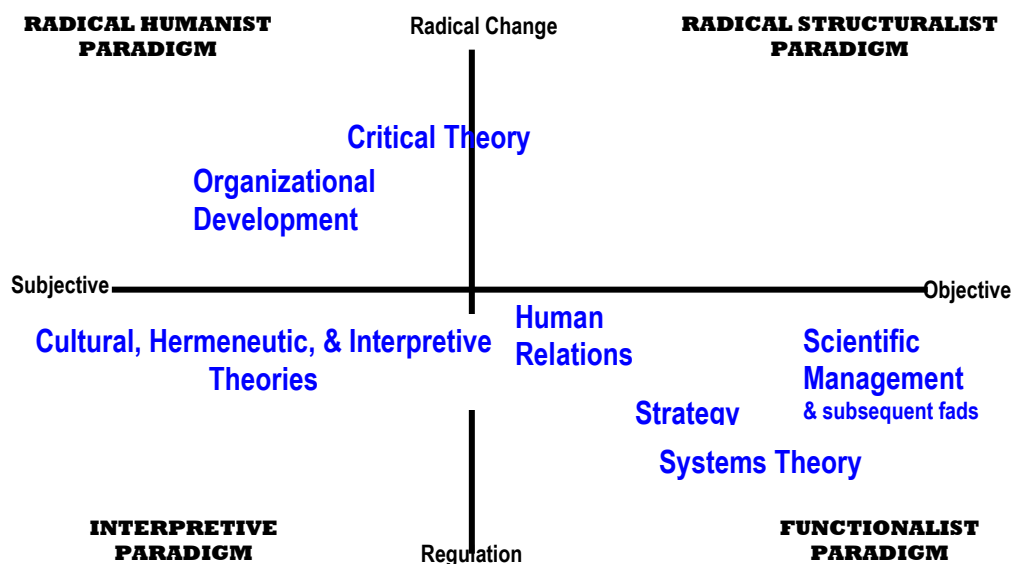
In the late 1970s, as Burrell and Morgan analyzed theories of management and organization within each paradigm, they found that dominant theories belonged in the functionalist quadrant (i.e., having assumptions of objectivism and regulation). There was some, but very little, research within the other quadrants that relied on assumptions of subjectivity or radical change.

Since that time organizational research has broadened into other areas as demonstrated by the current *Management and Organization Theory* Division domain statement of the Academy of Management:

Specific domain: involves building and testing theory about organizations, their members and their management, organization-environment relations, and organizing processes. The area has a rich intellectual heritage. Theoretical advances in organization theory have included strategic choice, resource dependence theory, organizational ecology and institutional theory. More recently, we have provided a home for critical, feminist, cognitive, and post-modern theorists. We encourage new theory development and the application of our existing theory base to such emerging and continuing management challenges as quality improvement, strategic alliances, new technology implementation, organizational restructuring, governance and control, and strategic global diversity. The division celebrates theoretical activity, methodological pluralism and linkages between theory and practice. (www.aom.pace.edu)

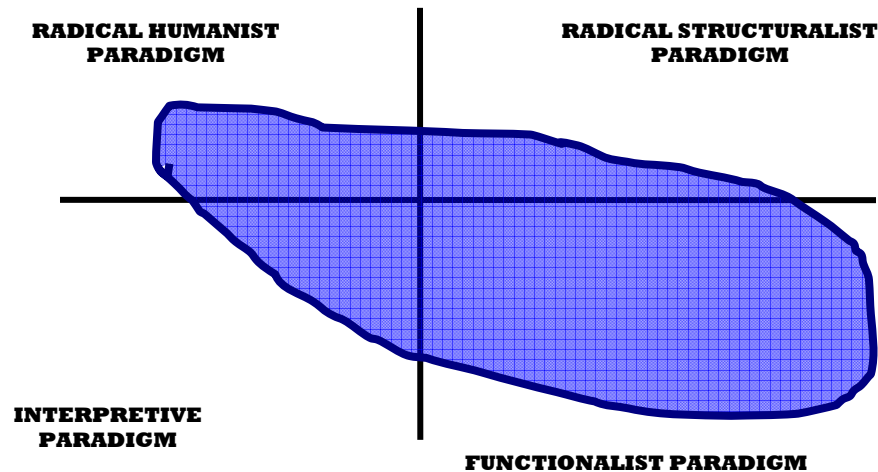
Today there is rich research in at least three of the four quadrants of Burrell and Morgan's analytical framework. Below we map our interpretation of management research within Burrell and Morgan's framework.

Figure 2: Paradigmatic Representation of Management/Organization Theories



We can simplify the paradigmatic pattern of management research from the Burrell and Morgan paradigm with the following shape that shows that the greater part of mainstream management research still lies in the functionalist paradigm, although thriving research exists in the others.

Figure 3: Schematic of Research in Organization/Management



The design discourse(s)

Like the management discourse, the design discourse is not one but many. Design embraces a number of subfields such as architecture, fashion design, graphic design, industrial design, , interaction design, interior design, and textile design. The discipline can also be divided into different perspectives, each with its own research area, such as design for all, democratic design, gender and design, and sustainable design. In this way design resembles management research – the Academy of Management has special divisions for gender and diversity, social issues, and so forth. The design area is distinguished from the management area by its smaller size and fewer researchers, and maybe because the area is younger, the epistemological discussion has not reached the same intensity. This is not to say epistemological concerns are non-existent, and indeed, similarities can be found between the two disciplines. In this paper we are primarily concerned with industrial design and the generic and epistemological interest in design as a method and way of thinking, that is, in the design process rather than the result of this process.

The special character of design research has been discussed ever since Simon (1969) wrote *The science of the artificial* in which he claims that design research has an epistemology of its own, distinguishing it from the humanities, social science, and natural science. Because design is creating what has never existed before, research must take this into consideration and can be neither explanatory nor descriptive but rather experimental, Simon asserted. Other scholars have also discussed the attributes of design research. Lawson (1989) theorizes design competence as a specific way of making sense of problem-solving in a comprehensive and synthetic way, while Buchanan (1992) describes the core of the design competence as handling and solving “wicked problems”. Edeholt (2004) identifies two specific characteristics for design that distinguish it from both social science and technical areas: first, design is about how things “ought to be” – about creating an alternative world, and second, it starts with problem solution rather than problem analysis.

Design methods and how to capture and describe them, are related, but not the same as the epistemological and methodological discussion. Here, different paradigms have replaced one another. For example, in the 1960s and 1970s structuralist approaches, like Alexander’s (1964) methods for complex problem-solving without preset conceptions, were prominent. Later, influenced by the general interest in system theory in academia, scientific and systems-theory oriented descriptions prevailed (Cross, 2001). Such views were subsequently challenged by Schön’s (1983) literal and reflexive approach. Over the last few years, design methods research has partly merged into the epistemological debate and partly been influenced by broader social science methods. Design has become part of a multidisciplinary cooperation of scholars.

Within the field of industrial design, Bauhaus in Europe and Dreyfus in the US might be considered the founding fathers of research. The prominent Bauhaus group in Germany had a clear ideological base, from which they both wrote and acted as designers and architects (Droste 1990). Their motto was “form follows function” and simplicity was not only beautiful but also a means to the end – to enable everyone to benefit from modernity. Dreyfuss (1967) can be seen as the Bauhaus’ American counterpart, with a passion for industrial design and ergonomics. He focused (not without similarities with early management

theorists Taylor and the Gilbreths) on the human body and its types and range of motion, thereby creating the research area of ergonomics (Clark & Corlett, 1984, www.hfes.org). Research into functions and ergonomics have been a substantial area ever since, to the extent of being taken-for-granted, with a peak in the 1960's and 1970's. Many researchers emerged from the ergonomic school with a specific interest in how things and the environment could be changed to be inclusive for individuals with disabilities. The areas of inclusive design (Clarkson 2003) and design for all (www.designforall.org) became dominant in the 1960's and have been active fields of research ever since. Here, when using Burrell and Morgan's framework, design methods have moved away from a functionalist perspective to a more radical humanistic view.

The design community has always included an ethical dimension, and design and ethics are frequently a conference theme. Eco-design and design for sustainability have emerged from this important area of design research and practice. Eco-design is a current business "hot topic" with its emphasis on using recyclable materials (Brezet & Hemel 1997), while design for sustainability advocates radical change in all systems. Among the forerunners in design for sustainability are researchers like (Manzini & Jégou 2003, Margolin 2002, Thackara 2005, Thorpe 2007),

The semiotic design discourse lies at the border between design and design management and has grown both in research and practical use over the last two decades (Butter 1989, Mono 1997). Semiotic research has a different character from the schools above. It has deep philosophical roots and connections to many interdisciplinary areas, as well as being the topic for special conferences. Semiotic design research (Krippendorff & Butter 1984, Krippendorff 1989, Vihma 1995) is concerned with how images are perceived and "read" by different audiences and stakeholders, and most research is related to regulation rather than radical change. When used in practice, it is mostly in order to determine that the business goals are met by the way products, advertisements and other touch-points are expressed in images.

A design area that began at the interface between humans and machines, both mechanical and computers, known as interactive design (Edeholt & Lowgren, 2003), has become a large area of research,

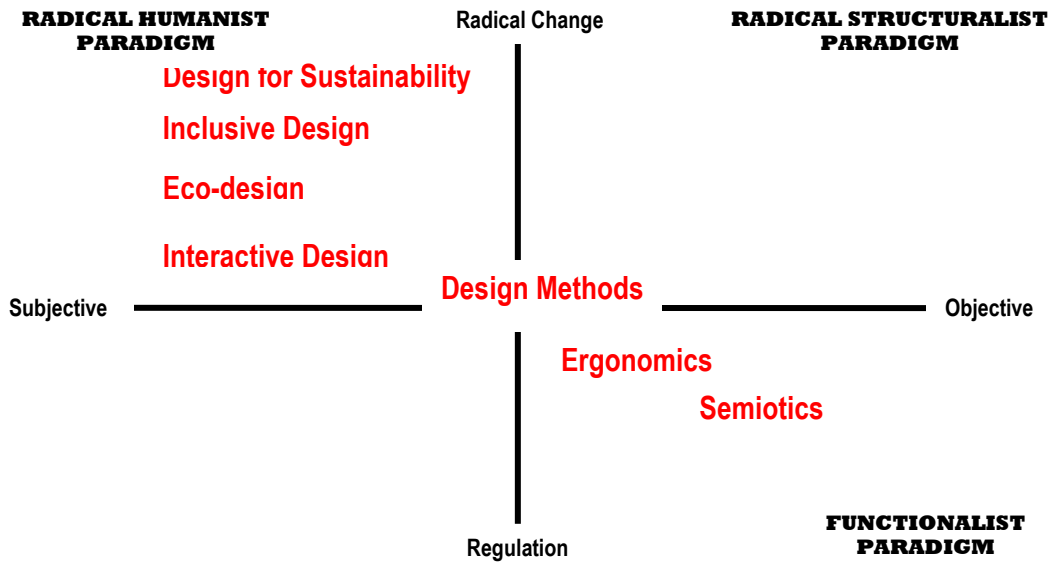
given the prevalence of information technology and human-computer interaction (HCI) in all aspects of life. While not strictly a subfield of industrial design, but rather an area in itself, methods of user centered design are now used in other design areas. Because many studies in interactive design consider the computer from a more holistic view, regarding it as a tool for work and pleasure, this area has come to intersect with organization studies, specifically those in the radical humanist paradigm (Ehn 2006, Björgvinsson 2007)).

The design discourse within Burrell and Morgan's framework

It is somewhat problematic to squeeze design thinking into the paradigmatic framework of Burrell and Morgan. However, there is value in making an epistemological comparison between management and design research, and we find the Burrell and Morgan's dimensions (objectivity/subjectivity and regulation/change) applicable to both areas.

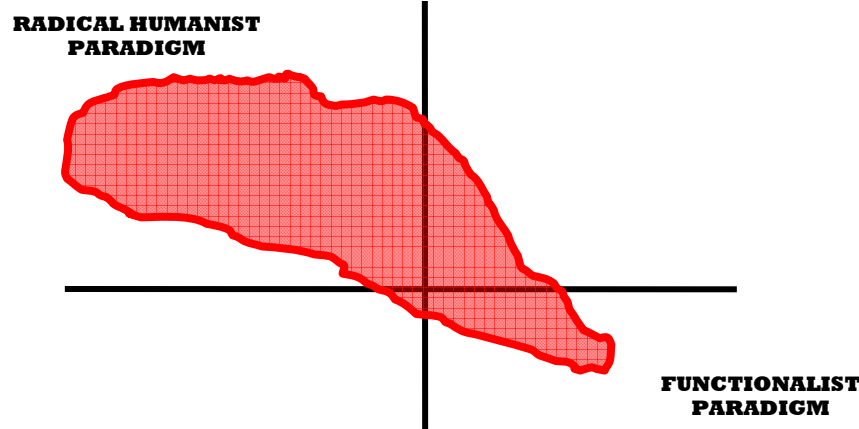
Following the definitions of design discussed by Edeholt (2004), for example, one might think that design should fall into the radical humanist paradigm, or the one that is defined as subjective (rather than objective) and interested in radical change (rather than regulation). However, our discussion of different fields and groups within design research made us aware that design research, though predominately in this quadrant, also has areas located in other paradigms. After categorizing design research first into themes on the basis of themes from design conferences and special issues of design journals, and then mapping research from individual researchers within each field onto Burrell and Morgan's framework, we developed the following schematic figure:

Figure 4: Paradigmatic Representation of Design Theories



We are struck by our observation that when design research is placed within Burrell and Morgan’s framework, design theories rely on assumptions that are almost a diagonal inverse from those in management theories. Some of the foundational and ergonomic design research is found in the functionalist grid, as well as most semiotics research; although these areas of research aim to improve the company’s products from the user’s perspective, they mainly assume that this can be done by objective methods, and the result will not involve radical change. Some of the earlier methodological research (c.f., Alexander 1964), is to be found in the radical structuralist quadrant. However, most contemporary design researchers, and probably also a majority designers, work under assumptions that locate them within the radical humanist quadrant. Therefore, the conclusion of our review of the design research field from Burrell and Morgan’s framework is that design research is dominated by radical humanist assumptions i.e. subjectivism and radical change.

Figure 5: Schematic of Design Research Paradigms



The design management discourse

If *management* discourse is about a hundred years old, and the *design* discourse is about half of that, then *design management* discourse is only a few decades in age. In fact, the first academic masters course in design management was introduced in the 1970s at the London Business School, and it was not until the 1980s that the Royal College of Art was the first school worldwide to teach design management to designers (Johansson & Svengren 2006).

Design management is concerned with the integration of design into management and vice versa. The design management area is more coherent than both the design area and the management areas alone; this might be due to the relative smallness of the area, but also because of foundational assumptions. A basic assumption, partly rooted in research and partly in experience, is that management most often lacks sufficient knowledge about design to take advantage of the strategic potential that design promises. As a consequence, research is most often of a normative and prescriptive character.

The TRIAD project can be viewed as the beginning of design management research. TRAIID, a collaborative research project over three continents, was initiated in 1988 by the Design Management Institute (DMI—formed in 1975 to “heighten awareness of design as an essential part of business strategy”) and also involved the Harvard Business School. The project’s purpose was to develop case studies in design management, and the thirteen completed case studies from US, European and Japanese

contexts formed a platform for design management research (see Svengren 1995 and www.wmi.org) DMI webpage and Svengren 1995). The TRIAD project focused on descriptive cases from companies where design was an integrated part of the product development and innovation process and companies where design had been a considerable part of the success of the company, so called “excellence cases”. This type of research became a role model for much of the subsequent research in design management.

Research on corporate identity forms a separate, but intertwined area of research and development within design management. When at its peak in the late 1980s, “corporate identity” was a way to integrate the different visual messages coming from the company’s logo, written material (graphic design), products (industrial design), and the environment in which production and selling take place (interior design and visual merchandising) to provide the customer with a stronger and more coherent visual message. And, researchers claimed, this stronger message should be in coordination with business strategy and goals, not merely as unrelated pieces of art (Olins 1989). In this way, corporate identity could be seen as a forerunner to the brand discourse. The difference, according to Johansson and Svengren (2005) is that brand is related to marketers and corporate identity to designers.

In the 1990’s the “brand” discourse flourished in marketing and management, and the design management discourse now focused on design as a strategic resource. Research questions focused on ways in which design is a strategic resource and how it should relate to and be integrated within top management’s general strategies (Cooper and Press 1995, Svengren 1995, Olsson et al 1998, Ravasi and Lojacono 2005) in addition to marketing strategies (Bruce and Cooper 1997, de Mozota 2003). During the 1990s and early 2000s, design as a strategic/marketing resource was the focus of several articles and books and became a platform for education in many countries.

A related, but also somewhat different, discourse and subfield of design management considers design and innovation (Stamm 2003, Verganti 2006, von Hippel 1978, Utterback & Suárez 1993), looking at the partnership of designers, engineers and managers. During the early 2000 “design and innovation” has become a fad that had overtaken the area of “design and strategy”. Also, the “design and innovation” discourse has found a place in the general business media. Specifically in the U.S. innovation

and creativity have become buzzwords and “driving forces for the new economy” as Tom Kelley claims his bestseller about practices at IDEO (2001). One argument in the US is that with the manufacturing base lost to overseas producers, innovation is left as the driver of the economy. Design in this situation is less about giving aesthetic and form and more about creative thinking, and newness more than improvement. It is *design thinking* (Buchanan 1992) that is requested as the servant of innovation. Design and innovation can be seen as a creative alternative or supplement to the operational management discourse.

Service design is another emerging area within design in practice as well as in design management research. Morelli (2002), for example, states that designers should not be focused on products, but rather on the product-service-system (PSS) and its design from a user value perspective. The service design discourse thereby is expanded and transformed from the more traditional “design of products” to include management-related research for improved cooperation with the customer in the “fuzzy front end” of product development. This is currently an active area in research that most likely will expand even further (Goldstein, Johnston et al. 2002, Heskett 1986, Shostack 1984).

Design management discourse within Burrell and Morgan’s framework

Below, in Figures 6 and 7, we present our representation of the paradigmatic base for design management. Because design management bridges design and management, we might expect its research areas to be spread over the areas where both design and management are well represented. However, this both is and is not the case. It is not the case because there is almost no design management research in three out of four of Burrell and Morgan’s quadrants. Design management is scarcely represented in the radical humanist paradigm, where design has its base. Instead most design management research belongs to the functionalist paradigm, relying on objectivity and regulation as foundational assumptions. This is somewhat problematic from the design perspective, because design thinking as such is differentiated from rational, analytical processes, rather being defined as a holistic way of creating something new and unanticipated. However, design management has a comfortable place within management research, relying on mainstream management literature and gurus such as Porter (1990) and Kotler (Kotler & Rath 1984).

Figure 6: Paradigmatic Representation of Design Management Theories

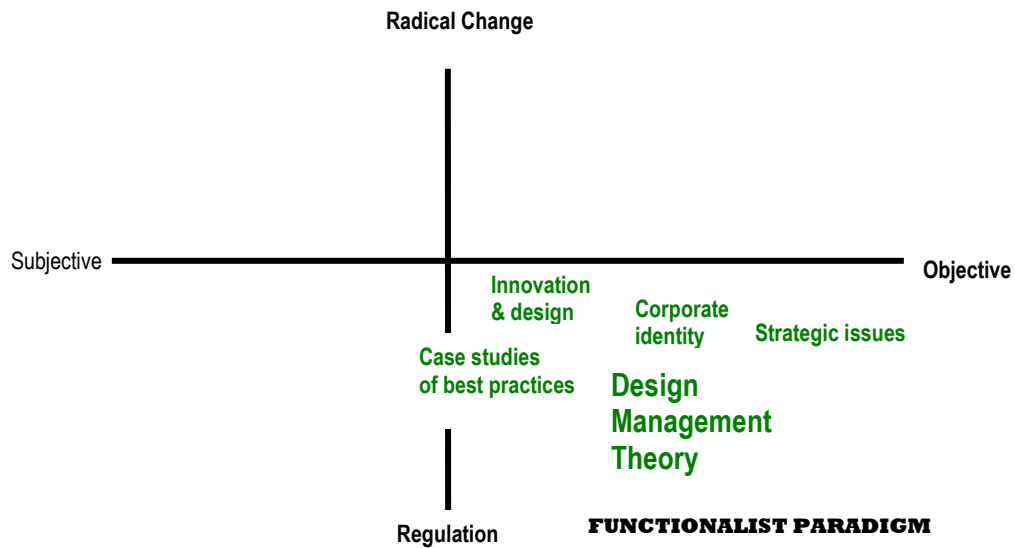
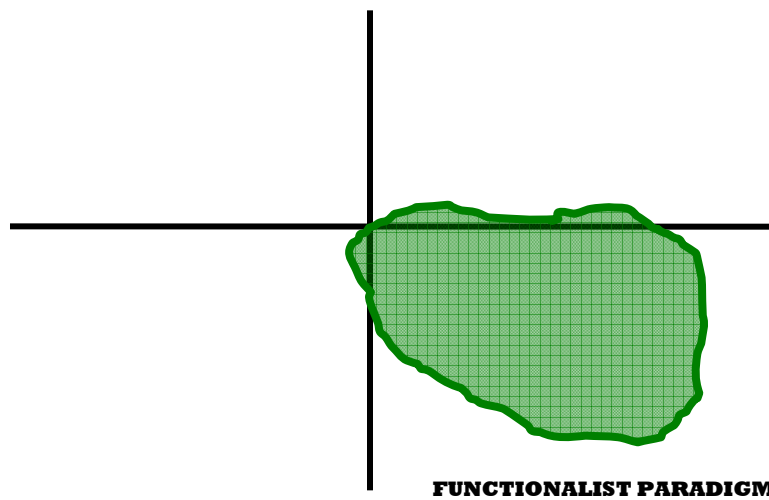


Figure 7: Schematic of Design Management Research Paradigm



Summary reflections on the paradigmatic partnership between design and management

We can summarize our findings about research in management, design, and design management within the context of Burrell and Morgan’s four paradigms as follows:

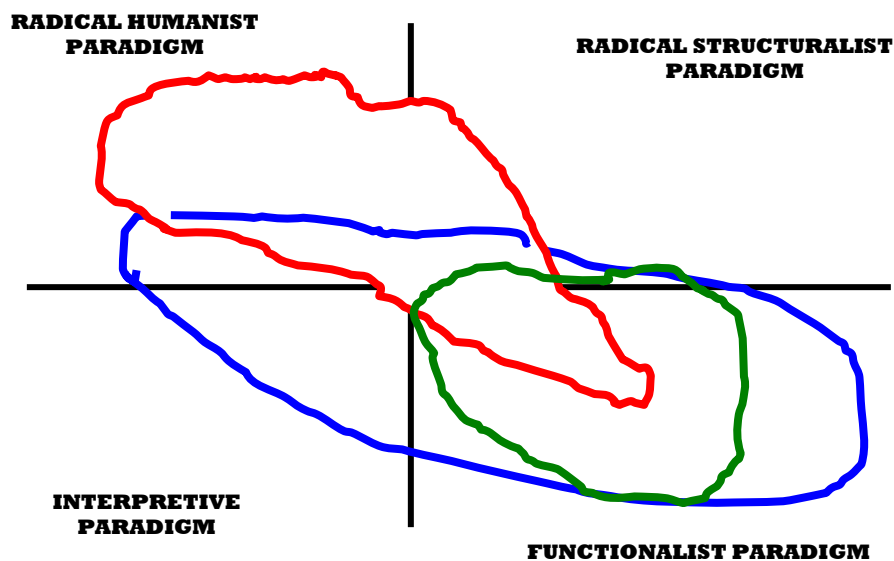
First, management research started in the functionalist quadrant, with assumptions of objectivism and regulation of the existing society, then spread out to include work in all four quadrants, but *mainstream management research still has its centre of gravity in the functionalist paradigm.*

Second, the *design research*, though spread all over the four paradigms, has *its centre of gravity in the radical humanist paradigm*, where the assumptions are a combination of subjectivity and radical change. This situation reflects a change from early design research, when objectivity was taken for granted as the norm for “real” research, and there was functionalist research.

Third, the design management research does not spread over the different paradigms (with some few exceptions). *Most design management research relies on the functionalist paradigm.*

Figure 8 illustrates the way in which the three research areas overlap. The boundaries are drawn schematically to demonstrate the relative extent of each area rather than to place coordinates exactly on the axes.

Figure 8: Schematic of Overlap of Management, Design, and Design Management



The result is probably not a surprise to those who have been involved in design management. However, it is not the result as such, but how to make sense of it that is important. What are the consequences and reflections that follow from this result?

Our first reflection is that we might expect a new research area that seeks legitimacy among both academics and practitioners to originate in the mainstream area. The early research would then be widely recognized and accepted by practitioners because it would confirm what they already knew. Having said this, however, we believe it is just as important – or even required – for a research area to encompass

different paradigms so that the range of underlying assumptions become broader and deeper. In particular, a research area that does not include critical and reflexive research is in danger of being too shallow. Research in the design management area has developed to a point where it is time to look for a paradigmatic broadening. Richer methodological and epistemological debates within design management research would contribute to its intellectual development.

Our second reflection is that because the research areas of “design” and “management” have different paradigmatic centers, it is important for “design management” to have a paradigmatic awareness in addition to a broad paradigmatic base for the research. Design management researchers need to be aware of the way in which they embrace approaches based in different underlying assumptions. There has been a lively debate among management scholars as to whether the various paradigms are incommensurable, that is, whether it is even possible for researchers based in different frameworks to work together (cf., Gioia & Pitre 1990). Rather than engage in this debate, we suggest that design management researchers consider deliberately espousing an alternative paradigm by working with research methodologies from frameworks other than functionalism.

In our opinion, the reason for design management to broaden its perspective beyond that of the mainstream management paradigm is more than as an academic exercise. There is a real danger that the important dimensions of design cannot come through within the functionalist paradigm. Many researchers interested in design methodology, design thinking and design epistemology (Simon 1969, Buchanan 2001, Lawson 1998, Edeholt 2004) claim that the design profession is by its very nature subjective because an important feature of practical design thinking is that designers are creatively constructing new possibilities rather than analyzing problems. The professional knowledge of design practitioners therefore falls into the subjective and change paradigm i.e. the radical humanist. Over the last few decades, the research community of Art and Design has also debated the assumptions underlying research, and concluded that research in design needs to have this paradigmatic grounding (Edeholt 2006). Not having any research within the radical humanist paradigm must, therefore, be seen as fundamentally problematic

for the design management area. As a initial approach to broadening the research base of design management, we suggest the following possibilities for the three clearly underrepresented paradigms:

Radical humanist paradigm. To date, most case studies in design management have had the nature of “analyzing success stories” (e.g., Svengren 1995, Svengren & Johansson 2006, Johansson and Svengren 2008). Alternative methodologies could draw from action research (Baburoglu & Ravn 1992, Whyte 1991), collaborative research (Adler, Shani & Styhre 2004) and other approaches where the researcher him or herself takes a more experimental role, trying to find out what is actually happening in the relation between design and management. These alternative approaches mean relating more to the “organizational development” discourse than to the “organizational strategy” discourse. Also, working in the radical humanist paradigm means that the research projects can embrace enabling values like sustainability, gender, and inclusiveness. For example, “Design against crime” (Cooper et al) and “Doors for perception” (Thackara) are design research and development projects that could be extended or used to inspire design management research.

Critical management. Critical management studies already have an established base within management research. The area includes scholars from all over the world, working, for example, within the Interest Group within the Academy of Management (www.aomonline.org/aom.asp?id=18), or participating in the biannual Critical Management Conference (www.criticalmanagement.org/). Opportunities therefore exist for design researchers to engage with critical management researchers to develop dynamic and fresh perspectives. For example, design researchers might participate in the upcoming CMS6 conference to be held at Warwick University in July 2009 to sample the range of scholarship and initiate conversations with others with similar interests.

Interpretative and reflexive methodology. There is room in design management for more reflexive research: reflexive around the practical encounter of design and management, and reflexive around the paradigmatic differences and the communication problems that arise. What really happens when design thinking meets management thinking? In order to answer this question – that of course can be answered in several ways – both empirical material and associated reflections are needed (Alvesson & Sköldböck)

2000), and the nature of the reflections would careful attention. We would welcome more ethnography that includes researcher reflections, for example similar to Kunda's (1992) study of the culture of a multinational company, but instead focusing on designers and what is happening when they enter the world of business. Other examples are the work of Edeholt (2006) and Buchanan (2001) where they reflect about the profession of design; similar reflections are needed within the design management discourse.

To conclude, in writing this paper, we set out to problematize the way in which knowledge from design merges with knowledge from management. Using Burrell and Morgan's paradigms for this purpose has been a paradoxical exercise: on the one hand, the framework allowed us to speak definitively about differences, yet on the other hand, the cursory way in which we placed research areas within the framework had left much room for critique and further discussions. We recognize our limitations, in the hopes that our broader argument – that design management research needs to broaden its paradigmatic base – will be accepted, and our suggestions for ways in which to open up conversations on the research agenda, will spark interest among participants at this DMI Conference.

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