

# Managing as designing: implications for management education and research

David Wastell, March 2012

## *Prologue*

*When it was known in Manchester that Mr. Drinkwater had engaged me, a mere boy without experience, to take the entire direction of this new mill, the leading people thought he had lost his senses... I at once determined to do the best I could and began to examine the outline and detail of what was in progress. I looked grave, inspected everything very minutely, examined the drawings and the calculations of the machinery. I was in with the first in the morning, and I locked up the premises at night. I continued this silent inspection for six weeks ..... and during that period I did not give one direct order about anything. But at the end of that time I felt myself so much master of my position, as to be ready to give directions in every department.*

I opened a recent essay on the role of the manager with this epigraph (Wastell, 2010). It is taken from the autobiography of Robert Owen, management pioneer and social reformer of the early factory age (Owen, 1967, pp.28-9). Only 18 years old, Owen had audaciously applied to manage a new mill being established in Manchester, a mill employing the latest manufacturing technology of the day. I invited the reader to reflect on Owen's proceedings as "an untutored manager in a sticky predicament" (Wastell, 2010, p. 422). That he saw his pre-eminent goal as the design of the workplace is clear, not only to find the best way of doing things by harnessing the new technology of the mill to its full potential but to base this on an rigorous, empirical understanding of the organisation of which he was freshly steward. And the strategy paid off handsomely. He pulled off, using the modern argot, a spectacular piece of innovative re-engineering. "I soon perceived the defects in the various processes and improved the quality of our manufacture. In about a year, I had ... gained the means to increase the fineness of the finished thread from 120 to upwards of 300 hanks in the pound" (Owen, p.34-5).

## ***Management, design and innovation.***

In this paper, I explore the relationship between design, innovation and the managerial task; more specifically I argue that a rethinking of the managerial role is needed to respond to the exigencies of the current business environment and the constant need for change and adaptation. To the question, what do managers do, or rather what *should* they do, answers abound: to be "strategic", to provide charismatic leadership, to command and control, to "manage performance", to motivate staff, and so on. I offer a different formulation of the primary task of the manager as "systems design", construing system in its broadest sense, as an organizational configuration of processes, people and technology constituted to accomplish a desired function. The word innovation derives from the Latin *innovare* "to renew or change". The manager who sees design as her primary task naturally looks to innovate, to renew or to change that part of the organization under her jurisdiction in order to improve performance and respond to new demands.

The idea of the manager-as-designer is currently gaining traction amongst management scholars (Boland and Collopy, 2004; van Aken, 2005; Buchanan, 2008; Dunne and Martin, 2006; Starkey and Tempest, 2010). Designing is not how most managers would

spontaneously describe their professional practice; nor is designing one of Mintzberg's celebrated clutch of managerial roles: figurehead, leader, monitor, disseminator, spokesman, disturbance handler and so on. But surely the organization of the work activities under his/her jurisdiction as efficiently and effectively as possible must be the chief responsibility of the manager. If the manager is not responsible, we might ask "who is" and equally pertinently "what then is the manager for"? The essay proceeds as follows. I will begin by reflecting on the recent emergence of the "design movement", briefly tracing its historical origins and key ideas. I will then consider the current situation in the UK public services, where the design agenda is a growing force and my own research is based. I will then consider how the practise of design can best be learned, before concluding with some critical reflections on management education and research.

In the evolution of design thinking, we can go all the way back to Taylor. Many of the early managers were engineers (although Owen himself had so such training) who naturally saw the design of the workplace as their principal concern. First published over a century ago, F. W. Taylor's *Shop Management* (1903) is, from cover to cover, a book quintessentially about design. It sets forth normative principles *for* the design of the workplace (the first class man, functional foremen etc.) as well as prescribing (in meticulous detail) *how* design work should be carried out (the notorious "Time Study"). More proximally, the work of Herb Simon is seminal in the modern development of design thinking. First published in 1966, his slim volume, *The Sciences of the Artificial*, famously defines design as "courses of action aimed at changing existing situations into preferred ones" (Simon, 1966, p.55). Managers, like architects and engineers, are "form-givers", shaping organisations and economic processes. They are concerned with "not how things are but how they might be, in short with design".

In advocating the case for design, Simon bemoaned the ascendancy of pure science in professional schools:

*Design is the core of all professional training. Schools of engineering, architecture, business... medicine are all centrally concerned with the process of design... It is ironic that in this century the natural sciences have driven the sciences of the artificial from professional school curricula..... Medical schools have become schools of biological sciences; business schools have become schools of finite mathematics (ibid., p.56).*

Simon went on to call for a new curriculum for management education based on design. His advocacy is important in the present context. In 2004, two academics at the Weatherhead School of Management (Case Western University), Dick Boland and Fred Collopy, convened a rather unusual colloquium. They brought together a "stellar collection of scholars, artists and managers to explore the implications of taking the manager's role and responsibility more seriously" (Boland & Collopy, 2004, p. xii). Simon's work was an important inspiration; *The Sciences of the Artificial* is eulogised as "one of the finest examples we have of the design attitude for managers" (p.8).

Contemporary management thought represents a diverse range of ideas, differentiated into various distinctive sub-disciplines. 'Organisation design' is one of those areas, itself a sprawling and eclectic field. The very existence of such a body of thought would seem to obviate the need for the Weatherhead Colloquium. But this is not the case; there is a disconnection, a 'trap' as Weick calls it, in the phrase 'organisational design', that design can be both noun and verb. It is the former which predominates in practice: "when people in organisations talk about the design of the organisation, they tend to equate it with things like organisational charts... to focus on structures rather than processes" (Weick, 1995, p.348). The vast bulk of theory and research on organisation design shows this same bias, concerning

itself with design (noun) at the macro level (what structures work in what circumstances) rather than the practical process of designing at the micro level. As Yoo et al. (2006, p. 215) note, the orthodox theory of organisational design “offers little help to organisations that need to create novel and unique solutions”. Although a congeries of structures has been proposed over the years, some with tantalisingly exotic names (such as the ‘front-back hybrid’), Yoo et al. argue that the very idea of choice amongst ‘ready-made’ alternatives is fundamentally misguided. It loses the idea of design as form-giving: designing an organisation is not like buying an ‘off-the-peg’ suit!

Design as verb was the focus of the 2004 colloquium. Its proceedings were published as a book, comprising a collection of nearly 40 papers. In the opening chapter, Boland and Collopy contrast two paradigms of management practice and education. They characterise the current orthodoxy as the ‘decision attitude’: “concerned with the various techniques and methods managers use in making choices, starting from the assumption that a good set of options is already available” (Boland & Collopy, 2004, p.6). In contrast, they proselytize the ‘design attitude’ in the following, rather romantic-heroic, terms:

*A design attitude views each project as an opportunity to question basic assumptions, a resolve to leave the world a better place. Designers relish the lack of predetermined outcomes, the opportunity to go back to those assumptions that have become invisible and unnoticed, looking for the real thing we are trying to accomplish, unvarnished by years of organizational habit. A design attitude fosters a problem-solving process that remains liquid and open, celebrating path-creating ideas about new ways to use technology and new work processes (ibid., pp.9-10).*

If managers adopted such a design attitude, they argued, the world of business “would be different and better, [managers] would approach problems with a sensibility that swept in the broadest array of influences to shape inspiring and energising design for products, services and processes that are both profitable and humanly satisfying” (ibid., p.1). Boland and Collopy are not alone as advocates of the cause of design. Interviewed in 2006, Roger Martin (Dean of the Rotman School of Management, Toronto) observed that “business schools are under intense criticism and, in the view of some, have reached a point of crisis. Both academics and management practitioners criticise MBA programmes for their lack of relevance to practitioners” (Dunne and Martin, 2006, p.512). And the remedy? Nothing less than a fundamental reformulation of management education: “we are on the cusp of a design revolution in business... today’s business people don’t need to understand designers better, they need to become designers (ibid., p.513)”.

Tate (2009) describes two conceptualisations of the managerial role: System 1 (Delivering today) and System 2 (Securing tomorrow). System 1 designates maintenance of the current operational system, ensuring deadlines and targets are met and so on: “managing what we think we know we know”. In contrast, System 2 is a Leadership system, concerned with making sure “that the future is better than today. It calls for innovation” (ibid., p.216). Tate argues that the more senior a manager’s position, the more time they should devote to System 2 but “System 2 is often absent or spasmodic, unrecognised and not formalised in managers’ jobs” (ibid., p.216). The design “turn” can be seen as an attempt to shift the balance in favour of innovation, i.e. System 2.

The management gurus are important in shaping ideas and opinions in the world of practice, so let us end this section by listening to some of their words. One proselytizer is

Richard Farson<sup>1</sup>. Farson argues that design is ubiquitous for the manager. In a White Paper, he contends: “Design is the creation of form. Everything that a manager deals with has form – buildings, offices, meetings, procedures, workflows and systems” (p.1). Technology and design go hand in hand for Farson. He argues that technology presents “a completely new way to design our organisations”. Yet he bemoans that, “Most executives ignore systems design. As a result, neither IT nor systems design has reached its potential” (p.7). The boisterous Tom Peters is also a fan:

*Design rules! Design is about passion, emotion and attachment, and it must be at the heart of every business... Design thinking and systems thinking are one and the same. In great design, form and function come together seamlessly. Every part contributes to the whole in a way that seems inevitable. So too in a great system. Peters (2005).*

### ***Design in the public services***

My own research is in the public services. In a series of papers with collaborating social work academics (Wastell, 2011), I describe the vicissitudes of a major reform initiative in statutory child welfare, known as the Integrated Children’s System (ICS). The ICS can be seen as an attempt to impose “New Public Management” disciplines on social work practice. It embedded, in an IT-based system, a performance management regime of standardized processes, rigid targets and timescales, and so on: an electronic “iron-cage”. The papers attribute the troubles that beset the ICS to the failure by public managers to engage in design work. Instead of innovation to improve services for children, they mechanistically implemented a centrally prescribed system specification, concocted by an elite of Whitehall civil servants. As a result, a system which was intended to make children safer had the opposite effect of increasing risk. The ICS has evoked resistance from front-line staff, and was directly implicated in the tragic death of Baby Peter. Calls for its redesign were taken up by the Social Work Task Force set up by the Secretary of State for Children, Schools and Families (Ed Balls) in the aftermath of the trial of Baby Peter’s killers in November 2008.

Design is currently all the rage in the UK public services. There is recognition that in the “age of austerity” only radical redesign can protect services by getting “more for less”, and that the salami-slicing of budgets can only degrade effectiveness. Members of the ICS research team were recently invited to a workshop in a local authority in the south of England. At the workshop, the Director of Children’s Services argued forcefully that taking a small amount of money from the front-line service to resource a major design project would pay handsome rewards; not only could efficiencies be achieved, but services could be sustainably improved, as experience in that authority had already shown. The need for rigorous empirical research to provide a solid foundation for the design initiative was agreed without demur.

The Design Council have taken a notable lead in the UK in promoting innovation through design. Its web-site proclaimed in 2010:

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<sup>1</sup> Author of *Management of the Absurd* (Farson, 1996). The quotes from Farson are extracted from his pamphlet *Management by Design* at [http://www.wbsi.org/farson/com\\_mgtbydesignr.htm](http://www.wbsi.org/farson/com_mgtbydesignr.htm)

*Public services lie at the heart of the new Government's vision ... giving schools, hospitals and police forces greater freedom from central control is central to this vision. To translate this vision into a practical reality that can improve services even at a time of restrained spending is a challenge the Design Council believes needs to be addressed by working innovatively and by using creative thinking and new approaches as well as new technologies.*

With the aim of stimulating such local innovation, the Council launched its “Public Services by Design” initiative in 2009, proclaiming that: “public services must be designed to meet the complex needs of users while delivering cost efficiencies”<sup>2</sup>. Recognising that “many public service providers lack the knowledge and skills to use design as a strategic approach to innovation”, the initiative aimed to help public sector organisations to “manage their creative processes and find innovative solutions for service delivery”. The need for a design methodology was emphasised: “evidence shows that design methodologies can drive innovation in public services”. Methodology was held to benefit innovation in a number of ways: developing more personalised services through more user control; harnessing the knowledge of frontline staff via collaborative design; managing risk by prototyping new ideas; improving efficiency and value for money. Through a number of live public sector projects, practical design solutions were developed using the Council’s “Transformation Design” methodology (Burns et al., 2006). For example, one design team worked with Gateshead Primary Care Trust to improve sexual health screening and treatment services.

### ***Learning design: implications for management education***

*Education is an admirable thing, but it is well to remember from time to time that nothing worth knowing can be taught (Oscar Wilde).*

If design is the remedy, how can we best develop this capacity in organisations and in the daily practice of managers? This is the subject of this section, which has been heavily influenced by Don Schön’s ideas propounded in *Educating the Reflective Practitioner* (1987). First let us consider what is meant by ‘practice’. In a colourful metaphor, Schön likens everyday professional practice to the “swampy low-ground” of “messy, indeterminate situations”, a world where problems do not arrive pre-structured and where theory only gets you so far (Schön, 1987). Because of their preoccupation with abstract theory, he laments (like Simon) that the professional schools, such as Law and Business, are not the places to go to learn the practice they purport to teach. But fortunately such schools do not represent the only form of education for practice; “deviant traditions” exist including apprenticeships in industry, music conservatories and the studios of the visual and plastic arts. In such places, “we find people learning to design, perform and produce by engaging in design, performance and production.... Emphasis is placed on learning by doing” (p.16).

Drawing on John Dewey, Schön stresses that students learn by performing that which they seek to master, under the tutelage of senior practitioners who initiate them into the traditions of the practice: “He has to see on his own behalf and in his own way the relations between means and methods employed and results achieved. Nobody else can see for him, and he can’t see just by being told”. The essence of “professional artistry” is knowing what to do when faced by “the unique, uncertain and conflicted situations of practice” (p.22). Schön goes on to ask how the practice is learned, taking the architectural design studio as his prototype: “architects are fundamentally concerned with designing ... and designing, broadly conceived is the process fundamental to the exercise of artistry in all professions” (p.41).

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<sup>2</sup> Quotations taken from the Council’s website, <http://www.designcouncil.org.uk> accessed in March 2009.

Learning a practice involves initiation into its traditions, conventions, terminology and technology, learning in the company of others. What is needed is a practicum:

*A practicum is a setting designed for the task of learning a practice. In a context that approximates a practice world, students learn by doing.... They learn by undertaking projects that simulate or simplify practice; or they take on real-world projects under close supervision. The practicum is a virtual world, relatively free of the pressures, distractions and risks of the real one (ibid., p.37).*

In the practicum, novices learn to recognise competent practice, they learn the “practice of the practicum”, its tools, methods, possibilities, and develop an emerging image of how they can best learn what they want to learn. Much of the rest of Schön’s book is taken up with observations on the nature of learning in the architectural studio, and other practicums such as the musical master class. But if the practicum is the way to go, what are the implications of this for management education in general and the Business School in particular. At the time of writing, there is a sense of crisis, that management education has lost its way (Boland & Collopy, 2004; Dunne & Martin, 2006; Starkey and Tempest, 2009). Simon saw this as a crisis for professional education across all the disciplines and Schön, too, takes a similar view. Their diagnosis is much the same: the privileging of basic science over applied science, with the technical skills of day-to-day practice at the bottom of the heap. Business schools teach a mixture of pure and applied theory, but typically there is no systematic practicum in which the practice of management can be learned. This “faulty epistemology of practice” places the business school in an invidious position; that which students most need to learn, it is ill-equipped to teach.

And what is taught has itself been critiqued: “the problem is rooted in the training of managers as decision-makers that is imbedded in our increasingly monoclonal MBA programs” (Boland & Collopy, 2004, p.7). Starkey & Tempest (2009) go further. Parodying the traditional business school as an institution “to create masters and mistresses of the universe” (ibid., p.578), they go on to identify the “carnage on Wall Street” and its global impact as a direct consequence. As an alternative, Starkey and Tempest make the case for a design approach to management education, looking to the arts and humanities for “lessons to guide us through our current difficult times”. They extol the “narrative imagination” as a ‘core competency’ for managers, as well as Dewey’s concept of ‘dramatic rehearsal’. Jazz is also lauded: “Education in jazz mode is not about individuals competing to outperform each other, but about learning how best to work together” (p.584).

One way in which design teaching can be advanced is through the use of techniques and methodologies. Sociotechnical systems design is one such approach, a school of thought associated with the Tavistock Institute for Human Relations, founded in 1946. STSD can be seen as a counter-discourse to the Tayloristic “logic of efficiency; I have argued its application could have pre-empted the failure of the ICS, and it is strongly influencing the conduct of the design work in the patient safety project. STSD embodies “a radically different approach to design”:

*Radical it would seem for present times, in the public services at least, though hardly ground-breaking; rather the reclaiming of an older design wisdom, sundered-off, ignored, or never encountered... Core principles of STSD include: user participation, minimum critical specification and the optimization of local autonomy... Above all, it is essential to focus the design of systems on the needs of users, founded on a rigorous understanding of their working practices.*

Methodologies can certainly be valuable in facilitating management as a design practice, and I have highlighted my home discipline of Information Systems as a particularly

fertile source of relevant techniques (Wastell, 2011). I cited the example of my design and innovation methodology (SPRINT) which provides the foundation of my teaching:

*Tools and methodologies provide a particularly important way of influencing practice... Not only are IS researchers prolific as tool-makers, the tools we produce typically do not require technical knowledge beyond the reach of the motivated manager, and can be readily taught in short courses for instance. Soft systems methodology (Checkland, 1981) and Mumford's sociotechnical approach (Mumford, 2003) are two techniques which come immediately come to mind.*

The importance of design in an educational context is its integrative nature. Designers solve problems by synthesising ideas in a collaborative milieu; design thus naturally *brings* together the various specialisations that make up the fragmented business curriculum, not only showing their practical relevance, but binding them into an integrated whole. As Senge observed, "Design is, by its nature, an integrative science because design requires making something work in practice..... the essence of design is seeing how the parts fit together to perform as a whole" (Senge, 1990, p.342). Figure 1 shows a notional generic design life-cycle (loosely applicable for service, process or product) proceeding from analysis and design, through development, to implementation and evaluation. The various building blocks of a typical business curriculum are also shown, with arrows indicating potential lines of input into the various stages of design. Bearing on the opening phases of analysis and design are: business strategy (deciding what to do), operations management (thinking about efficiency), marketing (the voice of the customer), knowledge of IT (the potential for innovation), research methods (carrying out empirical investigation, quantitative or qualitative), HR (understanding staff, current competences and capacity for change), and finance/accounting (evaluation of cost/benefits and return on investment). And so on and so forth.

Fundamental reform of professional education will be difficult. Schön concludes his book with an account of his attempt to implement a practicum at the Massachusetts Institute of Technology. Although a new spirit of cohesiveness and excitement developed, this proved difficult to sustain. But there are positive examples of educational innovation in the Business School world. Rotman's DesignWorks<sup>3</sup> provides an interesting example of one way to operationalize the practicum:

*DesignWorks is the Rotman School's centre for design-based innovation and education, focusing on Strategy and Business Design. As an academic and commercial 'learning lab', we build strong ties to industry, and openly collaborate with a growing network of local and international partners.*

The design movement in management education is still at the fledgling stage. A profound shift will be needed in both the mindset of the Academy and in the sublunary world of Practice. Whilst Martin is "totally" convinced the business world will be receptive to "MBAs as designers", he also notes they will "hate that name" and say "they don't want designers" (Dunne & Martin, 2006, p.516). Staff will also resist the change: "some professors will decide they don't want these ideas at all – all they want to do is teach the building blocks" (ibid, p.516). Starkey and Tempest concur: "To move in this direction will not be easy, not least because it will be opposed by powerful interest groups. It will require strong leadership to develop the intellectual case for such changes" (Starkey & Tempest, 2009, p.583). But it will require much more than this; it will mean, the development of entirely new 'capabilities'. That will be the real challenge.

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<sup>3</sup> [http://www.rotmandesignworks.ca/about\\_designwork.html](http://www.rotmandesignworks.ca/about_designwork.html)

Reforming the whole of management education is a tall order. But crises are the symptoms of the need for paradigm change and we may well be at the cusp of an evolutionary shift across the ‘institutional field’. Incremental changes can certainly be sought, nudging management education in a new direction. An obvious option is to develop the one practicum that is a feature of most business school programmes, namely the dissertation project. In many schools, I suspect, this is motivated on largely academic grounds – part of the honours degree requirement to carry out a piece of scientific research. Typically, a narrowly defined ‘research question’ is pursued, involving literature survey, data collection and analysis, following a single research method. I have no objection to such an exercise, but I would ask one thing, that it is not seen as a purely academic exercise but should be related directly to management practice. Ideally, the dissertation project should be a practical design project, but by this I do not mean an atheoretical exercise. Quite the opposite: design provides the opportunity to bring together as much as possible of the theoretical knowledge acquired in the formal teaching and to apply it. It should also involve a range of research methods; eclecticism of theory and of method should be encouraged and rewarded. Critical reflection will be vital on the value of the theoretical ideas used; indeed, a degree of irreverence should be encouraged.

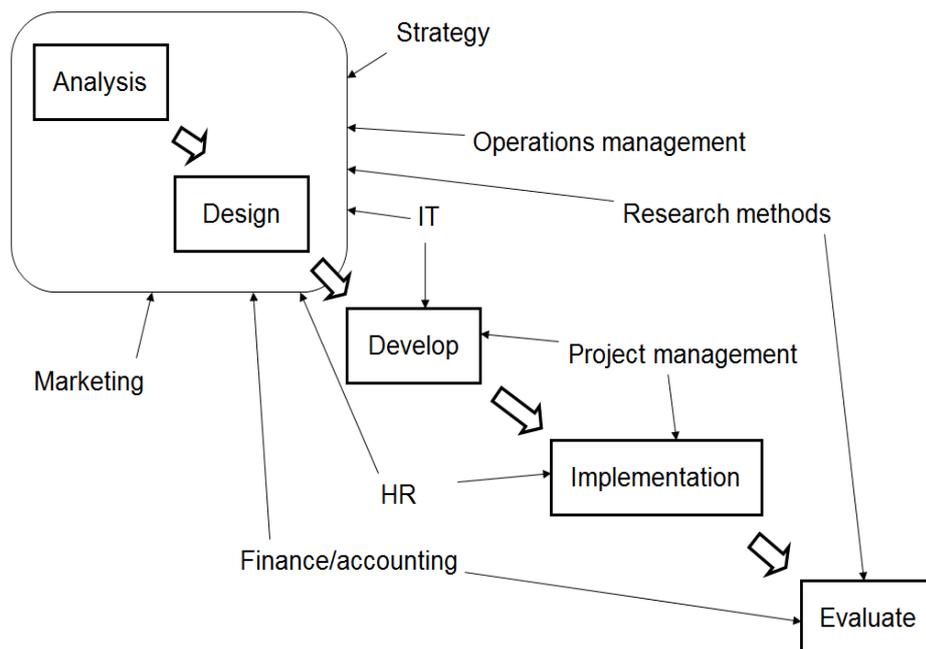


Figure 1: The design life-cycle and the business curriculum

### ***Coda: Implications for Management Research***

There are implications too of the design perspective for management research. Again, the same criticism of lack of relevance to practice has been made; for business research there is a “utility gap” (van Aken, 2005). Rigour is vital in all academic research, but “for professional schools, one may want to add a second criterion, relevance” (ibid., p.19). Van Aken distinguishes between two forms of research: Mode 1, knowledge for the sake of knowledge, aimed at explanation and description; and Mode 2, which is multidisciplinary and

aimed at solving problems. Van Aken argues for the recasting of management research in the mould of Design Science (mode 2), rather than conventional explanatory science. At this point, we see a direct link between design and another important trend in contemporary management education, that of evidence-based management (EBM - Pfeffer and Sutton, 2006). The natural goal of mode 2 research should be to furnish the body of knowledge on which EBM can draw. There is also something of the spirit of design in the writings of the EBM enthusiasts; when Pfeffer and Sutton talk of organisations as “unfinished prototypes”, and espouse the need for experimentation, this is “design talk” *par excellence*.

There is thus a natural synergy between EBM, Mode 2 research and the reformulation of management praxis as design. The *raison-d'être* of design science is to produce exactly the kind of research knowledge that “that the professionals of a discipline can use to design solutions for their field problems” (van Aken, 2005, p.20). Design can operate at the micro level, when an individual practitioner redesigns finite elements of her own practice, or on the larger scale when an organisation sets out to make major changes in its systems and processes. Unlike the hurly-burly of everyday decision-making, when organizations embark on major change initiatives, time and space are available to consult the evidence-base, including academic research and theory furnished by the management sciences. Design thus creates the context, the time and space, and the attitude for evidence-based practice informed by design science to take effect.

The quality of management science can only be enhanced by suturing the gap between research and practice; as Marx quipped: “practice without theory is blind, theory without practice is sterile”. This will be increasingly important in the times ahead as the social value of publicly-funded research finds itself more and more in the spotlight. And it is not necessary to do “design science”, as its votaries would define it, to produce *design-relevant knowledge*. Even if the original scholars eschew design, others with a design mentality can certainly garner useful insights. Design is holistic, interdisciplinary and inclusive: as Romme (2003) argues “the pragmatism of the design mode” provides the common “epistemological ground” on which all research traditions can meet, combine forces and make joint cause. Unifying around design, we may declare the sterile “method wars” well and truly over. There are roles for all to play in the bazaar of design: a Marxian critique of oppression and resistance in call centres, for instance, is ultimately about design; it bears design’s normative quality, that the world could be made better. Our ICS research also began as a critical ethnography, only later were its practical implications recognised and developed.

Relevant research need not be directly useful; nor is it intrinsically managerial, as some seem to fear (Learmonth et al., 2012). The potential to make a difference is what counts. Certainly, our ICS research has helped managers; it has stimulated reflection on past decision-making and provided valuable arguments to resist central diktats, creating much needed space for local innovation. It has helped front-line staff too, by instigating changes in the design of the ICS, providing more flexibility and shifting the design philosophy from *controlling* to *supporting* the professional task. We have also worked closely with the Irish Association of Social Workers putting our research to good effect in a campaign of “evidence-based resistance” to a similar top-down effort to standardise professional practice and “manage performance” using an ICS-like software system. A recent paper elaborates a detailed critique of the general direction of Irish policy, constructively setting out “the opportunity to learn from England’s difficulties” (Featherstone et al., 2012).

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