BEN LEWIS & TONY GREENHAM

THE REALITY OF NOW

HOW THE SOCIAL PROCESS DRIVES ORGANISATIONAL BEHAVIOUR

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and the planet mattered

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part of the story. Although the final result is a book that does not refer directly to these case studies, the insights gained from understanding the underlying social dynamics within these successful organisations is the inspiration for the enquiry in the pages that follow. We are most appreciative that they granted us the opportunity to contemplate 'the reality of now' within their organisations.

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THE REALITY OF NOW

Foreword

It is human nature to yearn for predictability and control. Yet it is the nature of human beings interacting together to be unpredictable, even when they appear to be under control. This book examines this paradox and explores how best to manage the resulting tension. It is therefore of the greatest relevance to those who most want predictable, consistent and certain prescriptions and outcomes: managers and policy-makers.

However, this is not the book we thought we were going to write. In many ways it is the opposite. Its origins lay in a research project that, in tried and tested fashion, attempted to identify and codify a formula for businesses seeking to be innovative, ecologically sustainable and commercially successful. Like other contemporary writers, theorists and practitioners, we perceived the need to replace traditional command and control hierarchies with organisational structures that are better suited to managing the complexities of societies facing urgent and extensive ecological, economic and social challenges.

However, our enquiries led us to dwell on one seemingly obvious point that in our view is often overlooked in practice: no matter what structures you lay over it, human behaviour cannot be codified. As we learnt from our initial

interest in biological processes and, consequently, complexity science, the behaviour of most ecological systems is the result of countless local interactions between physical agents. Scientific endeavour has enabled us to understand much better the exact rules that govern these interactions. But it has not revealed the rules that govern human interaction, far from it.

Instead the success of natural science in describing and explaining the natural world has, if anything, covered over what is happening in the social world created by us. This has led to many perverse outcomes, like a 'science' of management as practised and prescribed on many MBA courses today, or economic models that seek to explain and predict human behaviour, but which are built on abstract mathematical formulas and theories developed to describe quite different environments and domains. Our initial endeavour to prescribe rules led us to the conclusion that the insight most fundamental to understanding the social world is that humans do not follow simple rules – even if they are influenced by social conventions and norms.

Articulating this does not mean we are against adopting new organisational forms. Instead, our key insight is that we must be cautious when designing and implementing policies or structures to achieve specific outcomes, and that the key design quality should be the ability to change the model and its rules quickly as experience reveals what will serve our stated goal best. Our story of trying to find prescriptions, only to rediscover deeper, more powerful insights into the social process and what it means, serves to highlight the danger in imagining that any new organisational form,

structure or process, no matter how attractive in principle, will be capable of capturing the richness and unpredictability of human life. To believe that it can is to risk losing the very essence of creativity, our most powerful tool for re-engineering the future, and instead cover over and distort yet further the reality that drives the daily interactions between people.

We argue that we need to focus more on what is unique about human societies – what is actually happening in personal interactions and why – while resisting the temptation to use these insights to derive yet more rules and prescriptions that seek to drive human behaviour in a certain way. Such attempts wholly miss the point about the nature of human interaction and what makes it special and unique.

We develop this argument with reference to a theory developed by Ralph Stacey which we initially misinterpreted, but we believe that our misunderstanding perfectly illustrates the point we want to make: that abstract prescriptions, rules or models cannot control, or accurately capture the complexity of everyday social life, let alone shape it this way or that. Our failure to find or justify our own set of rules or generalised prescriptions, and our subsequent mission to understand why this was, are what make this story valuable, different and worth telling.

So we caution the reader that this is work in progress, a first step towards a different way of thinking about how we can better facilitate the outcomes we want. We recognise that some experts might consider this book lacking in academic rigour, but our priority is to try to make these

ideas accessible. Others might also be dissatisfied by our superficial treatment of such giants as Hegel and Kant. But we invoke their ideas in order to give a contextual sense of the broad sweep of Western thought that informs the currently predominant approaches to management, covertly as well as overtly.

Therefore this work provides no 'answers' but instead asks questions and makes observations about the unique nature of human interactions. Neither do we promote some new idealised organisational structure over another, or attempt to promote our credentials as management consultants. Advocates of more organic, democratic or complex organisational structures, such as chaordic, holacratic or sociocratic ones, will perhaps think that there is little new in this book for them for this reason. But they would be wrong to assume this, because those models are just as capable of distorting the reality of what is happening between people as any other, particularly if those practising and implementing them believe that by virtue of what the system purports to achieve or do, this means that the desired outcome will in fact be achieved. No such causal relationship exists, and this account will help to explain why and what therefore can be done to guard against such complacency.

We argue conversely that such thinking repeats the same mistake these models seek to supersede in traditional management and decision-making: a belief that management strategies and operational plans can be 'implemented', and that 'policy levers' can be pulled to achieve desired outcomes. We make no apology therefore for exploring again (as others have done) the development of rational

positivism, its application in the social realm, and how we still seem to develop policies or practices that treat people like biological machines.

Above all, we hope that the professional and the merely curious alike will find this a digestible and friendly introduction to complex, yet compelling ideas about social and organisational behaviour, which are critical to any ambition for a better, brighter future.

1 Introduction: Seeking a formula for success

> *the true philosopher is prepared to examine all preconceptions … when any limits are placed, consciously or unconsciously, upon the pursuit of truth, philosophy becomes paralysed by fear, and the ground is prepared for a government censorship punishing those who utter 'dangerous thoughts' – in fact, the philosopher has already placed such a censorship over his own investigations*
>
> BERTRAND RUSSELL[1]

This book arose from a research project that set out to explore working environments with unusual organisational structures or cultures, and which appeared to be commercially successful, environmentally conscious and contain happy people. The aim was to decode a formula for their success that could then be articulated for others to interpret, follow and implement.

Two propositions guided the initial research: 'process biomimicry', the proposition that businesses can learn from natural systems; and 'enabling environments', the proposition that allowing people more self-expression at work would improve social and environmental outcomes.

Biological systems are both efficient[2] and responsive to their environments (because they need to be in order to survive), so they must contain qualities that will be important to businesses. 'Process biomimicry', as we called it, sought to explore how biological structure and principles could be applied to an organisational structure, in the belief that this would enhance its efficiency and responsiveness.[3]

Furthermore, work environments should be 'enabling environments' in which people are encouraged to express themselves emotionally, psychologically and physically, where diversity and difference are the norm. This reflected an intuitive belief that human beings are 'spiritual', 'caring', 'soulful' creatures, and that enabling these positive attributes to be fully expressed would enhance creativity, happiness and well-being.[4] The implicit assumption was that this would lead to companies' operations and strategies having an improved social and environmental impact, which might then further enhance the well-being and productivity of the workforce.

Like many authors and management consultants interested in organisational theory, we attempted to generate and test a set of *prescriptions* which, if followed, would generate the outcomes we were interested in. Our initial research into these propositions led to the creation of 'seven traits of an enabling environment', as follows:

1. Flexible structures (which follow, but never lead), in which people are clustered in small groups and are self-managed and self-organised (that is, where people feel capable of being

flexible and where the structure of the business does not seek to impose).

2. Where people feel empowered (that is, are responsible for their own decisions), mainly we think because they can articulate and communicate with anyone and everyone to explore the 'space of possibilities'.
3. Where learning and making decisions are one and the same thing, and part of the daily culture of organisational life – learn by doing.
4. Where mistakes are recognised as important sources of learning.
5. Where leaders are accessible and leadership focuses on inspiring and facilitating rather than dictating.
6. Where obstacles blocking the development of informal contacts are removed – because these contacts form the basis of new and emergent knowledge.
7. Processes are ongoing, for example learning, planning and evaluating are a continuous cycle.

These were drawn, in part, from the ideas and concepts being developed by some management consultants interested in the new science of uncertainty, complexity science (we discuss what complexity science is in chapter 3), to whose work we had been led by our initial propositions.[5]

Our approach was to identify successful organisations with unusual working environments or organisational structures that appeared to possess these traits, in order

to test the hypothesis that these ingredients helped create environments that we assumed were happy and creative, and catalysts for innovation. We reviewed upwards of 30 organisations, identified on the basis of their environmental performance, history of innovation, and/or market leadership. From this long list, four companies, all with successful track records and either innovative structures or unusual philosophies, agreed to let us interview their employees.

However, when we analysed the results of the semi-structured interviews we concluded that they failed to provide any conclusive evidence that the 'traits' we had developed were correlated with, or even necessarily conducive to well-being or innovation. Instead we found evidence to the contrary. Regardless of the management philosophy or business structure, we found that people working together in proximity experience all sorts of emotions and states of well-being which are often at odds with what the managers of the business might assume or with what the structure of the business is supposed to dictate. This was not what we had expected to find or report, or, as it turned out, what we can openly discuss in a publicly available book. For this reason, the case study companies remain anonymous and we make no attempt to measure or extrapolate from our interviews 'evidence' of how one philosophy or management process produced x or y result, as initially we might have liked to.

In short, we found a surprising dissonance between employees' accounts of their everyday experiences and the structures, mantras and/or special ways of working advocated by their employers. This called into question the idea

that the organisational structures or company philosophies were driving the commercial success of these businesses in any formulaic or straightforwardly causal way. In fact, the company philosophy, or way of working, in all of the businesses seemed to 'overlay' what was actually going on as described to us in interviews with employees, as opposed to driving people's behaviour or feelings, productivity or creativity. This was problematic, but helped us to realise that we needed a richer and more human-specific account of causality to explain how patterns of organisational behaviour arise.

One theory, called 'complex responsive processes of relating', which we had initially tried to use to support our traits of an enabling environment, in fact helped explain the dissonance between these traits and the actual everyday experience described to us by interviewees.[6] It sheds light on why prescriptive models, rules or organisational structures tell us very little about what is really happening in the present between people, or why.

This is paradoxical, because we do not want to suggest that experimenting with new organisational structures that move, for example, beyond traditional command and control hierarchies is not a good idea. Instead, we learnt that what is important is not the structure, but our awareness of what is actually happening between people in everyday social discourse, and why it is happening.

What our research revealed to us was that any system, or special way of working, or organisational structure, no matter how 'right' its ideological underpinnings, has the potential to distort this reality, and the more so if those

practising it think that this will not be the case by virtue of their design. Instead, good design is all about explicitly recognising at the outset that good models change as experience dictates that change is required. This recognition, as we discovered, is almost impossible to find in any corporate brochure, CEO's speech or policy presented to Parliament.

We argue that for anyone interested in human interaction, in other words all of us, a strong sense of pragmatism is essential when contemplating how an organisational structure might influence an outcome. Some structures might do a better job of recognising uncertainty and unpredictability, or pay greater attention to relationships between people, including conflictual ones, but they can and will still lead to a veneer which can cover over the messy realities of our daily interactions. It is these daily interactions that generate the emergent patterns of behaviour in organisations, not the other way round. This is not to say that patterns imposed by corporate leaders (whether we call them strategies, visions or culture-change programmes) will not have some impact. Indeed the very act of introducing new management structures and processes is bound to alter the dynamics of the way in which people behave, but not the nature of the behaviour itself. In fact, the patterns that emerge from any change like this will be unpredictable in ways that will not have been understood at the outset, and were therefore not planned for.

In short, our research project led us in a completely different direction from the one we expected. We concluded that attempts to find a 'formula for success' in business must be treated with great caution. We can observe patterns of

behaviour in social settings, but this does not mean we have the ability to control them with organisational structures, plans, policies and other management processes. To assume otherwise is to conclude that we can manage people as if they were biological machines.

In the next chapter we examine why we seem conditioned to seek certainty and rationality in social systems, and how we have repeatedly attempted to apply 'natural science' to the study of human behaviour, often with unintended consequences that still reverberate today. Chapter 3 then examines an alternative approach which draws analogously on complexity science, but seeks explanations from social science when trying to explain the behaviour of people in society. In chapter 4 we consider how organisations should in fact be viewed as social processes, and what this means for management practice. In chapter 5 we conclude that rather than be disappointed or concerned about the impossibility of controlling outcomes in organisations, and social systems generally, we should embrace this uncertainty and instead recognise it as the fellow traveller of creativity – that distinctly human trait which holds the hope of continued scientific, cultural and social progress.

2 Certainty: The independent and rational individual

Why does the search for definitive, rational answers and causal relationships that we think will enable us to predict outcomes with certainty seem to be the dominant trait in Western thinking? To help understand why, we need to look back into recent European history.

THE INFLUENCE OF SCIENCE, RATIONAL CAUSALITY AND SOCIAL PHYSICS

The scientific revolution of seventeenth-century Europe was the catalyst in this story. Its triumph was the creation of a methodological foundation that was free from the deceptions of our senses and mind, and was built on two key components. First, experimentation as a research tool for testing hypotheses, and secondly, a common language for describing the laws governing nature, namely mathematics.[1]

The 'scientific method', as this approach became known, precipitated an explosion of new ideas, hypotheses and theories.[2] For example Newton's three laws of motion and universal law of gravitation, developed using 'inductive reasoning', unleashed a mechanistic, clockwork view of

the universe on the Western mind.[3] What these laws suggested was that *all* phenomena could be explained in terms of mechanical, mathematical laws, and that by reducing things to their constituent parts we can reveal their inner workings. Today we see the legacy in 'pure science', an unsentimental effort to reduce the explanation of natural phenomena to the physical laws of cause and effect, while physicists dream of discovering a 'final theory' capable of explaining all known physical phenomena that could be used (in theory) to predict the results of any experiment in the universe.[4]

The scientific method required scientists to develop hypotheses that could be tested and proved or disproved. But it also raised the philosophical problem of epistemology: the relationship between the conscious individual and the world that they 'believed' existed beyond them. To create *certainty* about the external world, it followed that the *process* by which human beings understood it needed also to be understood with certainty, in order that it could be scrutinized and categorised with the same rigour that the scientific method enabled scientists to achieve in their observations of the natural world.

Immanuel Kant set out to definitively answer how human beings could know certain things that they could not empirically apprehend through their senses, for example, causality – the intangible process that links certain events to other events, but which we cannot 'see' or thereby prove.[5] In order to explain this, he postulated that the mind must contain inbuilt categories, such as causality, which help to organise experience for us. The problem was how to distinguish

humans from the determinism implicit in a ubiquitous notion like causality; humans, after all, like to believe they are free. To do this he created a dualism that suggested that man and nature are governed by separate 'laws'. Unlike the mechanical laws that govern nature, Kant postulated, we are governed by the laws of reason. The implication was that *we* could rationally 'select' goals and then logical 'actions' to achieve them. In other words, people can rationally control causality, fundamentally distinguishing us from nature.

The ideas of linear causality and rationality led naturally to attempts to measure and predict how these laws might interact to generate patterns of behaviour among whole populations. This approach was called 'social physics'. If the universe can be understood on the basis of empirical observation and mathematical formulas, and if people's actions are governed by precise laws of reason, then in order to understand the events that occur in society, mathematics and reason could reveal similar, but hidden laws that determine what happens, and why, in our social world.[6]

Pierre-Simon Laplace (the 'French Newton') and subsequently Adolphe Quetelet (a Belgian mathematician) set out to do exactly this. First, Laplace suggested that maths, in particular statistics, could be used to reveal and understand social phenomena, by suggesting that statistical methods could conquer the uncertainty of human experience by embracing it. Famously he was able to predict with great accuracy the number of letters that end up each year in the Paris dead-letter office. Laplace believed that by identifying error and quantifying it, events that seemed

entirely random could be shown to obey hidden 'natural' laws.[7] Quetelet developed this basic principle into '*physique sociale*', claiming that the patterns revealed in society by statistical analysis were in fact revealing 'true' or natural rates for the events being analysed.[8] In effect, he claimed to be revealing previously unseen 'social laws', just as gravity was to physics. Quetelet was creating the concept of '*l'homme moyen*' (the average man), whose incarnations continue to influence many areas of our lives today, most notably in economics where 'homo economicus'[9] underpins the bulk of current economic theory.[10]

By taking the mechanical laws that governed the heavens and rationally applying them to the seemingly irrational social world they found themselves in, they had shown that otherwise unpredictable socio-economic events, such as Parisian dead letters, were in fact governed by regular laws, which could be measured, quantified and predicted. The implication was that to understand patterns of human behaviour you need not turn to philosophy, or even theology, but to science.[11]

CHALLENGING THE RATIONAL AND AUTONOMOUS INDIVIDUAL

By referring to Newton, Kant and social physics, we are reflecting on ideas that have influenced how we think about ourselves and the world we are in, and in particular how the idea of a *rational*, *autonomous* and *masterful individual* has come to dominate our perception of who we are and

how, therefore, we should do things. In this conception, we are rational autonomous individuals who are in control of, but separate from, our environment which is mechanical in nature. It helps us to understand why we seem to believe that people are reasonable and average, or that rationally conceived interventions could determine the future.

The evidence: the enthusiasm with which politicians, managers and others interested in engineering social outcomes use science and statistics to 'rationally' justify that their plan will generate a specific outcome. If we disagree, it's normally by illustrating how our 'better' statistics reveal something different.[12] This is illustrated by the British Government's announcement in March 2013 that it would build on its existing commitment to evidence-based policy-making by launching four new 'What Works' centres. These research centres are intended to ensure that policies are based on "what we know works".[13]

However, this rationalist, positivist view of the world, and in particular of human interaction, is problematic. When humans interact, time and place matter a great deal, and our interaction with each other is context specific in that it changes with time, all of the time. A management model or prescription by its very nature is unable to recognise this, being instead an abstraction which lumps together real-life individual experiences, in the same way that a single average expresses a whole set of different numbers.[14]

The history of thought, of course, contains many other important ideas that fundamentally counter the conception of a rational mind that is independent from

others. For example, Freud's theories, supported by clinical psychoanalytic work, suggested that individuals do not rationally determine their actions within the conscious mind. Instead they are driven, in part automatically, in ways determined by the unconscious mind, in a clash between their animal instincts (the id) and the influences of society (the ego and superego). What he showed was that rational thought was in fact a struggle to overcome the individual unconscious.

However, these ideas often appear marginalised or disregarded in the world of economics and business. Is this because a rational, measurable world is far easier to control and 'manage' than something else? Or simply that such ideas are just too incongruent with capitalist and corporate ideology, which celebrates rationally conceived actions created by dominant and masterful executives, capable of shaping and bending not only the will of others to conform to their vision, but nature itself?

We have set out in this chapter to provide some insight into why ideas about organisational management are still dominated by rationally conceived prescriptions of cause equals effect – that is, if you implement these things, you will get those outcomes. This way of thinking emanates from the idea of individual autonomy, of rationalism and linear causality. But our purpose in doing this is not to criticise either the scientific method or the usefulness of Newtonian insights into simple linear causal relationships, or to suggest that they have not been fundamental in shaping the world we live in today, because they were and still are. We do so in order to draw attention to how they influence our

perception of how we get things done, or the best way of constructing the outcomes we want.

In the next chapter we turn to recent developments in science that seek to understand complex causal relationships and the behaviour of complex systems – in order to outline a different way of trying to understand causality, one based on uncertainty and non-linear relationships. These insights will be useful in supporting our review of the theory of complex responsive processes of relating.

3 Uncertainty: The science and the social science

The central problem with trying to understand organisations by using the 'Newtonian' laws of cause and effect, or in terms of statistical patterns as attempted by the social physicists, is that the experience of human consciousness cannot be distilled into component parts, or be understood rationally and separately from the societies in which it is formed. This is because there is no such thing as an independent, conscious mind: our interactions with others and our social norms matter a great deal in determining how we behave and what we do. Furthermore, we are not just rational beings, but also emotional ones, driven as much by our passions and instincts as by any conscious logic.

In contrast to the idea of a science of 'social physics' described previously, this chapter seeks to show how human beings are very different from biological agents in natural systems, primarily because, unlike biological agents, we do not follow simple rules directly or exactly. This insight is fundamental when trying to understand social settings and particularly when trying to implement policies or plans designed to achieve specific outcomes. Instead, humans display spontaneity, reflection, reflexivity, imagination and creativity, as well as conflict, in decision-making and actions.

This is a good thing and equally important in understanding why the evolution of our societies has been so markedly different from those of other biological entities. If people did follow rules or prescriptions exactly, then spontaneity and creativity would be lost, fundamentally crippling the ambition of any organisation.

This insight is rarely discussed or acknowledged, particularly by those who use or espouse natural science concepts in making policy and plans. But it explains why theories, formulas and models designed to explain biological or natural phenomena are in fact of limited use when trying to manage people, or determine what will happen between them.

What this means is that we need to research and develop new and different causal frameworks from those used to describe natural phenomena – ones that are explicitly designed to describe and explain our particular human qualities within the social realm.[1] This is what we set out to do below, in order to highlight the need to focus on what is going on between people in the daily reality of social life and how this should influence the construction of our plans and strategies.

We start this exploration, ironically, by discussing some recent developments within natural science: complexity science, or the 'science of uncertainty'.[2] We do so because this new area of scientific research helps to expose the fallacy of believing that we live in a world of linear cause and effect, revealing instead a very different reality where cause does not necessarily equal effect. Given the predominance of positivist thinking that still pervades business and policy-making, this is extremely powerful to articulate and explore,

particularly as complexity science is a 'hard' science, rooted in the scientific method, mathematics and rationality.

Secondly, the insights developed by complexity science are taken up by the theory we explore later to help justify and interpret the meaning of older, well-established social science theories of the nature of human relationships.

In contrast to others,[3] we are not trying to explore complexity science in order to attempt to show how its theories reveal the nature of, or reason for, how human beings interact with one another in ways that generate the sorts of patterns that we see forming in society.

And finally we sound a note of caution; complexity science is by its very nature confusing, especially to minds conditioned to seek linear, causal explanations. The many attempts, including our initial 'traits of an enabling environment' hypothesis, to use complexity science to justify prescriptions that promise to do x or y using the seductive language and names found within its theories only serve to illustrate the power of that rational, positivist mindset that continues to dominate our public and economic lives.

THE 'SCIENCE' OF UNCERTAINTY

Complex systems research is a multidisciplinary science for which there is no single unified theory. Instead a variety of theories abound from the study of complex systems in biology, chemistry, computer simulation, evolution, mathematics, physics – and sociology, as pioneered by the Santa Fe Institute.[4]

The term complex 'adaptive' system (see Figure 1) is often associated with complex systems research. Typically, it denotes a system that consists of a large number of similar agents interacting locally with each other. In biological systems, this interaction is normally governed by a set of *simple* rules or principles. An oft-cited example is a termite hill, which is a maze of interconnecting passages, large caverns and ventilation tunnels, yet the structure is not the result of a grand plan, but instead 'emerges' as a result of the termites following a set of simple local rules.

The most important principle for our purposes is that no single agent controls the others (i.e. there is no centralised control) and there is no predetermined outcome that simply unfolds from the interaction.[5] Instead, in a system characterised in this way, the local interaction between individual agents produces emergent, coherent, population-wide patterns across the whole system they occupy. This is a circular process, because the emergent patterns produced by the interaction of agents in turn inform the behaviour of the agents themselves, and therefore the behaviour of the system as a whole. This enables the system to develop, or potentially evolve.

There are also feedbacks between the system and its environment, because a given system will not normally exist independently, but will be part of the larger environment containing many other complex systems. This means that the operating environment is always changing as well. So the agents in a particular system will change in response to these external changes and by so doing contribute some

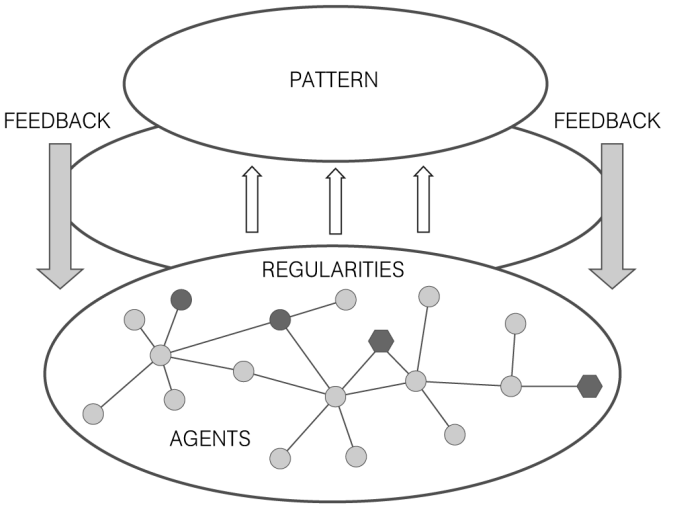

Figure 1: Illustration of complex adaptive system.
Regularities, pattern and feedback are shown outside the system, but in reality they are intrinsic to it. See Fryer (n.d.).

more to changing the environment around them, which in turn will change the environment some more, ad infinitum.

Complex systems are, in other words, dynamic and in constant interplay with their surroundings.[6] The future is always uncertain because how this interplay unfolds and what behaviours emerge – that is, how any given system adapts in response and how the environment in which it operates changes – is, by its very nature, impossible to know in advance.

This is useful in the context of trying to understand social phenomena because it recognises that reality is not reducible to component parts which, if fitted back together, will re-form reality. Instead it puts firmly at the centre of

understanding the importance of *relationships* and the *interdependency* between things that we might see, or feel, as individual entities, or components.

THE 'SOCIAL SCIENCE' OF UNCERTAINTY

If complexity science has helped to reveal a world of interdependencies and relationships, this does not mean that its formulas will contain the answers about what is happening between people in their socially generated relationships. This is because complexity scientists, just like Newton or other scientists interested in natural phenomena, develop mathematical formulas that describe how very simple models exhibit behaviour that is perceived to mimic what happens in the natural world. But mathematical models reduce otherwise discrete phenomena into abstract notions of how those phenomena behave in aggregate. This means that the potential for individual novelty and improvisation is lost, making them very poor tools for explaining what is happening between human beings.

To illustrate why applying rule-based modelling to people is problematic, consider the difficulty scientists have had in trying to generate artificial intelligence – to reduce the human mind to a computer program, to binary ones and zeros. Why has this proved so elusive? Because when scientists approach experts in various fields (for example, brain surgeons, bankers or lawyers) to create the various codes that can be used to generate the 'artificial intelligence program', none of the experts are able to describe the rules that would be needed to

create a program that could replicate their expertise. This is because expert behaviour does not follow rules exactly like a computer program does. Instead 'experts' use intuition, experience and value-based judgements in the execution of their expertise.[7] All these skills are qualitative in nature, rather than precise quantities, are context specific, and are definitely not reducible to zeros and ones. The best the scientists have managed is a computer that can process such a huge number of possible chess moves in a split second that it can respond to a human being's game strategy effectively. But this is a marvel of processing power, not intelligence.

Biological domains are undoubtedly 'complex', but the reasons for the complexity found within them will be very different depending on which agents you study and in what context. This means that we need different ways of thinking about different sources of complexity depending on the source of the complexity, that is, whether it is the product of human interaction, or something else.

We examine next a theoretical framework developed for precisely this reason, one that seeks specifically to explain the nature of causality between interacting humans using not maths, but ideas and language appropriate for our social domain.

THE THEORY OF COMPLEX RESPONSIVE PROCESSES OF RELATING

Like the unpredictable patterns or order generated in complex adaptive systems, complex responsive processes of

relating suggest that the *meaning* generated by human interactions is also uncertain. Just as complexity suggests that the future of a biological system is not given, so the theory of complex responsive processes of relating suggests that the same is true for social discourse.

This is a radical concept that theorises that the future is under perpetual construction at all levels – from natural phenomena to social phenomena.[8] It is this paradoxical idea of 'uncertainty' and emerging 'order' that is important to grasp and why complexity science is a useful analogy to use in this context. The 'emergence' of order in biological systems out of the local interaction between individual agents resonates strongly with the concept of power and the interplay of people's actions that generate patterns of meaning found in any social setting and society as a whole.[9]

In this interpretation, complexity science provides a coherent and scientifically rigorous explanation about how self-organisation, that is, local interaction and emergence, occurs in biological systems. But crucially it recognises that the models developed by complexity scientists are not yet, and maybe never will be, capable of explaining why or how this happens between people.

Once we see that local interaction leading to emergence of meaning at a global level is a plausible concept, it allows us to take seriously a very different way of understanding not only human interaction, but also how we should think about 'managing' and 'organising' ourselves.[10] This is precisely what our research set out to explore but initially from a very different conception of how we interact with each other. With the benefit of hindsight, it is the dichotomy

between our initial conception, and a new account of organisations that recognises that human behaviour is in fact non-organisable in the traditional sense of cause and effect, that is both difficult to grasp, or indeed articulate clearly, but which is a powerful and important story to tell.[11]

The theory of complex responsive processes of relating has a cumbersome but meaningful name. People's interactions with each other are complex because phenomena emerge from the interaction of many parts. Secondly, we are responsive, but not necessarily adaptive, to the behaviour of others. This is because people do not always adapt to, or fit in with, each other in the way that agents in a biological system might be expected to. Finally, this is a process, not a system, because the interactions and meanings generated between people evolve over time and produce only further interactions, not some abstract outcome outside of the interactions themselves.[12]

What the theory draws attention to are the local interactions in which we are all involved in our daily lives, in order to identify how this is the primary catalyst for any outcome between us regardless of plans or strategies that others might seek to impose.[13] Such basic daily human interaction is often completely ignored, or deemed inappropriate to discuss or analyse, in designing plans and strategies.

Philosophical, psychological and sociological foundations

The theory is built not on mathematical formulas, but by developing and reinterpreting philosophical and sociological

traditions that reconcile the apparent autonomy of being an individual with the collective emergence of order and patterns of behaviour that form in societies. To do this it draws on the work of Georg Hegel, Norbert Elias and George Herbert Mead, among others. We provide below a brief snapshot of these theories and how they are taken up in this context.

If the relationships that produce coherent order in a complex adaptive system, such as a termite colony, are abstract (i.e. have no meaning outside of the specific, simple rules that guide them), then the theory of complex responsive processes of relating seeks to interpret the relationships between people in organisations in non-abstract, human terms. Hegel suggested that 'social processes' are acts of mutual recognition between interdependent people – in which individual consciousness emerges in our experience of and involvement in historically evolved social patterns, like traditions and institutions (churches for example), in a simultaneous and mutually reinforcing process.[14]

After Hegel, Norbert Elias observed that as European society evolved, in other words became more complex, social functions became more differentiated, specialised and therefore increased in number. This meant that people had to rely on more people in a multitude of different functions to do things for them, which they could not control. In order to cope with the increased interdependence this specialisation created, individuals had to learn increasingly complex forms of control and self-control, a process of self-restraint that becomes both habitual and unconscious in its development. So people learn how to play the games

that a society of this kind and complexity requires, becoming 'reasonable agents', that is, people who can function in their society. Reasonable behaviour both defines and is defined by social habits, which are shaped by emotions like 'shame', 'embarrassment' and 'repugnance', feelings that only mean something in relation to society as a whole.

Elias, like Hegel, was describing how society and individuals evolve simultaneously, with the various patterns of power relations, competition and cooperation reflecting the complex forms of control and self-control required to enable society to function.[15] This is not planned, but instead 'emerges' in the interaction of people as part of that whole, which in turn is reflected in the patterns that emerge, and so on and so forth. The resonance with complexity science is obvious, where non-linear, local interaction between diverse groups of interdependent agents produces emergent, population-wide patterns across the whole.

George Herbert Mead was concerned with communication and how meaning arises. He recognised that communication was a social process and that 'meaning' does not arise in the individual, but instead during conversations with others in the present.[16] Meaning therefore is not attached to an object or a thing, but instead is created in the act of social interaction and engagement. This means that communication is not an event, but an ongoing process that requires us to stay in a perpetual conversation with each other. People, Mead suggested, relate to each other through 'gestures' and 'responses' to those gestures, which is informed by 'reasonable behaviour', or social norms. This constitutes a social act, from which meaning arises

for both. Knowing is a property of this interaction and can only exist in the present.

Meaning, therefore, does not arise internally within individuals to be transmitted to others through communication. Instead it emerges in our interaction with one another. Consequently, although we can make gestures (such as vision statements and policies) the meaning that these gestures will in fact be imbued with will depend upon how they are interpreted and acted on by others.

A new model of causality to describe the 'unique' interaction between human beings

With this firmly social conception of how we are and why, the theory of complex responsive processes of relating goes on to identify our social interaction with a new, distinct model of causality, one specifically formulated to reflect its unique nature. This is described as a "paradoxical form of causality", which is "transformative".[17] This means:

1. Movement into the future is perpetually constructed by the movement itself, so is uncertain and paradoxical: because the movement can be both continuous and transformational at the same time.
2. The purpose of our movement is to express the continuity and/or transformation of identity.
3. The process of movement is local interaction between individuals that both forms and

is formed by the population-wide patterns we see in society.

4. Variation is the diverse micro (local) interaction between people that escalates into different population-wide patterns.
5. People both enable each other but also (and at the same time) constrain each other. This enabling/constraining reflects both diversity and conflicting constraints at the level of our micro-interaction.

This description of causality seeks to describe how people are interdependent, not independent. It describes how as individuals we both form, but are also being formed by the patterns of organisation and society created by our deliberate (or otherwise) acts. This interplay, or interdependence, is a continuous process of construction (or deconstruction, as things may also be in decline).

Transformative causality sees the future as being movement into the unknown: the product of our personal interactions with others locally that result in patterns of meaning which form globally.

IMPLICATIONS FOR ORGANISATIONAL MANAGEMENT

In summary, this chapter has discussed a new kind of science, one built on the basis of uncertainty, that is, where the relationships between things are non-linear. This is in profound contrast to the history and traditions discussed

in chapter 2, which nevertheless continue to dominate most areas in our lives.

Complexity science reveals the limitation of these traditional conceptions of cause and effect in the natural world. In contrast, the theory of complex responsive processes of relating goes further, by examining what this means in our social world. In so doing it exposes not only the folly of applying Newtonian concepts of causality to the social realm, but also the dangers of transposing complexity science from the natural to the social world because of the unique nature of our social process.

Complex responsive processes of relating is in fact a theory built on old ideas, but which uses new science to help conceptualise and explain them. It has been developed by social scientists who are interested in the nature of interaction between people, and who recognise that the new science of uncertainty provides a radical departure from traditional scientific enquiry and understanding – a departure with new insights that resonate strongly with the uncertain experience of social discourse and outcomes. What it does is suggest that personal identity and ways of thinking are created between people, not internally or independently by an autonomous individual, for subsequent dissemination or delivery to others.

This suggestion has important implications for organisational management:

- It means that we must recognise that any corporate plan will begin to transform in nature the minute that we attempt to start implementing

it, because its meaning will be determined by those who interact with it locally. This will take into account many contextual factors including any dissonance between the plan itself and the actions of managers, i.e. how they choose to interpret it and what they say and what they do in trying to action it.

- That this will happen regardless of the organisational structure we choose to use, even if it has been formulated using the most extensive means of consultation or democratic engagement possible.
- This radically challenges current and popular notions of corporate strategy, plan-making and management, or policy-making executed by central or local government.

But this does not mean that managing, or trying to plan are not good ideas, far from it. Instead, we argue that rather than resist these ideas and their implications, managers and policy-makers should embrace them because they offer the potential to help us better understand what is happening in organisational life, and therefore the opportunity to manage better. Understanding the limitations of managing people as if they were biological machines offers the possibility of creating better, more responsive, realistic businesses, or policies that can thrive despite the challenges this century presents. We explore what this might mean in practice in the next chapter.

4 Understanding organisations as social processes

In this chapter we seek to develop a viewpoint that is profoundly different from our original hypothesis that we could identify certain 'traits of an enabling environment' that lead towards particular outcomes.

The transformative model of causality we introduced in the previous chapter has serious implications for how we think about groups of people together in organisations, or society. It suggests that everyone in organisations – or society for that matter – no matter how powerful, is a participant in the game of communication. Organisations are, in other words, processes of human interaction that create patterns of communication and meaning, which in turn lead to further processes of human interaction, and so on and so forth.

If we believe in the hypothesis that the social process, that is, human relating and the meaning it generates, is similar to the pattern forming we find in complex adaptive systems, this profoundly challenges the idea that the causes of coherent human action can be identified in external, definable systems or structures that can be manipulated and controlled. This does not mean anarchy, or chaos, because as we explored in chapter 3, individuals are bound by the constraints and reasonable behaviour that constitute the

social process. Patterns of meaning emerge in social life because of what everyone is doing and not doing – together.

This clearly points to the limitation of planning and systems of control designed to generate or facilitate optimal outcomes, just like the sort we were seeking to identify and box up in our prescription called 'traits of an enabling environment'.[1] This is because:

- UNCERTAINTY is the central characteristic of social-economic life.
- NOVELTY AND CREATIVITY (as well as other less desirable, but entirely normal outcomes) emerge in open discourse, which is potentially lost when we try to prescribe or control it.
- POWER AND POLITICS must play a central role in any discussion about an organisational environment, because they are key components in understanding how people do or do not behave.

As we have alluded to, this position is contrary to the discourse in a good deal of new, 'scientific' management literature, where questions of power and politics are regarded as unpleasant, something to be minimised and curtailed, or best avoided as a topic for discussion. Instead, "attention is usually focused almost exclusively on emotionally detached, rational, step-by-step analysis and structured processes of planning and decision-making within monitoring forms of control".[2] In this discourse, the manager or planner is considered to be an objective, autonomous and rational individual able to make interventions within a bounded

system, for specific outcomes. However, the central point of this book is that this conception should be challenged because of the reality that is the social process and how it in fact unfolds.

If we recognise instead that organisations are social processes, what does this mean in practice? In short, that an action-based and improvisational approach to managing would serve organisations, or any group of people, better, because where people interact, the social process we are describing is what is actually happening, regardless of what else we might like to imagine or implement. This is because commands or structures derive their practical meaning, not from the command or structure itself, but from how they are taken up and interpreted by people during normal, daily social interactions.[3]

We are not suggesting that this insight is new in itself. When you ask them, many people in businesses will describe (albeit in different language) what they do in these terms despite any mantra or fashionable theory subscribed to at a given time by their company. Similar insights can be obtained from more traditional management literature, where acknowledgment is made that a manager "cannot assume rationality from his subordinates, superiors, or competitors. This complicates matters considerably, as all economic theories and the vast majority of managerial ones assume cold rationality."[4] A manager who recognises this has to adopt a different tack which does not derive from any management system or structure: "quiet management is about thoughtfulness rooted in experience. Words like wisdom, trust, dedication and judgement apply."[5] What this

might mean for a constructive organisational environment, and something that a manager might aspire to recognise, is the following:

- CONVERSATIONS SHOULD BE OPEN: If a group is conversing in a way that is questioning, fluid, and that opens up the exploration of meaning, then they are capable of changing (being dynamic) and creating.[6]
- EQUAL POWER DISTRIBUTIONS enable (and constrain) change, whereas when we interact in cultish ways we banish the social conflict which gives rise to change and the movement of thought.[7]
- THE AUTONOMOUS 'INDIVIDUAL' IS LOST because organisational patterns emerge in power relations *between* people and not separately within individuals.
- EMOTIONS are part of this process (both 'good' and 'bad'), being critical for mind and body balance and central to enhanced cognition, evaluative ability and function.[8]
- DIVERSITY AND DIFFERENCE, not sameness, generate conflict, but also creativity and novelty.

CAN WE DO ANYTHING TO HELP FACILITATE THIS?

We can try, but only with clearly recognised and realistic expectations about the likelihood of generating the

particular outcome we desire. Crucially, we *must* be aware of the limitations of our plans, processes and organisational structures and therefore pay much closer attention to what this means. It means taking much more seriously the quality of our relationships, the dynamics of power and the interplay of emotions between people in every position, whether powerful or otherwise. This requires that we pay more than lip service to how relationships profoundly influence any social dynamic and therefore outcome in any social setting.

But this will seem unsatisfactory to many, especially those who have a vested interest in new, supposedly organic, 'complex' or socially inclusive models of cooperation and organisation, and we understand this. To help explain why our position *is* satisfactory and should be taken seriously by all, particularly those who believe that they have mastered, or tamed the uncertainty of daily, social interaction, we provide a critique of an example that we had originally described as evidence of how a certain prescribed way of organising delivered better results.

The Nurse Knowledge Exchange at Kaiser Permanente[9] claims to demonstrate how an interface that allows workers to share experience can generate a dynamic and responsive working environment. It is credited by Kaiser with catalysing a major change in management process from top-down expertise to bottom-up, experience-based decision-making in every ward of 35 of its hospitals.[10] Its architects, IDEO,[11] describe it as "designing code" instead of blueprints, and "designing with people, not for people".[12] Its guiding principles included:[13]

- UNDERSTAND: Observe and interview people in their environment; see the familiar in new ways; reconnect people with their experiences to understand how they think and feel.
- LOOK FOR PATTERNS: 'Steep' in the stories and pictures; identify recurring themes and issues; define opportunities and articulate them as brainstorming topics.
- IDEATE: Brainstorm to get contributions from many brains focused on one challenge; generate concrete ideas; explore many ways you might solve a problem.
- PROTOTYPE: Create tools to explain your ideas to others and gather rich feedback; work through how your ideas would actually work and impact an end-user's life.
- TRY AND GET FEEDBACK: Learn from observing real users trying out your ideas; learn what to do next; invite people to interpret and grow ideas to suit their situation/needs.
- PILOT AND MEASURE: Put your successful ideas together and try them out at full-scale.[14]

It sounds great and obviously chimed with our original traits and certainly on the face of it has been successful, as well as being a management tool that is not trying to prescribe an optimal outcome at the beginning, recognising instead that optimal is always in the future, subject to what happens now.[15]

But to what extent can the outcomes be credited to the

system and structure created by IDEO? We highlight three reasons to question such a proposition.

First, it is context specific. If the process were constructed in another place at a different time, it would yield different outcomes because the participants and context would change. So far so good, as we expect this is something that both IDEO and Kaiser would agree with, champion even, and which the first two principles above chime with.

However, the second issue is the distorting effect of the process itself. The initial guiding principle of observing and interviewing workers in their environment is laudable, but it is important to recognise that the facilitators and consultants implementing this process are not neutral observers but participants in a game of communication. Would observations and interviews by a disinterested third party yield different results? Might workers' feelings about the process as described to their friends and family be rather different to those relayed to the consultants and managers at work?

Finally, what the structure or process definitely fails to capture or calibrate are the hidden transcripts that lie beneath the daily, routine workplace dialogue and behaviour, both the conscious and subconscious. Did those in charge of this process use their insight, power or awareness of the situation to manipulate and distort it? What feelings did participants have that they preferred to hide or had little self-awareness of, and what therefore did they in fact contribute, or not contribute, because of those feelings? What was lost, or not ventured?

This may seem remarkably obvious, but the questions that arise from the understanding we describe here, that

an organisation is a social process, are not reflected in this case study. This is probably because those advocating this prescription either do not understand what this means, or have a very different view about how a social process can be manipulated. We now suggest therefore, that without managers with the ability to be aware of these shortcomings, the outcomes may in fact be anything but optimal or best value, or even possible in different social circumstances.

This is not to say that the process did not have a certain, causal impact on the outcomes; it obviously did. Instead, it is to recognise that the nature of causality in human social processes is different from the deterministic linear causality that can be observed in the natural world. The structures or mantras introduced by the management consultants in this instance will have undoubtedly influenced proceedings. This influence may be considered as either positive or negative by those people who are affected by it. Either way, the meaning that is generated will be determined not by the structure imposed, or the name given to it, but during the social discourse in the 'here and now'. As we have discussed, it is this social interaction that shapes outcomes, or responses to things, in a manner that cannot be simply predetermined.

We believe that understanding an organisation as a social process in the way described above means that even 'new' management or organisational concepts that aim to generate more enlightened, dynamic or democratic outcomes by seeking to control the 'social', or prescribe it, with similarly enlightened, dynamic or democratic rules and methodologies, in fact entirely miss this fundamental point. Instead, and in instances where this expectation is assumed because

of the mantra or special structure or way of working, there is a very real danger of forgetting that meaning is generated in context-specific interactions between people.

This means that, like the Kaiser Permanente case study, the organisational concepts we briefly outline below are no more likely to change the social process, and so either the uncertainty associated with it or the traits that might be considered undesirable, than any other kind of process. Instead, we would suggest that the key benefit of adopting a 'better' organisational structure is if it reminds us constantly that the social process cannot be tamed.

So for example, we would ask, do the following prescriptions achieve this, do they shed light on this dynamic and uncertain process? Or, in other words, do their architects explicitly recognise this inherent limitation?

1. SOCIOCRACY[16] is a form of organisation with roots in Quaker organisational practice and nineteenth-century social and governance theory. It emphasises the importance of equality of power and reaching decisions through dialogue rather than majority voting. Consent is sought of all individuals in decision-making groups. Decision-making groups, or circles, are semi-autonomous but linked to other circles by members who sit on both circles as representatives and as a route for passing on information and feedback between circles.
2. HOLACRACY[17] is a more recent proprietorial management system. Decision-making

authority is delegated to semi-autonomous teams who define their own roles, elect people to carry them out, and define their own processes to meet their operational objectives. One of the objectives of this structure is to make it easier to identify and resolve tensions that arise between employees and the stated goals, with the explicit aim of adapting goals, roles or teams to address such tensions.

3. CHAORDIC[18] is a term coined by Dee Hock, the founder of the Visa credit card system. It seeks to combine elements of cooperation and competition, which in the case of Visa means that the member banks can enjoy the advantages of scale arising from one global credit card brand and system, with the ability to differentiate their own products and services to compete for market share with other member banks. The system rests on key principles including equality of power among members, delegation of decision-making authority to the lowest operating level possible within the organisation, and distributed governance with no individual or small group of individuals able to dominate decision-making.

4. NETWORK GOVERNANCE[19] is a concept that also emphasises the benefits of distributed decision-making for removing conflicts of interest and improving the flow of information within an organisation. The unitary management board

> is replaced by a number of separate stakeholder boards with distinct responsibilities and powers.

In response, we think that all these models share characteristics of greater dispersal of power, and greater transparency over the process of decision-making, which seems to be a good thing. But we are not sure that those who implement and use them realise their limited power to fundamentally alter this social discourse – quite the contrary.

As we have discussed, and as the description of transformative causality suggests, none of them can *control* the social process. Instead, there is a very real danger that an enthusiasm for such structures might obscure the insight that it is not the structure that will determine the patterns of meaning that emerge, but the quality and nature of the interactions between individuals within it. These can and will react to new structures in unpredictable, even undesirable ways. So even if some of these structures and processes seek to make relationships more transparent, they can never capture them or make them entirely so. For example informal relationships between employees or executives of love, jealousy, friendship, admiration, respect or hate, or similarly worldviews that people might prefer to keep hidden or that might even be subconscious, as well as interactions between people outside the organisation, are all important factors in determining how people interact and therefore what outcomes emerge. However, managers and employees are often very uncomfortable discussing such factors at work. Indeed it may be deemed unprofessional to reveal these otherwise hidden transcripts. Over-reliance on

more democratic, dispersed or transparent organisational structures carries the danger of thinking that hidden transcripts and power dynamics will be eradicated by their very presence, whereas in fact they will still exist, only to have been buried even further from view because of what the 'structure' purports to deliver.

For example, we observed for ourselves how at one company we originally visited to support our initial hypothesis, a special 'open' and 'transparent' forum for resolving tensions between different departments had in practice failed to change the innate feelings of inferiority and superiority between different groups within the business. In fact, it seemed to have made the issues it was designed to address more opaque, pushing them further from view, and therefore making them less easy to discuss or resolve.

This does not mean that it is not reasonable to try this particular structure, or any other, or that the participants may not be very happy with the results. The point is that none of these structures will generate a new kind of control, or magic, over what is an inherently uncertain process: social interaction between two people or more.[20]

SO WHAT DOES THIS MEAN FOR MODELS AND STRUCTURES?

The first conclusion that can be drawn from understanding an organisation as a social process is that this reality is under-explored by mainstream management theorists and policy-makers, who instead preoccupy themselves, as we

did, with developing prescriptions, models or theories that will help to overcome or eradicate the messy imperfections of real-life human interactions. Such an objective entirely misses the point about what is actually happening and how this influences the outcomes we say we want.

A more useful exercise for those interested in success would be to recognise that what is actually happening underfoot in the everyday interaction between people in organisational settings is something quite different from what is projected outwardly as corporate culture or values. If executives and policy-makers were to focus relentlessly on thinking about the reality of the day-to-day interactions in their organisations, this might be the best prescription available to facilitate a more dynamic and constructive working environment. However, this is not easy and may be far from welcomed by co-workers, who might well prefer to sweep under the carpet deep and hidden transcripts that underlie their behaviours. Indeed they might not even be fully aware of them.

Does this mean that we should give up attempting to make plans or model social systems? No, because people, especially in businesses, do not operate in a socio-economic vacuum. In these environments, and in particular because of the way we currently organise and plan, we find ourselves enmeshed in a world of strategies and management theories of best practice, as well as power configurations that reflect both this and the needs of those in power. This means that challenging this world, or stepping outside of it, is not easy. And people will continue to create models in an attempt to understand things and generate some sense of certainty or control, even where there is none to be had (even more

so for this reason). As the authors of complex responsive processes of relating recognise, abstractions are important in helping us deal with the complexity of everyday life in modern societies. In fact they were vital in allowing us to develop in this way in the first instance.

This issue animates the debate among those who are interested in complex responsive processes of relating and managing – where advocates talk about 'bridging frameworks' to enable people to make the transition from traditional mindsets and approaches to a more spontaneous, reflexive method based on the theory's insights.[21]

Instead what this suggests is that we need to choose our models and systems very carefully indeed and that once they are chosen, we must accept that they will be unable to provide 'the' answer, or determine or somehow change how we interact and why, but instead will change and require different representations and ideas to best capture what is happening. This is worth pointing out because very few of the people who either design or advocate the many systems and models that dominate our modern lives make this the central rule of their model.

What this means is that any manager who understands that their working environment is in fact a social process, or any policy-maker who recognises that society is similarly an emerging, dynamic process that is not predetermined, will take seriously their capacity to be responsive, reflective and aware. This in turn requires a tacit acceptance in our work that experimentation and reflection are permanent processes and that any strategy, plan or model is at best a fleeting representation and will have to change as events unfold.[22]

5 Final thoughts: What have we learnt and what next?

> *knowledge and truth are created, not discovered by mind*
>
> THOMAS SCHWANDT[1]

Our search for prescriptions (the 'traits of an enabling environment') that we described in chapter 1 ended up by leading us in a different direction and to an entirely different destination than we had originally conceived. It led us to challenge a dominant mode of thinking found in MBA-style management theory, which favours rational, positivist prescriptions of cause equals effect. It also revealed how certain ways of understanding are deeply embedded in Western intellectual traditions. As a result, our story challenges existing power configurations, professional identities, and the underlying ideology that permeates a good deal of the current business world; something that we accept will limit its appeal.[2]

But we do not conclude that management is futile, that we should not try to plan, or even that we should do without leaders. We merely suggest that management will be more effective if it proceeds from a better understanding of how

meaning, behaviours, values and innovation all emerge in social settings. We hope that this is in fact familiar territory for many managers, while the theory set out in chapter 3 emphasises the absolute importance of the daily interactions between people as the source, and determinants, of the overall patterns and results that emerge in businesses. Order is not imposed from above. It emerges from below in what we do together, every day.

LEADERSHIP, FACILITATION AND LEAVING SPACE FOR NOVELTY

Western management practices celebrate and emphasise the individual. Executives are considered able to exert significant control over the outcomes of their businesses, however large or complex, and are remunerated accordingly. This expectation of control even extends to the way that people are meant to think and feel about the organisation they work in. As a result, businesses spend a lot of time articulating and developing 'values' and promoting 'personas'. *However, we would argue that they spend too little time examining how the people affected by these concepts actually feel about them, and the processes by which these feelings come about*. This is important not just to understand how employees respond to top-down management initiatives. It is crucial to understanding how innovation happens within organisations. The threat that strong leadership might stifle innovation is one that needs to be taken seriously.

Human beings, by the very nature of social interaction as described in this book, generate novelty in their many and varied interactions with one another, similarly to the way that diversity drives biological evolution. Like agents in a complex adaptive system, humans are also interdependent, not independent of each other. Personal identity and ways of thinking are created between people in social interactions, not internally or independently from others. This means that professional expertise is not developed remotely, but with experience and in context with others; it is a process that enables people to develop the value-based judgements used every day in businesses and elsewhere. This suggests that business environments should seek to enhance, not diminish, the variety of opinions and insights within them, if they want to maximise the potential for novelty to emerge.

By contrast, an environment dominated by an individual, or a specific ideology, where power is centralised or concentrated, is more likely (but not certain) to produce a narrow range of possible paths forward. This may create a very good energy and coherence among employees – in the same way as can be found in cults – and certainly this is also important in some institutions, such as the armed forces. But such an environment is also more likely to produce pathological and undesirable outcomes, simply because there is less chance that a dissenting voice will get heard, or be able to influence decision-making. The leader may think this is fine, but does this lend itself to, say, innovation and creativity?

There is a further irony to the concept of 'strong' corporate leadership: although powerful people will obviously have more influence over what decisions get made

and implemented by virtue of their position, it would appear that they are still unable to control the outcomes that occur in response to the specific actions they enact or enforce. Despite this, management remains judged on the exact execution of strategy and the measured delivery of specified objectives; stock prices demand no less, and the markets react badly to surprises.

Management has traditionally been preoccupied with tools and techniques. However, the theory of complex responsive processes of relating suggests that if there is one tool or technique worth developing, then it is our capacity to take a reflective, reflexive attitude towards what we are doing, or in other words, our ability to think about how we are thinking.

Leadership is more than being the 'number one', the 'top dog', 'the best', 'the richest' or 'the most powerful'. This might seem obvious to some, and undoubtedly many leaders get this, but merely observing the daily discourse in the media, politics, business and other social spheres will reveal how success, or leadership, or both, is closely associated with being 'the best', 'the richest', 'the most powerful' and so on.

To reject this conception of leadership does not mean that there is no role for leadership. Rather it indicates a more subtle conception of leadership:

- where values emerge through *interaction*, so a leader might articulate values and display them through their actions, but not try to create and then impose them artificially;

- while the skill of leadership is to participate in this process in an imaginative and *reflective* way, drawing on listening skills and empathy, in order to assist others in acting morally, ethically and creatively.

Leading, in other words, has little to do with what the leader orders should be done (although the example set by what the leader personally does is important), but instead is about

- 'sense-making' – helping people with this process of understanding;
- facilitating and inspiring, rather than demanding the blind faith of loyal followers.[3]

Another way to think about this is to consider the difference between a play that is scripted and an improvised performance. A scripted play is deterministic, which significantly diminishes the scope for spontaneity and novelty. Each performance will vary in subtle ways, but in each production we know the ending in advance. By contrast, an improvised performance allows more freedom to the actors, more room for creativity, and so has an uncertain and unpredictable path. But this is emphatically not the same as individual autonomy. On the contrary, the actors are not unbounded masters of their own destiny. Their performance will be shaped by the other actors' performances, by what happened in their lives in the lead-up to the show, by the physical setting of the theatre, the reaction of the audience and many other factors outside their control.

Ordinary daily life is, in many ways, like an improvised performance, similarly bounded but not predetermined. Managers and policy-makers who expect to write the script, direct the play, and watch everything unfold as they wish it to are going to be disappointed. Yet this is precisely what we expect from them, and what they seek to deliver!

Humans have evolved to behave in ways that are less dependent on preconditioned, instinctual responses than other creatures. We learn how to behave in ways that take into account our social context, which in complex societies encompass a broader range of varied and unpredictable situations. You might say that evolution has produced the strategy of improvisation and spontaneity because it enhances our social survival chances.

The implication is that apparently indefinable and nebulous concepts can and should be placed at the heart of the creative commercial process: consciousness, self-consciousness, spontaneity, imagination and imaginative processes (like fantasy) and reflexivity – the actual components of human creativity and expression.[4]

This is very different from the risk control, compliance and conformity that dominate many businesses today. This is problematic and worth highlighting, because a more serious debate needs to take place in public life about how we develop policies and plans that take better account of the reality that is the social process, instead of simply covering over it with prescriptions often drawn from the entirely different physical domain of natural science.

What is needed is more time thinking about and taking seriously the essence of what unpredictability means and

how it can be utilised better in the service of getting what we say we want. But this requires us to think more critically about what we are doing and how we are going about doing it, which is often the very last thing people in organisations do when trying to achieve or change something. However, this could be the catalyst for a different conversation; one that holds the potential to generate the movement in thought that is critical to all social development.

To finish – what we are suggesting is that we should avoid seeking to create some new paradigm of certainty, even if it feels good at the time. This is because we cannot ignore uncertainty nor eradicate it, so we must embrace it. We must pay much more attention to the reality of daily, local interaction between people and understand that this will often bear little relation to the structures we attempt to impose over them. Because, after all, people are not simply biological machines, and will continue to follow their own scripts as determined by the unique and varied interaction they have with each other.

We should not see this as an impediment to development, or to getting us from here to there. Instead, we should see it as a key component in enabling us to move forward into an unknown future, one that has considerable challenges, but one that will be rich with opportunities for change.

Notes

1. INTRODUCTION: SEEKING A FORMULA FOR SUCCESS

1 Russell (1946), p. 788

2 Efficiency is a variable concept. In this context we mean to say that there is an optimum balance between resilience and efficiency – there is enough buffer in the system for it to remain functional while adapting to external changes and shocks.

3 As biomimicry attempts to do for product design, process biomimicry was an idea we had about how the same could be done for business structures. It reveals a way of thinking deeply enmeshed in the notion that you can control and manipulate social environments to achieve planned ends, just as a thermostat allows you to control temperature. Social environments can certainly be influenced, even though when they are controlled absolutely the result is normally something quite unpleasant, such as a dictatorship or a cult. The idea of drawing on naturally occurring forms, structures and ways of working is certainly 'in vogue' in current business management thinking, with a variety of management consultants seeking to prescribe solutions for businesses based on ideas similar to our concept of process biomimicry. For example, Hutchins (2011); Tomorrow's Company (2011).

4 This is a hugely powerful sentiment among authors who write about organisational reality from all sorts of different theoretical perspectives, including those using complexity science to justify their assertions. For example, Dolan et al. (2008); Richard Miller (Available Light Advisory); Nic Marks (nef); Juliet Michaelson (nef). See also Senge et al. (2010); Wheatley (1999); de Geus (1998); Lewin & Regine (2001).

5 In particular, the list was influenced by the 'Ten Principles of Organisational Reality' found in Lewin & Regine (2001).

6 The leading proponent of 'complex responsive processes of relating' is Dr Ralph Stacey, Professor of Management, Business School, University of Hertfordshire, and member of the Complexity Research Group. Some insights into the group's work and thinking can be found at http://complexityandmanagement.wordpress.com/ (accessed 26 Feb. 2014). Our initial efforts to make the theory fit with our assumptions were eventually crucial in helping us to frame the arguments and insights that are set out in the rest of this book.

2. CERTAINTY: THE INDEPENDENT AND RATIONAL INDIVIDUAL

1 Galileo was the instigator of and catalyst for both of these developments. He described nature in his text *The Assayer* (1623) as "written in that great book which ever lies before our eyes – I mean the universe – but we cannot understand it if we do not first learn the language and grasp the symbols, in which it is written. This book is written in the mathematical language, and the symbols are triangles, circles and other geometrical figures, without whose help it is impossible to comprehend a single word of it" (Burtt, 2003).

2 The *New Shorter Oxford English Dictionary* (4th ed., 1993) describes the scientific method as "a method of procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses."

3 Sir Isaac Newton's *Philosophiæ Naturalis Principia Mathematica – Mathematical Principles of Natural Philosophy* – often referred to simply as the *Principia*, was first published in 1687. Newton's four rules of reasoning are (1) Admit no more causes of natural things than are both true and sufficient to explain their appearances; (2) To the same natural effect, assign the same causes; (3) Qualities of bodies, which are found to belong to all bodies within experiments, are to be esteemed universal; and (4) Propositions collected from

observation of phenomena should be viewed as accurate or very nearly true until contradicted by other phenomena.

4 Weinberg (1992). For example, at the European Organization for Nuclear Research (CERN), the Large Hadron Collider on the Franco-Swiss border is perhaps the most ambitious and certainly the most expensive investment in the search for the fundamental law(s) of nature.

5 On Kant, see Korner (1955); Scruton (2001).

6 This is exactly what eighteenth-century Enlightenment philosophers set out to do, to create the foundation for all morals, religion and ethics in accordance with our *immutable reason*. Locke and Voltaire applied concepts from natural law to political systems in order to advocate intrinsic rights, while physiocrats and figures such as Adam Smith applied natural conceptions of psychology and self-interest to economic systems. The inference was that the lessons of history and the experience gained from the social structures built within that historical context could be discounted, discarded even, because the innate laws of nature reveal *fundamental* truths, not hearsay and opinion.

7 Probability theory showed that phenomena vary, but within ascertainable limits from which a central limit can be calculated which represents the most probable state. Any dispersion around this limit can therefore be measured in order to provide the likelihood of any particular state deviating from the mean. See Menand (2002), pp. 182–3.

8 Quetelet did so in a two-volume work called *Sur l'homme et le développement de ses facultés, ou Essai de Physique sociale*, written in Paris in 1835. See Menand (2002).

9 Homo economicus is a term coined to describe the assumptions about human behaviour on which economic theories are often based. The characteristics of Homo economicus are that he is entirely rational, and always acts in his own interest to maximise his personal 'utility' or satisfaction.

10 Menand (2002), p. 188.

11 And science is empirical, in that it proceeds rationally from observation and experiment. Positivism is the philosophical tradition

that says knowledge is limited to that which we can apprehend from our senses. In other words, sensory experiences and their logical and mathematical treatment are together the exclusive source of all worthwhile information. See Vesey & Foulkes (1990).

12 For example, the ironic taking up of complexity science by management theorists to justify prescriptions for managing people and therefore delivering specific outcomes, which is based on theory and anecdotal evidence, but not empirical evidence as there is none. See, for example, Lewin & Regine (2001).

13 Cabinet Office and HM Treasury (2013).

14 This is called second order abstracting and involves: objectifying and categorising; measuring using standardised measures; averaging; analysing; selecting regularities, seeking causal connections; modelling; prescribing rules; setting targets. The scientific method is the 'paradigmatic' example of second order abstracting. See Stacey (2010), pp. 111–12; Kuhn (1970).

3. UNCERTAINTY: THE SCIENCE AND THE SOCIAL SCIENCE

1 We recognise that branches of economics such as behavioural and institutional economics do try to overcome the limitations of abstract modelling and pay more attention to real world behaviours. However, the representative agent approach to economic modelling, in which all individuals are assumed act rationally in their own self-interest and all have identical preferences, continues to dominate policy-making.

2 The historical development of complexity theory is described in Reason & Goodwin (1999).

3 The result of analysis of this sort normally just covers over what might actually be happening between people and why. Authors/theorists who have taken up and abstracted complexity science concepts in order to justify management models, or prescriptions that we have reviewed, include Mitleton-Kelly (2003). The Complexity Research Programme at the London School of Economics is a dedicated research programme that seeks to explore and develop theories about complex social systems (like businesses) in order to help people in

those systems address 'complex problems'. See http://www.psych.lse.ac.uk/complexity/; also Lewin & Regine (2001); Wheatley (1999); Burnes (2005).

4 Many natural scientists (particularly those at the Santa Fe Institute, at http://www.santafe.edu/) are exploring socio-economic phenomena (i.e. those which have no analogue in biology because we have created them) through the lens of complexity science, such as technological innovation and then decline, how markets work and reflect things like this, particularly in relation to 'fitness landscapes', or how cities grow, exhibiting what appear to be universal 'super-linear' characteristics, i.e. that at a macro-scale something consistent emerges from behaviour at a micro-scale. For example, West (2011).

5 Stuart Kauffman talks about the "ceaseless creativity" of a complex adaptive system, which he identifies with evolution in general, a process that we can neither predict nor model. Kauffman, a respected and influential complexity scientist, goes on to suggest that the ceaseless creativity of these systems means that even the fundamental laws of nature are limited in their ability to reveal or explain what unfolds within them and why (i.e. how they evolve and what emerges could possibly be beyond the realms of natural law as we currently understand them, which is exactly what the history of evolution has involved). See Stuart Kauffman on 'Reinventing the sacred' (2008), video at Dailymotion, http://www.dailymotion.com/video/xbpcom_stuart-kauffman-reinventing-the-sac_lifestyle#from=embed (accessed 26 Feb. 2014).

6 This recognition of a dynamic state of constant disequilibrium is in stark contrast with the assumption of continual convergence towards equilibrium assumed in neoclassical economics.

7 Unlike computer processing, humans have many ways of knowing which include sensory, intuitive and emotional intelligence, not just linear processing of data. One significant body of literature that demonstrates the variety of ways in which the human brain works studies the differences between the left and right hemispheres of the brain. The left hemisphere is dominant in abstract knowledge and audio-sequential processing, and the right hemisphere dominant in

embodied, experiential knowing and visual-spatial processing. For an entertaining example see Pink (2005).

8 For example, the famous complexity scientist Ilya Prigogine developed a hypothesis that proposed that nature, and therefore evolution, is a process of unpredictable novelty, where the possible is richer than the real. He suggested that new order emerges from the disorder created by instabilities that break symmetries. See Prigogine (1997).

9 Stacey (2010), p. 65.

10 An example of an organisation that tries to apply this in practice is the Transition movement of grassroots initiatives to respond to the challenges of climate change, peak oil and economic insecurity. Transition Network is a central support organisation for over 1000 local Transition Initiatives globally. It does not direct activities centrally but encourages local autonomy, and adaptation of the movement's principles and activities to circumstances at the local level. It does, however, seek to bring some coherence to the network as a whole by spreading knowledge and best practice, and providing common tools and design principles. See www.transitionnetwork.org.

11 For example, it's an idea that appears at odds with the 'What Works' approach to government policy mentioned earlier on, or modern management thinking that relies on executives formulating and executing strategies and operating plans. And it is in stark contrast to the causal frameworks of certainty heralded by Newton's laws, which are unable to explain this uncertain experience and instead *create the impression* of a future that is knowable, a reality that is certain.

12 Stacey (2010). The problem with trying to describe human interaction as taking place within a system, as 'systems thinking' (Senge et al., 2010) might suggest we can do, is that if a model or a system did exist, then some of the agents included within it (i.e. us) would change their behaviour as a result of 'knowing' how the system's behaviour would affect them. This in turn would invalidate the system model. This means that any internal representation of agents in a system (such as humans within an organisation) is at best one moment of an ongoing, co-evolving and complex system that cannot be reduced to a static model.

13 Stacey (2010), preface, p. xi.

14 Hegel (1807/1979); Stacey (2010), pp. 134–6.
15 Elias (1939/2000).
16 Mead (1934).
17 Stacey (2010). p. 57.

4. UNDERSTANDING ORGANISATIONS AS SOCIAL PROCESSES

1 We emphasise the word 'limitation' for just the same reason that we question 'models'. This is not to say they are pointless or of no use. Instead, it is to emphasise that they are limited and need to be treated as such by those either advocating them, or applying them in real life. This seems to us to be a sentiment that is rarely articulated by those in the business of advocating, selling or implementing them.
2 Shaw & Stacey (2006), p. 124.
3 Shaw & Stacey (2006).
4 Makridakis (2005), p. 170.
5 Mintzberg (2005), p. 160.
6 Ralph Stacey, personal correspondence, 14 April 2011.
7 Ralph Stacey, personal correspondence, 14 April 2011.
8 The fact that emotions at work are not generally viewed as acceptable to display is well illustrated by the *Time* article on behaviour, 'Go Ahead – Cry at Work', albeit it still rather ironically suggests that the only way to approach this is "rationally", of course! Kreamer (2011), pp. 42–5.
9 IDEO and Kaiser Permanente (n.d.); see also Kaiser Permanente at http://bit.ly/L0V6xZ and Kaiser Permanente Innovation Consultancy at http://xnet.kp.org/innovationconsultancy/ (both accessed 26 Feb. 2014).
10 Real-time feedback from nurses is fed directly into a new innovation centre, housing a full-scale model clinic, where an innovation team continuously develops and shares tools and best practice with employees, based on their real-time feedback.
11 See http://www.ideo.com/people/tim-brown (accessed 26 Feb. 2014).
12 Royal College of Art (2011).
13 From http://xnet.kp.org/innovationconsultancy/howwework.html

(accessed 26 Feb. 2014). A more recent version of this process is available at https://xnet.kp.org/innovationconsultancy/aboutus.html (accessed 28 July 2014).

14 The outcome for Kaiser Permanente was a significant drop in preparation time for nurses, improved patient safety, improved levels of employee well-being and job satisfaction, and praise from the Institute of Healthcare Improvement as "best practice" in health care; see IDEO and Kaiser Permanente (n.d.).

15 Brown described the 'design thinking' process as a series of overlapping spaces rather than a sequence of orderly steps, of which he identifies three spaces: inspiration, ideation and implementation. Brown suggests that (1) inspiration is best thought of as the problem or opportunity that motivates the search for solutions; (2) ideation as the process of generating, developing, and testing ideas; and (3) implementation as the path that leads from the project stage into people's lives.

16 See for example, http://www.sociocracy.info/ (accessed 11 Mar. 2014).

17 Robertson (2007).

18 Hock (1999).

19 As advocated in particular by Shann Turnbull (2003).

20 Another example might be a school that introduces extensive and elaborate procedures to prevent, uncover and remedy bullying and then concludes that bullying has been eradicated *by virtue of the existence of such structures*.

21 Stacey (2010, October 2).

22 Peter Allen, personal correspondence, 21 May 2012. See profile of Professor Peter Allen, Cranfield University School of Management, at http://www.som.cranfield.ac.uk/som/p2054/People/Faculty/Emeritus-Professors/Peter-Allen (accessed 26 Feb. 2014).

5. FINAL THOUGHTS: WHAT HAVE WE LEARNT AND WHAT NEXT?

1 Schwandt (1994), p. 125, quoted in Reason & Goodwin (1999).

2 Stacey (2010).

3 Griffin & Stacey (2005).

4 Shaw & Stacey (2006).

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An 'n' refers to a discussion in a note, with the note number following and the page number preceding the 'n'.

IT IS HUMAN NATURE TO YEARN FOR PREDICTABILITY AND CONTROL. YET IT IS THE NATURE OF PEOPLE TO BE UNPREDICTABLE EVEN WHEN THEY APPEAR TO BE UNDER CONTROL.

What can managers do in the face of this paradox? If human beings are so unruly, can any management structure, strategy or plan truly control, or even fully reveal, what is actually happening within the social world of organisations?

Drawing on historical and contemporary theories of social and organisational behaviour, this book reveals why managers need to focus relentlessly on the 'reality of now' – the everyday interactions between people driven by their own feelings, motives and relationships.

The authors argue that we should learn to embrace the complexity and unpredictability of the social process as an essential ingredient in innovation, creativity and progress.

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