

MANAGERS AS DESIGNERS
IN THE PUBLIC SERVICES
~ BEYOND TECHNOMAGIC

DAVID WASTELL

Nottingham University Business School

Published by:
Triarchy Press
Station Offices
Axminster
Devon. EX13 5PF
United Kingdom

+44 (0)1297 631456
info@triarchypress.com
www.triarchypress.com

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A catalogue record for this book is available from the British Library.

Cover design and image by Heather Fallows ~
www.whitespacegallery.org.uk

ISBN: 978-1-908009-31-9

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To Sue, Imogen and Geraldine

*I must Create a System or be enslaved by another Man's
I will not Reason and Compare: my business is to Create...
Striving with Systems to deliver individuals from those Systems
William Blake, Jerusalem: the Emanation of the Giant Albion*

CHAPTER 1

DESIGN MATTERS FOR PUBLIC MANAGERS

On November 11th 2008, the British media carried harrowing reports of the brutal death of a 17 month old boy, subsequently referred to as 'Baby Peter', in the London Borough of Haringey. Baby Peter's plight had come to public attention at the conclusion of the trial of his mother, her boyfriend and a family lodger, all convicted of causing his death. The case was seen as a catastrophic failure of the child protection system and Government reaction to public outrage was swift and dramatic. The sense of 'systemic failure' (rather than 'isolated incident') was reinforced by two disquieting features. First, Baby Peter was not an unknown child, dying outwith the protective bourn of the State; far from it, he had been seen by numerous professionals during his short life and was indeed on Haringey's Child Protection Register. Secondly, Haringey's Children's Services department had, within weeks of the child's actual death, been given a glowing report by a government inspection¹, with praise heaped egregiously upon the department's Director. Within days, Ed Balls (Secretary of State for Children, Schools and Families) ordered an emergency inspection of Haringey, arranged for the Director to be summarily sacked, and instigated a national review of child protection, to be led by Lord Laming. The latter had chaired a prior enquiry into another tragic child death, that of Victoria Climbié, which had ushered in a slew of structural reforms, all designed to keep children safer (Laming, 2003). How, therefore, could it have happened again? A further development was the setting up (January 2009) of the Social Work Task Force to conduct a 'nuts and bolts' review of the social work profession and to devise a comprehensive reform programme.

A system in crisis indeed. At this point, I will focus on the part played by a national computer system in these seismic events, the Integrated Children's System (ICS). Calling the ICS a 'computer system' is something of a misnomer; it was much more than that. It represented an attempt to redesign the entire statutory child welfare system in the UK, using

1 By the Office for Standards in Training and Education (Ofsted), the national inspectorial body in England responsible for monitoring and appraising the performance of local authority children's social care departments, as well as the state school system and other services for children.

Information Technology to achieve this transformation². Embodying a highly prescriptive framework specifying the precise procedural steps to be followed in handling cases, the ICS attempted to operationalise the Laming reforms in software. Standardisation and the micromanagement of process were seen as the key to quality, safety and the elimination of risk. Although the ICS had been much lauded by Government and senior managers, evidence was coming to light that it was undermining safe professional practice and paradoxically augmenting risk. Research by myself and colleagues had directly implicated it in the death of Baby Peter³ and there were also press reports at the time highlighting the mayhem it was causing:

UNISON⁴ wishes to draw attention to the seriousness of the problems with the Integrated Children's System. The problems appear to be fundamental, widespread and consistent enough to call into question whether the ICS is fit for purpose. ...we have reports of a number of industrial disputes or collective grievances brewing... and in many more cases staff are voting with their feet and not using the system when they can get away with it (Unison, 2008, pp.8-9).

The miscarriage of the ICS was symptomatic of the failure of the wider system of which it was an essential and integral component. Ultimately the Social Work Task Force called for fundamental review of its design in its final report in 2009 (Gibb, 2009). In this opening chapter, I shall analyse the vicissitudes of the ICS at some length, drawing out key lessons which bear on the central argument of this book, namely that 'systems design' needs to be (re)instated as the primary task of the manager. The ICS debacle provides a cautionary tale of design at its worst, both in terms of product and process, and of the dire consequences which ensue when managers abdicate their role as designers. Linked with design is another important trend in contemporary management education, that of evidence-based practice, which I shall weave into the fabric of my argument. The gap between management research and practice is much lamented, at least by those who are aware of it. The goal of management research, like research in any applied discipline, is surely to produce useful theory. But useful for what? For design, of course.

2 Social work's "McDonaldization" moment (Ritzer, 2004).

3 See Broadhurst, Wastell & White, 2010; Wastell, White & Broadhurst, 2010; White, Wastell, Broadhurst & Hall, 2010.

4 UNISON is the trade union to which many UK social workers belong.

Paradise lost: tales from the trenches

Systems thinking is very much in vogue, in the public services especially (Seddon, 2008). The term embraces a gallimaufry of specific meanings, methods and affiliated sects, as we shall see. Striving for a holistic understanding of the complex causal dynamics of social organisations is its primary goal. When a specific accident or a malfunction arises, it is natural for the systems thinker to see this as a dysfunction of the system as a whole, rather than seeking to blame individuals. Child deaths, such as that of Baby Peter, are therefore construed as symptoms of defective systems design. And if the design is defective, the systems thinker will naturally ask how that system took the form it did, in other words, how was it designed? A maxim is in order: 'When a system fails or malfunctions, critically interrogate how it was designed'!

In this and the following section, I will attempt to show, from a systemic point of view, just how the ICS had produced the opposite outcome from the one its originators had looked for. My account is based on the findings of a 2 year research study⁵, which exposed the pernicious impact of the ICS on front-line practice. Let us begin by noting that the ICS does not refer to a particular computer system or software package. Rather it is a national specification, comprising a workflow model, which rigidly defines the social work 'business process' in terms of a branching sequence of tasks and timescales, and a reference set of electronic forms, called the 'exemplars'. Against this specification, software suppliers had been invited to develop "compliant" software implementations (Cleaver *et al.*, 2008), and a number of ICS software products had been produced by several vendors. Although, there were inevitably some variations in quality and usability, the centrally prescribed strictures meant that the ICS had, in effect, been implemented as a national system.

The workflow model of the ICS is shown in Figure 1. It is not meant to be read in detail; rather it is used impressionistically to show how far the zeal for formal modelling has gone. The 'wiring diagram' charts the progress of a case from the initial contact, through initial and subsequent in-depth assessment phases. The shaded insert (which overlays some of the diagram) is a blow-up of the early stages of the process. The key

⁵ The study followed a so-called ethnographic approach, i.e. our findings were based on intensive, direct observation of social work practice in our various research sites (5 in all). Mentioning ethnography at this early point is noteworthy, as such immersive, 'real world' engagement is championed by the proselytisers of design in the public services and further afield, as we shall see. Our findings are presented in detail as an example of how ethnographic research is reported, using quotations to bring the story to life. Detail is important; the devil's in it after all, and not knowing the detail is why designs so often go awry.

decision here is whether to accept the contact as a referral, in which case a full initial assessment must be performed, or that advice/information alone will suffice. Each of the tasks in the model have to be carried out according the sequence given, and there can be no short cuts, no improvisation. For important phases, time-scales are prescribed, which are linked to key performance indicators. All referrals must be responded to within 24 hours and initial assessments must be completed within 7 working days, including a home visit, irrespective of contingencies. When an in-depth, core assessment is needed, this must be completed within 35 days.

Despite its lofty ambitions, evidence that the ICS's actual impact on practice had been highly disruptive was all too readily found in our research. A universal complaint related to the time taken to record cases electronically: social workers reported spending between 60% and 80% of their available time at the screen, filling in the "exemplars". Anything but exemplary, these were described as unwieldy, repetitive and difficult to complete and to read. Their lack of practical utility was even more apparent with respect to service users. The following two quotations from social workers illustrate these points:

It is the way they have designed the forms forcing you to repeat yourself over and over again...

The worst is, parents can't understand them. They are broken into domains and dimensions... Repetitive, loads of boxes. I have to apologise to parents.

The ICS also required that a form be completed for each individual child. For families with multiple children, this naturally invited staff, working under the exacting time pressures imposed by the system, to cut and paste data across forms. This, of course, completely negated the purpose of individual assessment and consumed excessive amounts of professional time. It was also inherently unsafe as such "cloned" information was inevitably not checked properly. The overall effect of such intensified bureaucracy had been to reduce the social work assessment task to data entry, curtailing time for visiting and thinking about the professional casework required to meet the needs of the child. Another general problem was ICS's emphasis on structured data at the expense of narrative. Practitioners reported that it was difficult to produce "a decent social history" of the family and to make sense of cases from the fragmented documentation in order to obtain a complete picture of the child. A social worker commented as follows:

The government want us to improve our game, get to know each individual child better – but it's an absolutely impossible task... to get a feel for what's going on with the child – it's all chopped up, a complete nightmare – impossible to find the story.

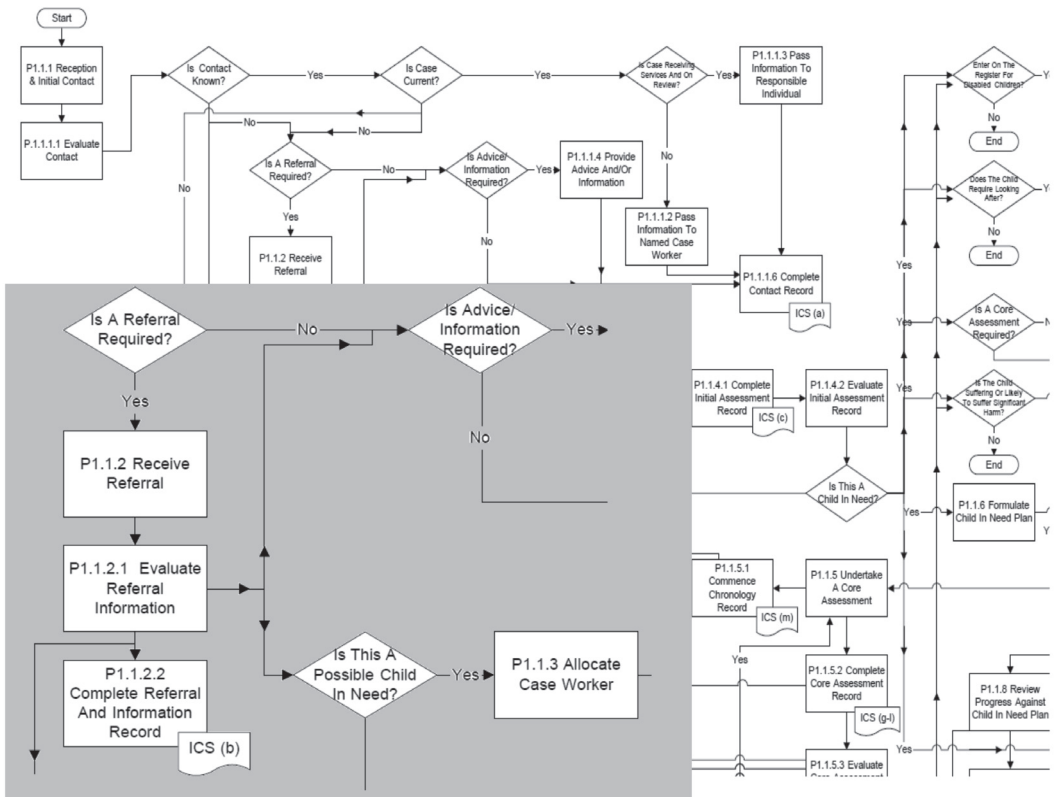


Figure 1: The referral and assessment process as officially “flowcharted”

The problem of the forms was compounded by the tortuous and inflexible workflow model; all steps had to be followed, with a form completed at each stage, however perfunctory. The electronic audit trail was all-important, as a social worker observed:

It's much worse since ICS. Like when you've got a child in need and you need a conference, you can't get to the conference without going through strategy discussion and 'outcome of section 47' forms. You used to just be able to write like half a side, but now you've got these terrible forms.

The pernicious influence of the timescales and targets was ubiquitous. ICS imposes these, providing little scope for workers to exercise intelligent discretion. Worries about timescales for initial (7 days) and core assessments (35 days) had come to dominate practitioners' worlds. Although workers still managed some artful 'workarounds', they also described a strong sense of 'the system' now driving practice. As the space for professional judgments had been increasingly squeezed, key professional activities, such

as assessment, had become meaningless and mechanistic. Taking short-cuts to meet targets was inevitably undermining good practice, creating what we came to call 'latent conditions for error':

If it's not looking that serious... sometimes you don't get all the information and the temptation is then to take a short-cut and maybe not contact the school, or because the school are on holidays you say I think I've got sufficient information to make a decision- no further action.

The strange history of the ICS: a cautionary tale

Having given a whiff of the dysfunctions of the ICS, let us now delve into the history of its design. Although its origins are a long way off and a little difficult to descry, they may be traced back to the Quality Protects Programme, inaugurated in 1998 by the Department of Health. To ensure that social services were being "delivered according to requirements and are meeting local and national objectives", this programme prioritised the improvement of "assessment, care planning and record keeping" (Department of Health, 1998, pp.5-6). The centrality of targets and time-scales became evident in the subsequent publication of the "Government's Objectives for Social Services" which set out a range of policy objectives (Department of Health, 1999, p.22). Objective 7 is notable: "To ensure that referral and assessment processes discriminate effectively between different types and levels of need and produce a timely service response". In its sub-objectives, we see the first mention of the time-scales that were subsequently embedded in the ICS: "To complete an initial assessment and put in place case objectives, within a maximum of 7 working days of referral." The first explicit mention of the Integrated Children's System appeared the following year, in "Learning the lessons" (Department of Health, 2000a).

The ICS project was subsequently launched, heralded by a briefing paper in 2000. This is notable for its dogmatic certainty that policy aims will be achieved: the ICS is described as "an assessment planning intervention and reviewing model for all children in need... to ensure that assessment, planning and decision-making leads to good outcomes for children" (Department of Health, 2000b, p.1). A steering group for the project was set up (Department of Health, 2002). Its composition is important in the present context: 38 members are listed of whom 23 are civil servants (including the Chair), or directly linked to the civil service. There are three medical experts and four academics. The only direct link with social work practice was via one assistant director of social services and one senior manager.

Thereafter, the ICS evolved over a number of years. Although it originated in the Department of Health, it subsequently came under the wing of the

Department for Children, School and Families (DCSF). Throughout its development, design was apparently driven by a small group of senior academics and civil servants, who showed conspicuous resistance to criticism from a very early point (White, Wastell, Broadhurst & Hall, 2010). Adherence to the centrally defined specification was enforced throughout via the publication of increasingly prescriptive ‘compliance criteria’ elaborated in lengthy documents. Although there was an espoused emphasis on piloting and user involvement (Cleaver, *et al.*, 2008), in reality the design had been highly centralised and only weakly connected with front-line, professional practice. I recently interviewed an individual on the steering group, who commented on its modus operandi as follows. After the first couple of meetings, “it stopped and then, as far as I know, there wasn’t any engagement with the operational side”. For her, it was clear that the project’s agenda had been ideologically pre-defined:

There were two models, one very outcome focused, which lots of authorities liked, and the DoH one which is much more process driven, part of an inspectorial, regulatory function rather than something to help social workers make good needs assessments and plans to help kids. The word was that authorities which do not use the DoH one will suffer terribly when they’re inspected, and were basically warned off. You’ll fail your inspection if you don’t use this one.

Negative feedback from the field appeared to have had almost no influence. A local ICS project manager, interviewed in our research, commented:

The forms were too complicated. We spent a lot of time making the forms more user friendly. At that stage it wasn’t clear that the forms couldn’t be changed. This caused a lot of disappointment- staff thought they were shaping things. We kept telling them that the forms aren’t user friendly. If they said, let’s set up a group to look at that, then at least we’d feel listened to. But they don’t – they just say it can’t be changed.

There were in fact unmistakable symptoms of practitioner disquiet in the early pilot studies of the ICS, carried out by the academic team involved in its design. But these adverse reactions were dismissed as ‘teething problems’, mainly to be addressed through improved training. The language of the team was relentlessly that of implementation not design, and when things went wrong, unreliable IT, inefficient local authorities, or “confused practitioners” were to blame. Reporting their findings, they note that:

*...although the change from hand-written to electronic recording will increase the time spent using IT, the findings suggest that practitioners’ resentment to the change owes much to unresolved problems with IT systems and the unfamiliarity with new systems (Cleaver *et al.*, 2008, p.177).*

The following quote is particularly revealing, giving some sense of the pre-conceived worldview of the ICS team. From their point of view, failure to follow basic procedures, of recording and assessment in particular, is the root cause of all the ills of practice:

...the Integrated Children's System was developed in response to the findings from research, inspections and inquiry reports that highlighted weakness in practice in a number of key areas, including recording, assessment, planning and review. The recent report into the death of Victoria Climbié stressed the failure of practitioners and managers to carry out basic practice tasks (Cleaver, et al., 2008, p.35).

Despite the negative feedback greeting its initial deployment in pilot sites, the roll-out of the ICS on a national basis commenced in early 2007. A thorough independent evaluation was carried out by an academic team based at the University of York (Shaw, et al., 2009). Though expressed in careful, diplomatic language, its conclusion was stark:

...national IT projects such as the Integrated Children's System have often been poorly planned and actually create more difficulties for social workers than they solve, as well as diverting attention away from professional approaches to meeting the needs of children and families. We agree. ICS is promising and well-intentioned but has not shown it is fit for purpose. Its problems must be addressed (Bell, 2008).

A similar conclusion was drawn by the Government's *Lifting the Burden's* Task Force Review early in 2008, which commented that: "[the] Integrated Children's System (ICS) moves the focus of activity towards compliance with a standardised system and away from using effective professional approaches and analysis related to meeting the needs of the client family and child" (Frater, 2008, p.9).

Despite all this criticism, the DCSF took no action to review or adapt the ICS, until six months into the deliberations of the Social Work Task Force mentioned in the chapter's opening paragraph. Nearly 3 years since its national roll-out, the shortcomings of the ICS were finally acknowledged.⁶ A circular to local authorities in June 2009 announced that a fundamental review of its design was underway (Department for Children Schools and Families, 2009). The final report of the Task Force, published in December 2009, proclaimed a whole-hearted endorsement of the need for change

⁶ A survey instigated by the Task Force showed just how bad it was. Social workers were asked to indicate their level of agreement on a scale from 0 (strongly disagree) to 5 (strongly agree) with a set of statements. 369 responses were received. Asked whether the ICS enabled "safer and more thorough practice than previous paper-based recording", the level of disagreement was striking (average = 0.7). Even more so for the assertion that the ICS provided "outputs that are understandable by children, young people and families"; for this, the average score (0.3) showed strong disagreement to be almost unanimous.

(Gibb, 2009). It urged both the DCSF and local authorities “to continue to improve the ICS by... making ICS more straightforward and effective for frontline social workers in children’s services” (p.10). In the months that followed, there were optimistic signs that the new design spirit was paying off. In a working group set up by one of the suppliers (which we attended) a social worker observed that the participative approach had produced “very much simpler and easy to read forms based on a family approach”. Early feedback from staff using the redesigned forms in real situations was also encouraging, as affirmed by a senior manager at the same meeting:

This is a joy to read! I've spent far too long reading ICS assessments where I'm no clearer at the end of the document as I was at the beginning what the issues were. I really think we are on the right track.

Theoretical interlude

Practice without theory is blind. Theory without practice is sterile – Karl Marx

There's nothing so practical as a good theory – Kurt Lewin

A key theme of this book is the integral relationship between design and another important new trend, namely the need for management, like any other form of professional activity, to be informed by evidence and research, and to be supported by a body of relevant theory. We shall consider evidence-based management (EBM) in depth in Chapter 3, but we have a natural opportunity here for a preliminary foray. We have a concrete case to dissect and it is pertinent to ask what the knowledge-base of academic research has to say about the ICS debacle. Is there a relevant body of research, what insights and explanations does it offer and what practical advice does it provide? I am pleased to report positive answers on all counts and that “academic”, unlike its colloquial usage, can actually mean “quite useful really”. A considerable body of germane research exists in my home field of information systems (IS) and I shall make a cursory synopsis of some key results and concepts in this section.

First, some definitions. In the opening section, I averred that systems design should be the primary managerial task. ‘System’ in its everyday usage elides a range of meanings,⁷ but here, I have a very specific meaning in mind. By ‘system’, I mean ‘the work system’, defined by Alter (an IS scholar) as:

⁷ Often expressing some form of frustration! If a computer is anywhere in sight, and the term ‘system’ is invoked, it is often taken to mean ‘the computer’. But in other contexts, it has a much wider connotation. Often it is used to refer to the some organisational procedure, such as the ‘expenses system’, or indeed the organisation as a whole. Sometimes it may refer to a body of ideas, or an institution (e.g. social work) and at the largest scale it provides a handy way of designating macro-structures, such as ‘the economy’ or ‘the political system’.

...a system in which human participants and/or machines perform work (processes and activities) using information, technology, and other resources to produce specific products and/or services for specific internal or external customers (Alter, 2008, p.451).

In the remainder of this book, this is my default meaning for 'system'. The definition is important, especially given the vernacular ambiguity of the signifier's meaning. Often 'system' is used to denote the computer. Such conflation of the artefact with the wider system in which it is embedded is common and certainly applies when the ICS is mentioned. Not only in the everyday small talk of practitioners but in policy discourse too, the mention of ICS is taken as a reference to the artefact. Typically in modern organisations, 'work systems' will include IT components, indeed IT is often an integral part, as it was for the ICS. But the ICS is much more than a computer system; it is an all-pervasive system of work. With this larger definition in mind, it should now be clear that when I speak of managers as 'system designers' it is the work system that I have in mind; this is the proper province of the design-minded manager. I hope it is also clear why I assert this to be the manager's primary task, i.e. to configure the work-system under their jurisdiction as efficiently and effectively as possible. What else could 'management' possibly mean?

Alter goes on to distinguish a special subclass of work system, the "IT reliant work system", defined as "work systems whose efficient and/or effective operation depends on the use of IT" (Alter, 2003, p.366). He argues that the core business of the IS field should be the design of such systems, rather than the artefact itself – a position with which I broadly concur.⁸ The ICS is certainly an "IT reliant work system"; moreover, its problematics would be no surprise to an IS scholar: research on the ubiquity of IS failure reaches back over 25 years to the classic papers of Markus (1983) and others, and failure rates as high as 80% have been reported at one time or another (e.g. Wastell, 1999). Failure is, of course, a complex issue; it may manifest itself in a variety of ways (Beynon-Davies, 2009): technical failure (poor usability), defective project management (cost and time over-runs), organisational failure (unrealised benefits)⁹. McMaster & Wastell (2004) further argue that the labels success and failure are often attributed over-

8 I adopt a wider view of IT than Alter, encompassing paper-based as well as computer-based information systems (Wastell, 2010), and indeed any other technology which can be used to record data (clay tablets, the Incan quipu etc.). So defined, all work systems are IT reliant as information is essential to the effective functioning of any form of organisation, large or small. Alter's sub-category is therefore redundant. This avoids the obvious danger of introducing a technically-specialised category of work system which managers might see as outwith their responsibility.

9 Beynon-Davies (2009) further distinguishes 'development failures' (pre-implementation problems) from 'use failures', i.e. implemented systems which are rejected as not fit for purpose.

simplistically; failure, like beauty, is in the eye of the beholder. What may be a resounding success for some, may be seen quite differently by others in the organisation. Larsen & Myers (2000) provide an example of an IT initiative in a financial services firm; accounts of its outcome critically depended on who was telling the story and they were more political declarations than statements of fact. Another example is recounted by Irani *et al.* (2001), whereby the initial vicissitudes of a major IT project in a manufacturing company ultimately paved the way for a successful in-house development.¹⁰

Although there are all too many ‘atrocious stories’ in the research literature, there are also instructive examples of success. Much IS research has inevitably sought to tease out the ‘critical success factors’, which, if followed, will predispose projects to achieve the desired benefits. A strong consensus has emerged, which I have attempted to summarise in Table 1. This draws on the well-known text-book of Laudon & Laudon (2004) on Management Information Systems and the influential *Chaos Report* produced every few years by the Standish Group, a respected US project management consultancy. Table 1 shows that there is a high level of accord regarding the success factors. They are predominantly managerial prerogatives, not technical ones, which indicates that the pervasiveness of IS failure reflects, at bottom, deficiencies of management. There is general agreement that users must be engaged in the development of systems and that strong commitment from the apex of the organisation is also required. Project characteristics are also important: larger projects are intrinsically riskier than less ambitious endeavours, whereas well-structured projects (clear objectives and basic requirements) are more likely to end happily. Strong project management is also an important predisposing factor. Of course, like any generalisations, there are exceptions and nuances, and certainly no guarantees¹¹. User-centred methods, for instance, do not automatically produce success; indeed there is evidence that in some conditions they can hamper design work and engender less innovation (Heinbokel *et al.*, 1996).

10 McMaster & Wastell (2004) provide a similar example of a benighted project creating the organisation learning which enabled innovation to flourish in the aftermath. They also tell the story of another initiative which, though finally abandoned, had improved efficiency by 15% merely as a result of the efforts to implement it! Importantly, these various papers highlight the paradoxical relation of failure to design, of its germinal power to drive invention. Petroski observes for engineering in general: “Good design always takes failure into account and strives to minimise it... Given the faults of human nature, it behoves us to beware the lure of success and to listen to the lessons of failure (Petroski, 2006, p.193).”

11 Statistically, there is strong research evidence for some of these factors. For user involvement, the meta-study of Hwang & Thorn (1999) found an average correlation of 0.61 with system success.

Laudon and Laudon (2004), top 4	CHAOS top 8 ¹²
User involvement	User involvement
Senior management support	Senior executive support
Level of complexity/risk: <ul style="list-style-type: none"> • Project size • Project structure • Experience with technology 	Minimised scope
	Clear business objectives
	Firm basic requirements
Management of the implementation process	Standard software infrastructure
	Formal methodology and reliable estimates
	Experienced project manager

Table 1: Critical Success Factors for Information System Development

Despite such long-standing consensus, the failure rate of IS initiatives remains stubbornly high. The ICS is one example and others are easy to find. In the UK, for example, the tribulations of the current NHS computerisation mega-project ('Connecting for Health') have been well-chronicled (Eason, 2007). Shaw, *et al.* (2009, p.10) report a survey by the British Computer Society which found that only 130 IT projects out of 1,027 were delivered on time, within cost and to specification. They remark that "computerised systems are more likely to have problems if they are ambitious and complex, and if they fail to engage their users or understand their needs". There is therefore nothing new in the miscarriage of the ICS for the IS onlooker, an old story indeed: "Another failed project, and all the critical failure factors are there: disengaged senior management, excluded users, weak project management, and so on" (Wastell 2010, p.427). Had the IS evidence-base been consulted, and acted upon, would a different outcome have ensued? There is no guarantee, of course, but events might well have turned out much better had such ideas been appreciated and informed the practice of key decision-makers. The real tragedy is not that these precepts were not heeded or not known; it seems no attempt was made even to look – not the merest glimmerings of an evidence-based approach. Instead, technology appears to have been seen as a 'magic bullet'. In this respect, the ICS is by no means unique, rather the opposite. Markus & Benjamin (1997) argue that such blind faith in technology is the predominant mindset amongst managers and executives.

Pursuing a little further this theoretical excursus, another relevant body of scholarship heaves into view, on the phenomenon of project escalation (Keil, 1995). Defining escalation (p.422) as "the continued commitment

¹² Standish Group International (2001). Extreme Chaos.

of resources in the face of negative information”, Keil identifies large-scale, long-term projects promising high pay-offs as the most vulnerable. Psychologically, the degree to which key actors feel a strong personal sense of responsibility and emotional attachment can be dangerous, igniting the reckless impulse to press forward with even greater ardour when difficulties arise. Other risk factors include the degree to which powerful external stakeholders have been led to expect success, the degree of political support for the project and the laxity of management controls. The ICS is a story of ‘escalating commitment’ if ever there were one! Many of Keil’s (1995) noxious ingredients are there. To name a few: a “large scale, long-term project promising high pay-off”, extreme emotional “over-attachment” causing negative feedback to be discounted, the impulse to continue at all costs and the general looseness of management controls. Keil offers his framework as a risk-management tool-kit for detecting and pre-empting escalation. It is hard not to see the ICS as a classic case of escalation and to lament that it was not subject to the sort of critical review that Keil recommends. If only he had been there! But he wasn’t, nor sadly was his scholarship.

Other theoretical ideas are also relevant. Systems thinking, I have said, is part of the DNA of this book and systems concepts can offer useful insights into the problematics of the ICS, especially regarding the nature and management of human error. Reason (2000) argues that the analysis of errors in organisational settings should focus on general systemic weaknesses, rather than mistakes made by particular individuals on particular occasions. Through its imposition of a rigid work-flow in particular, the ICS exacerbated such “latent conditions for error”, making failure more not less likely (Broadhurst, Wastell & White, 2010). Another core systems concept is the Law of Requisite Variety (Wastell, White & Broadhurst, 2010). The variety of a system is simply the number of states it can be in. Pithily the Law proclaims “Only variety absorbs variety”; in other words, the variety of the controller of a process must be such as to handle effectively the variety of the process under its control. In systems terms, the curbing of professional discretion through electronically-enacted administrative control had effected a reduction in variety. Such discretion is essential in order to get the job done especially in the public services, as the situations faced by workers “are too complex to reduce to prescribed responses” (Lipski, 1980)¹³. The implications of such over-specification for safety are made stark in Weick’s classic paper on the design of “high

13 Making the point differently, Argyris argues that organisations are designed to achieve certain objectives, but that no *a priori* design will cover all the “specifics and uniqueness of the concrete”. The specification of jobs and roles should be done as thoroughly as possible “without the specifications being so complete that they immobilize performance” (Argyris, 1999, p.54).

reliability” systems; failures inevitably occur when “the variety that exists in the system to be managed exceeds the variety in the people who must regulate it” (Weick, 1987, p.124).

An important tension is brought to the fore by the cautionary tale of the ICS, namely the tension between process and practice. By ‘process’, I mean a formal set of steps, often rather linear in character, whereby some output is produced; the ICS ‘process model’ in Figure 1 provides an example.¹⁴ ‘Practice’, by contrast, refers to the activity of getting the work done, the artful performance of a craft (Wenger, 2004). Ethnographic studies have shown time and again that even work which seems highly routine is a skilled accomplishment (Gasser, 1986; Wenger, 2004); its orderliness is a product of the artful worker, not determined by the procedure manual. It is a fundamental fallacy to see process as determining practice, rather it is the artistry of practitioners, expertly negotiating situated contingencies, which produces the seeming orderliness of process. ‘Working to rule’ is not normally seen as a maxim for efficient performance: rules have no agency or ingenuity; it is people that make the rules work!

In the design of the ICS, process dominates all, and its calamitous impact highlights the peril of privileging process over practice, a critical error in the context of design. But we have been here before. Over ten years ago, I wrote somewhat portentously of the failure of an attempt to introduce work-flow technology to automate the seemingly simple processes of a computer help-desk in an organisation known pseudonymously as “Orchid Systems” (Wastell, 1999, p.193-4):

...processes were seen as routine, recurrent activities that take inputs and produce outputs in a largely mechanical way... The study in Orchid confirms the findings of other ethnographic studies in revealing that even routine work, which appears on the surface to be mundane and procedural, involves a considerable amount of extemporisation and problem-solving which is rendered invisible in formal process models. This hidden work has been referred to as articulation¹⁵.

I shall conclude this interlude with another spectacular example of the failure of the ‘process paradigm’, this time in the private sector. In 1997, one of my PhD students (David Martin) undertook an ethnographic evaluation of a computer system ‘supporting’ mortgage selling in a UK financial services organisation, to be known as Blighty Bank (Martin, 2000). The aim

14 I’ve coined the portmanteau word “dystopiary” to designate the sort of nightmare world produced by such zeal for geometrical orderliness, amalgamating dystopia non-obviously with topiary (taming the wildness of natural organic growth in neat artificial figures).

15 A term taken from Gasser (1986).

of the project was to create a new mortgage interview application (MIA) ensuring that ‘proper’ process was followed with the hope that this would lead to time and labour savings and a higher conversion rate of potential clients to actual customers. Blighty wished to develop a tailor-made solution and engaged an international software house to produce the software. To design the MIA, a model of the ideal mortgage interview process was produced by a small team of mortgage interviewers. The specification for MIA was written, and then signed over to the software engineers.

The original date for implementation was Spring 1997, but due to a range of severe performance and usability problems it was not until late 1998 that the MIA was ready for roll out to the whole branch network. Typical problems included: repeated questions (which in the paper-based process could be skipped) and slow recovery from procedural errors. The situation was eerily reminiscent of the ICS: far from expediting the interview process, MIA had disrupted and elongated it. Passing the original delivery date, commercial pressures began to tell. At one point, 20 staff from the software house were working on the project in a desperate effort to bring it to completion; originally, delivery in 6 months had been expected by a much smaller team. Approaching final implementation nearly two years late, there came a final blow, in the form of new regulations for interviews from the Council of Mortgage Lenders coming into force. The impossibility of easily adapting the MIA to incorporate the new rules, led to the abandonment of the project. The project manager ‘left’, and a trouble-shooter was called in, who graphically described MIA as: “corporate haemorrhage of £17.6 million for Blighty”!

Martin concluded that once again we have further evidence that “representations of work do not capture the actual activity of work”, and that if the design of software is based solely on such models it is “likely to conflict with the normal achievement of that work”. He went on as below, making the case for the sort of ethnographic engagement seen in our ICS research as an indispensable design tool, a key point to which I will return in later chapters:

Unfortunately the understanding of work was not properly contextualised and did not take into account the fact that mortgage interviewing is a flexible process structured from within, on an interview-by-interview basis. Therefore once again the call is for studies of the real-time detail of actual work to be part of the system design process¹⁶.

So ends the blight of Blighty! Having made the case for research and evidence in the context of design, especially for an ethnographically informed understanding of practice, let us return to the real world of social work.

¹⁶ Quoted from the concluding paragraph of Chapter 4 of Martin (2000).

Paradise regained: there is an alternative

In this section, I offer an antidote to the tragicomedy of the ICS, a heroic tale of managers stepping up to the plate and taking control of design and innovation. As a rhetorical device, I have combined two local authorities, which are outstanding in complementary areas; not a utopia, but the best of two worlds. This literary artifice allows me to illustrate many of the key areas of managerial practice which form the core subject-matter of this book, as it would be difficult to find all the required ingredients in a single case.¹⁷ Although fictitious, all the events described are based on real ones; the various quotations are unadulterated, paraphrasing genuine comments made in interviews with key personnel in the two real cases. The name for the fictitious local authority is Erewhon, from Samuel Butler's satire.

The story starts in 2005 with the appointment of Jean Wise (JW) as Head of Children's Services in Erewhon. Erewhon historically had a poor record across the board as a local authority with a number of services deemed to be failing (on 'special measures') including children's services. However, performance had picked up, with a grading of 'adequate' on a recent inspection. JW felt she was taking over a service which had achieved considerable improvement and had the capacity to improve more. However, all was not well, as she recalled:

I spent a lot of time going around places, like courts... I had judges saying things like, "Your social workers can't put a decent argument together". Front line practice was terrible. What had happened was that they were chasing government targets. These mainly measure whether you have done something in a particular time, not if what you did was good. We were playing the game with inspection.

Of particular concern was the flight of good staff, increasingly overloaded by having to compensate for less competent colleagues and weighed down by petty bureaucracy:

I recall a conversation with one who I knew quite well. "I'm going", she said, "I've just spent a week in court getting us out of a mess with an adoption case and I got a note from my manager saying please tidy your desk. It's against council policy to have an untidy desk!"

More and more agency staff were being recruited as a result, compounding further the vicious circle of disaffection and declining standards. The need for action was urgent:

¹⁷ In producing this pastiche, efforts have been made to modify circumstantial details in order to provide a complete disguise: "the events and characters depicted herein are fictitious and any similarity to actual persons, living or dead, or to actual events is purely coincidental"!

We had been looking for incremental improvements, but a more radical approach was needed. We needed to listen to what social workers were saying which was that they were being over-managed in the wrong areas with too much bureaucracy. That was the beginning of us thinking about a new way of delivering children's social care.

Erewhon's change programme was radical, addressing both new structures and new technology. The approach to the former was particularly noteworthy; it was based on the concept of 'the social work cell', which represented a fundamental break with the traditional structure of "the team manager and seven social workers". JW remarked that the latter:

...was always problematic because your best workers always became team managers, and the team managers always took all the decisions, but they didn't always know about the families. That's how we came up with the idea of the small social work Cell, led by a senior social worker, who like a medical consultant would be responsible for all the cases in the Cell, and we'd expect them to know the families.

As well as the cellular structure, there were other important changes in professional practice. A number of systemically-trained therapists were recruited who worked along-side the social workers. If the social worker was struggling with a case, they would come in, particularly at the point where "a family could be fixed so a teenager didn't need to come into care" (JW). Highly skilled family support was thus in place and the need to keep children with their families was pushed. To implement the new model though, drastic action was required to 'up-skill' the workforce. The need for first-class people was critical, as JW commented:

Most of what I spent my time doing was an elongated recruitment process. The final bit was the panel which I always chaired. We were ruthless. We let no-one in who we weren't sure about. Sometimes it was difficult to hold on to this as we were desperate, and I'm sure a few false negatives were made, but we were really cautious.

Although the large number of agency staff gave some easy ground for flexibility, the HR challenges were formidable. The Head of HR commented: "There was a huge HR process to manage, or we'd end up with the whole workforce against us. We had to be artful in using HR policies to achieve what we needed to achieve". With the completion of the programme eighteen months later, only 3 of the original managers and 8 social workers remained; it had been 'continual revolution'.

Parallel developments on the IT side are of interest, especially in the light of our ICS parable. The Head of IT begins this strand of the story:

We had a history here of home-grown IT. We had implemented our first IT system in 1999. It was document-based, using Lotus Notes. People liked the forms, but we needed a different platform using Microsoft software. It was a good system so ICS had to be an improvement.

Taking up the story, JW observed:

We saw ICS as an opportunity to improve recording. Our aim was to enhance the ICS concept to make it into a good practice tool. We wanted a more narrative approach to recording, challenging the tick-boxes. The key thing was to have a report that families could understand. You need to be able to see the child in the context of the family. We wanted social workers to use the tool, something that aided analysis.

An intensive user-centred approach was instigated to develop an in-house solution, given that no suitable commercial offering could be found. The core design team involved two practice representatives and two dedicated business analysts. A series of user workshops were also held. Tensions with the DCSF were inevitable, ultimately forcing Erewhon to withdraw from the ICS compliance regime in late 2008, losing significant funding. The sense of frustration at the repeated failure of attempts at constructive dialogue comes over strongly in the following Council minute, recording its decision to declare independence. Paraphrasing:

The Borough's approach differed from the Government's in our avoidance of a simple tick box approach to assessment. These differences were communicated at the time work was started. Although the Council has continued to engage with the DCSE, over the last 2 years, the DCSF's position has increasingly emphasised the need to meet detailed and extensive requirements in order to receive grant funding.

The bespoke system, known as MyICS, has been a notable success, ultimately winning a national e-Government award, and other authorities are interested in adopting it. One social worker in Erewhon remarked "It's brilliant... it was designed in-house, and if you want anything changed, it doesn't take 6 months". The Council minute quoted above ran on as follows:

The system has been extremely well received by practitioners and many social work recruits have commented favourably on it in comparison with those systems used elsewhere which are difficult to use, time consuming and overly prescriptive.

Resuming the main narrative, has the root and branch redesign work in Erewhon been successful? In terms of the all-important Ofsted audits, Erewhon has made significant progress and in 2009 was deemed to be

“performing well”. Here is JW again, positive but modestly circumspect, speaking in early 2010:

How do we know we're doing well? That's a good question. You struggle with what a good outcome is. It's complex. You've got proxies though, like the number of children who stay with their families. Having falling numbers of Looked After Children is good. You listen to what families and schools and the courts say, and you put together the bits of evidence... And you listen to what social workers say they're doing with families, and you say we're doing well here... We came up with a complete service redesign and now have social workers who want to work here.

Technomagic

The transporting of the log is not an easy task... the natives resort to a magical rite which makes the canoe lighter. The builder beats the log with a bunch of dry lalang grass and utters the following spell: “Come down, rot! Come down fungus...” invoking a number of deteriorations to leave the log... the heaviness and slowness due to all these magical causes are thrown out of the log (Malinowski, 1932, p.129).

I noted above that a common failing of managers is to see technology as a magic bullet. I will develop this point here in relation to the ICS, before going on to proffer my remedy for such a magical attitude. Although seeming opposites, technology and magic have formally much in common, as sociologists from Mauss (writing at the turn of the century) to Stivers (2001) have noted. Both are instrumental, involving the deployment of a body of practical skill and knowledge to accomplish something of social value (Mauss, 2001). The difference lies in the link between cause and effect. Whereas magic produces its effects entirely through performance, as illustrated by the so-called ‘primitive’ rituals of the Melanesian canoe-builders, technology accomplishes its results through direct, physical causes. Or does it? In the case of machines, such as the steam engine, yes – there is nothing magical here about cause and effect (at least to us ‘moderns’!). But the metaphor of the steam engine is not a good one for so many of the technical systems of today’s world. The implementation of IT will in itself not guarantee the desired outcome, however devoutly such a consummation is wished. The computer may be a machine, but the work system in which it is embedded is emphatically not, as we have seen a fortiori with the ICS.

In this second digression, I shall argue that our faith in the instrumental efficacy of technology in an increasingly complex and technologically-mediated world would seem to have much more in common with the

ritualised magic of the canoe-builder beating the log with a bunch of dry lalang grass than we would like to think. The difference is only that *we* try to change the world by writing a software program or a policy document which embodies a normative idealisation of how the world should be. If magic reflects the belief that the observance of certain rites, the muttering of incantations, the avoidance of taboos and so forth, will in and of itself produce desired effects, then magic is very much a feature of the mindset of the modern world, especially the world of public policy and of business. We may not be so modern after all!

The sociology of magic

To assist in our task, let us commence with a theoretical excursion, summarising magic's key elements from Mauss's seminal treatise on magic, first published in 1902 (Mauss, 2001). For Mauss, magic is first and foremost a social phenomenon. Magic needs believers! Magicians in all societies are creatures of public opinion; their power is not an intrinsic potency, but is socially constructed by a credulous community in order to accomplish those 'outcomes' that the society seeks, bringing rain, curing illness, ensuring protection and safety. In crude terms, the magical way of problem-solving is to identify a magician with the power to solve the problems, hand over control, participate in the magical methodology, and "hey presto"!

Mauss stresses that magic in any era is always practical,¹⁸ aimed at the achievement of change; it happens in special places, marked off physically and socially, and psychologically too (demonic possession, catalepsy, etc.). The mechanical observance of rites, both non-verbal and verbal, is fundamental, as is the role of representations (e.g. effigies, arcane diagrams, etc.) which may be abstract or concrete. Verbal rites include spells and incantations, aimed at summoning up the required supernatural forces, to achieve the desired effect. All is carefully prescribed. Mere performance of the routine is sufficient, as shown by the formulaic nature of the rites; incantations can be quite inaudible and unintelligible: enactment is all. "Between a wish and its fulfilment, in magic, there is no gap (*ibid.*, p.78)". Magical causality works by the transfer of properties via "secret sympathy... the impulse being transmitted from one to the other by what we may conceive of as an invisible ether" (Frazer, 1922, p.16). Any association of ideas would appear to suffice (even apparent opposites), e.g.

18 Having noted the formal resemblance of technology and magic, Mauss goes on to develop the genealogical link between the two. He argues that magic originally created the conditions for the emergence of techniques, fostering their embryonic development by endowing authority and efficacy to the efforts of early craftsmen.

the use by the Cherokee Indians of a yellow root to cure jaundice.¹⁹ This sympathy can be imitative (the law of similarity), e.g. symbolically enacting a cure effects that cure. Alternatively, the nexus may be contagious (the law of contact), exemplified by the widespread superstition that harm may be done to an individual through damaging any severed element of that person (hair, nails etc.).

A key characteristic of magic is its incorrigible nature and the unreflective behaviour of its adherents:

Magic has such authority that a contrary experience does not destroy a person's belief. Even the most unfavourable facts can be turned to magic's advantage, since they can always be held to result from an error in performance of the ritual... Fortuitous coincidences are accepted as normal facts and all contradictory evidence is denied (Mauss, 2001, pp.114-5).

Magical thinking and the ICS

Magic is defined by the accomplishment of effects, typically remotely, by the mere performance of the rite and the articulation of the spell, which specify directly or symbolically the desired change-of-state. The language of magic has an incantatory quality. The policy discourse of the ICS has much this same character. Let us examine again the opening paragraph of the first ICS briefing paper mentioned above, which sets out its core credo:

The Integrated Children's System will provide an assessment, planning, intervention and reviewing model for all children in need under the Children Act 1989. The Integrated Children's System is designed to ensure that assessment, planning and decision-making leads to good outcomes for children. This approach reflects a holistic understanding of children's developmental needs and the capacities of their parents, a coherent process which is focused on bringing about optimal outcomes for children (Department of Health, 2000b, p.1).

There is no room for scepticism here, only absolute certainty and relentless positivity. The phrases "will provide" and "designed to ensure" exemplify this. There is no doubt in the minds of the ICS's architects that the implementation of their system will necessarily bring about the effects ("improved outcomes") which they seek. As I have argued elsewhere, at no point is there a carefully worked out, empirically-grounded, cause-effect argument for the benefits for ICS (Wastell & White, 2010). Instead, we have a dogma founded on an unshakeable belief that, by setting targets,

¹⁹ In herbalism, the doctrine of signatures provides a well-known generalisation of this principle.

monitoring performance indicators and enforcing rigorous assessment procedures, policy objectives set out in the same terms, and embodying the same internal logic, will inevitably be achieved.

One ingredient of the remedy for such magical thinking, I shall argue, is empirical evidence. To be sure, evidence is invoked by the ICS's progenitors, but with important differences. Fundamental to the ICS is its incorporation of a comprehensive new Assessment Framework, an "assessment planning intervention and reviewing model for all children in need".

The evidence-based knowledge that has informed the development of the Framework has been drawn from a wide range of research studies about the needs of children (Department of Health, 2000a, p.42).

The reference to the "evidence-base" is actually risible. On closer inspection, this is revealed to be somewhat flimsy, comprising only 4 studies all without the hall-mark of academic peer review (Seden *et al.*, 2001). The first is a literature review making some general conclusions regarding assessment; the second is an interview study of the language used by social workers to describe children's needs (carried out by Department of Health officials, with no list of references); the third is a case study of assessment procedures by a team of inspectors, and the final chapter cursorily reviews findings about assessment procedures by the Social Services Inspectorate. Although the evidence-base is ritually invoked, rigorous argument, critical analysis and robust research are conspicuous by their absence. For the time-scales in particular, no empirical justification has ever been produced, not even the crudest time-and-motion study.

We have noted that a defining feature of magic is its 'incurability' and the uncritical orientation of its votaries. We saw much the same in our research on the ICS. Requests to change anything were routinely ignored and nothing was ever wrong with its design; all problems were entirely attributed to implementation, just as the failed spell is blamed not on the magic itself but on the way the ceremony was performed, or some other procedural flaw (Wastell & White, 2010). The magic itself is never questioned: "The Integrated Children's System is designed to ensure that assessment, planning and decision-making lead to good outcomes for children", and ensure it will! Indeed the faith of its proponents waxed ever stronger as the tide of resistance swelled. In response to the York Report mentioned above, which damningly concluded that the ICS "has not shown it is fit for purpose" (Bell, 2008), the DCSF responded that the research was predicated on:

...participating local authorities' commitment to implement the ICS fully. There were, however, significant delays in the implementation process. By

the conclusion of the evaluation the ICS had only been fully implemented in one of the sites... [therefore] the research does not provide a sound basis on which to judge the potential value of the ICS. Instead the study provides an informed assessment of the challenges which need to be overcome if this potential is to be realised (DCSF, 2008, pp.2-3).

The quote gives a strong, chilling sense of the infeasible, circular reasoning so clearly associated by Mauss with the world of magic.²⁰ Ingeniously, not only are the vicissitudes of the ICS reinterpreted as implementation challenges, but these same tribulations are invoked to undermine the evaluation itself; an incorrigible but fatally deluded position. Belief in the efficacy of the magic is strengthened, paradoxically, by its very failure.

How then does technology produce its magic effects? Herein, the resonance with the mechanisms of magic is especially striking. It is as if the material properties of technology to yield material effects through efficient causes (the steam engine or indeed the computer program) are magically transferred into the social realm through the spell-like incantations of policy and the sympathetic mechanisms of both similarity and contagion. The ICS process model, presented as a flow chart with deterministic links, looks just like the blueprint for a machine; magically, the software-mediated regime thus acquires the mechanical efficacy of its material counterpart. Or so the wishful thinking goes. The sympathetic effects of technology are doubled up by the actual physical presence of computers within the workplace. As a “finite state machine”, given certain inputs the computer guarantees prescribed outputs. Magically, these properties of perfect reliability will be passed on by contagion to the fallible humans who also inhabit this world.

Design – the rescue remedy

Today, what we explicitly dub magic is a form of light entertainment, which no sane person would take seriously, and has no pernicious consequences. Sadly, the same cannot be said of technomagic; ask any front-line social worker! What is to be done? Fortunately, a remedy is at hand. This book argues that the antidote to technomagic lies in a fundamental shift in the managerial mindset: away from monitoring and control, towards design. Integral to this shift is a different relationship with technology. I argue that managers need to see their main business as the designers of the workplace, of the system of work, a role in which technology has a vital part to play, as the instrument of innovation. The idea of “managing as designing” has gained some ground recently, as we shall see in the next

²⁰ Memorably dubbed “oracular reasoning” by Mehan (1999).

chapter, although it is still rather an exotic notion. By design, I simply mean the creation of form, the translation of concepts and aspirations into concrete working realisations. In an organisational context, this means the design of systems made up of people, processes and technology in order to achieve the functions desired by the organisation in the service of its customers and clients. Put in more prosaic terms, it means finding the best way of organising the workplace. If this is not the primary business of management, then what on earth is?

Doing design well depends on our attitude to technology. A magical attitude will not do. Hard work is required and authentic engagement; technology is too important to leave to others. Brown & Hagel (2003) contend that the productivity paradox, the dissociation between investments in technology and actual benefits, reflects the failure of many organisations to use technology to innovate their business practices: “Companies that mechanically insert IT into their businesses ... will only destroy IT’s economic value. Unfortunately, all too many companies do this” (p.2). Tellingly, those organisations which stand out in terms of the business value generated by IT are those which emphasise its innovative potential and have retained their in-house design capability, rather than relying on packed software or outsourcing. Sadly the opposite has been the trend in the UK public sector, ideologically powered by government policies such as compulsory competitive tendering (Lin, 2007). Running against the grain are those local authorities that have retained their in-house IT capability. It is significant that they have produced notably successful examples of IT-based innovation. Erewon is one and Salford is another, as we shall see.

To conclude this chapter, a commercial example counter to the orthodoxy will be presented: Zara, the Spanish-based fashion chain.²¹ In an era when clothing retailers outsource much of their manufacturing to developing countries, Zara has taken total corporate control of every part of its business, running its entire global operations (more-or-less) from a headquarters just outside La Coruña in north west Spain, including design, manufacturing and distribution. All its clothing, for instance, is produced locally from a network of small manufacturers. Information systems are critical to the Zara business model, enabling tight integration up and down its supply chain. Every day, store managers report back on what has and has not sold and this information is used to decide which product lines and colours are kept or altered and whether new lines should be created by its design team. A new design can be on the shelves in a matter of days, directly responding to the ephemeral tastes and preferences of customers, and thousands of designs are thus produced in real time over the season.

²¹ To be exact, Zara is part of the Inditex Group.

Costs are kept down by keeping inventories low and avoiding cut-price discounting of poor selling garments.

The story of IT in Zara is told in a much-celebrated Harvard Business School case study, entitled “Zara – IT for fast fashion” (McAfee, Dessain & Sjoman, 2004). I will draw on this study, supplemented by my own findings from a visit in the summer of 2008. Zara itself was founded by Amancio Ortega, with the first store opening in La Coruña in 1975. At the time of McAfee’s case study, Zara’s CEO was José Ríos, originally the company’s IT manager. McAfee *et al.* cite Ríos as declaiming: “The original business idea was very simple. Link customer demand to manufacturing, and link manufacturing to distribution. That is the idea we still live by” (p.3). Ríos shared Ortega’s firm conviction that computers were critically important in enabling the kind of business that they wanted to build. They shared other convictions too:

Zara needed to be able to respond very quickly to the demands of target customers, who were young, fashion-conscious city dwellers. Their tastes in clothing changed rapidly, were very hard to predict, and were also hard to influence. Zara wanted to be able to deliver such styles while they were still hot, rather than relying on the persuasiveness of its marketing to push clothes it had made some time ago (ibid., p.3).

Not only was IT critical, what was still more remarkable was how much Zara were spending on it. Reading of their success, one might expect they spent more than their rivals. Quite the opposite:²² IT expenditure actually ran well below their sector average, only 25% at the time of the case study (McAfee *et al.*, p.8). Zara had thus achieved the virtuous circle of better business value for lower cost. Part of this success derived from a minimalist attitude to technology, avoiding investment in systems which provided more features than needed. When I questioned Zara’s IT manager on the purchase of packaged software from external suppliers, he opined:

We need to keep things as simple and basic as possible, like we’ve been doing for 34 years now. It’s not “what can we offer you”, but “what do we need?”. And the cost of packages is very expensive and a lot of time to adapt, which means more money. And then you need them [the suppliers]... you are joined to them. Your fate is joined to them eternally – you can’t get out!

²² Wal-Mart provides another rather similar example, characterised by the same combination of innovative in-house development and very low IT expenditure. For more information and illustrative examples see: <http://www.informationweek.com/story/showArticle.jhtml?articleID=47902662>

This sceptical, conservative attitude was clearly evidenced in the original case study by Zara's continued use of technology which was technically obsolete, principally hand-held Personal Digital Assistants (PDAs), purchased some ten years earlier. The need for their urgent upgrade was high-lighted in the case study report. Also salient was Zara's approach to software development, which was all in-house. Zara had a stable IT department, whose staff were largely recruited from local universities. The IT manager observed in my 2008 interview:

We have in-house people who maintain all products. It's a question of the business model – it must be so flexible, reacting all the time – you must understand what is happening or you won't be able to do it... we have tried to do things externally or to purchase applications, but it has not worked out – we need things which fit our specific business model.

Going against convention and 'doing it yourself' can pay off handsomely, as Zara's continuing growth testifies. Continually updating their IT infrastructure is a key part of this, which recently included replacing the PDAs and developing an integrated system (Terminal Gestión Tienda) covering all aspects of store management, including point-of-sale, re-ordering, store layout and inventory management. Describing Zara's technology transition in 2007,²³ McAfee averred that he had never seen a company whose IT strategy was so well aligned with its business model and yet managed to maintain such control of IT spending. He reaffirmed that it was not technology per se, but the centralised organisational infrastructure that facilitated the speed and the quality of the design process, though the sparse but inventive use of technology continued to play an integral role.

Lest it be suspected, it is no intention of mine to lionise the private over the public sector. There is no evidence that the private sector is better at managing IT than the public; indeed, most of the research literature on IT failure is based on research in commercial organisations and the above-quoted failure rates are thus a dismal reflection of that sector. But private sector failures are just that, private; dirty secrets behind closed doors, unbeknown to shareholders, certainly not appearing in the glossy pages of the Annual Report. Zara's success is a public one, much-bruited, the topic of countless eulogistic MBA essays and class presentations, not unlike this brief account. There are certainly lessons we may profitably take away, not least the need to challenge received wisdom. Zara teaches us that local design and innovation are vital, using technology to effect desirable change, with business managers in the driving seat. Technology is not some "pixie dust... to be sprinkled over problems which then, hey presto, vanish!" (Dowty, 2008, p.398). Dowty also insists that, "the need to abandon

²³ See McAfee, A., "Fit for purpose IT breeds profits for clothing retailer". *Computer Weekly*, 8th January 2007.

magical thinking is long overdue". Markus and Benjamin also write of the enchantment of technology across all business sectors and the need to break its spell:

Many IT-enabled change projects fail, despite how much is known about ensuring success... we have argued that [this] stems from mistaken beliefs about the causes of change – belief in IT as a magic bullet. IT is not a magic bullet. Change in human behavior cannot take place at a distance but requires direct personal contact between change agents and targets... Successful change takes good ideas, skill, and plain hard work – but it does not need magic (Markus & Benjamin, 1997, pp.66-7).

The combination of “good ideas, skill and plain hard work” provide the antidote to magic; design in other words. But design itself needs to be done non-magically. Techniques for design abound, but again we find the same tendency to see tools and methods as magic potions and elixirs. This book will set out some of these approaches, but they are offered as prostheses which can assist the development of competent professional practice, not as magic bullets. The subject of magic will be deferred for the next few chapters; it will return for further perusal in the book’s final section.