Carfax Publishing
Taylor & Francis Group

Power, Rules of the Game and the Limits to Knowledge Management: Lessons from Japan and Anglo-Saxon Alarms

STEWART CLEGG AND TIM RAY

ABSTRACT   *Much of the Knowledge Management (KM) literature assumes that all relevant knowledge can be represented as information and 'managed'. But the meaning of information is always context-specific and open to subsequent reinterpretation. Moving over time or between contexts affords scope for new meanings to emerge. Making sense of information signals (speech, body language, tone-of-voice or whatever)—and the absence of such signals— involves dimensions of individual and collective tacit knowledge that are frequently misrepresented or ignored in mainstream KM. By relating power and knowledge to 'rules of the game', it is possible to consider how the contexts in which information is rendered meaningful are bounded, as well as crucially related in the stretch between macro-level processes and micro-level practices. In the knowledge debate, Japan stands as a counterfactual to Anglo-Saxon expectations about formal rules, liberal individualism and market-rational entrepreneurship. While seminal accounts of knowledge creation in Japanese companies impelled the West towards KM, there has been no corresponding KM-boom in Japan. Our interpretation of the processes by which Japanese and Anglo-Saxon practices are situated suggests that KM is limited by the separation of knowledge from power and information from meaning.*

Keywords: power, rules of the game, Japan, knowledge, learning, innovation.

Introduction

The knowledge base of organisations—what they know how to do well—involves many types of knowledge that mutually enable practice,[1] embracing explicit and tacit knowledge connected to the organisation. To manage knowledge implies use of power, in terms of the ability of an organisation to achieve a collective sense of 'what to do next' and to exercise authority over the behaviour and communication-patterns of internal and external agents—thereby influencing such things as who will interact with whom, on what basis, and to what purpose. Power, knowledge and 'rules of the game' mutually constitute each other. The interaction of power and rules—to enable and constrain legitimate individual and collective actions— simultaneously shapes those actions. Rules shape actions that, in turn, have consequences for the evolution of rules and their interpretation in context. As

Wittgenstein[2] demonstrated, neither written rules nor informal constraints ever account for their own interpretation in the contextual 'here and now' use of tacit knowledge by individuals and groups. Context cannot be reduced to rules—yet this is a primary objective of mainstream KM.

KM aims at controlling a valuable organisational resource. It seeks to empower the manager by representing practice in terms of matters of fact combined with other sources of information. But KM typically ignores the interaction between practice and the tacit dimension: the inexplicable processes of intuition, instinct and so on, which enables imagination to generate changed forms of knowledge. Change results from a reflexive interaction between knowledge processes that interpret differences and the practice of power to achieve differences.

What difference do national contexts make? Anglo-Saxon traditions privilege expectations that KM will provide leaders with superior knowledge of how to muddle through and facilitate the practice of power to overcome adversity. By contrast, Japan's expectations about 'acceptable creativity' accord greater respect to the power embodied in the muddle. From a Japanese point of view, practices that have evolved over centuries to achieve a 'steady state' accommodation with the vicissitudes of life, command respect precisely because they have been shown to be sustainable. The power of past practice embodies implicit rules that restrain imaginative individuals who might otherwise seek to introduce unacceptable amounts of change. Collective tacit knowledge, retained from past practice, plays a privileged role in shaping future practice.

For more than three centuries, Western cultures have tended to equate knowledge with science. According to the tradition pioneered by Robert Boyle (1627–91), science (constructed through repeatable experiments, conducted in specified circumstances and validated by peer review) generated abstract 'knowledge about'[3] reality. It aims at producing 'universal' understanding liberated from context, power and politics. In contrast, the active process of 'doing things' in practice owes more to a 'knowledge of consequences in specific circumstances' of the type pioneered by Thomas Hobbes (1588–1679).[4] Thus, long-standing historical tensions define the stage on which more recent discourses about objectivity and the power to achieve practice have been presented. After the Second World War, "discovery-push" explanations of technological change shaped science policy across leading Anglo-Saxon oriented nations. In the once dominant 'linear model', science discovers, technology applies, and everything else takes care of itself. Thus, antibiotic medicines, plastics, rockets, radar and nuclear power were technologies that emanated from science, conducted according to the scientific method. Scientific 'knowledge about' things led the practical process of 'knowing how' to do things in context-specific applications. But comparative history confounds the plot. Japan's economic miracle emerged despite relatively low spending on science—causing alarm in places such as Britain and, more especially the continental United States, whose key institutions were premised on progress in basic research. Empirical studies of the causes of technological change established a discovery-push versus need-pull dichotomy,[5] one subsequently paralleled in the debate about 'Mode 1' and 'Mode 2' knowledge-production.[6]

Mode 1 conceptions of knowledge focus on the scientific method, structured in terms of university disciplines. But in Mode 2 knowledge production, practitioners interact to solve a problem framed 'in the context of application', which, typically involves contributors from a range of backgrounds—including users—interacting to improve practice. Participation in problem-solving 'communities of practice' is

shaped by reflexive expectations about worthwhile outcomes from cooperation that are held by a diversity of knowledge stakeholders. On this account, KM might be seen as a recently fashionable tool for facilitating Mode 2 practice. However, the collective tacit knowledge that plays such an important role in shaping Japanese practice appears to have been ignored by advocates of mainstream KM. We suggest that this lacuna might be called the 'Mode 3 knowledge gap'—a lesson from Japan that has important implications for re-interpreting the Anglo-Saxon knowledge debate.

Despite KM discourses being explicitly derived from Nonaka and Takeuchi's landmark account of Japan's knowledge creating companies, their analysis was remarkably unreflexive about the role of Japan's 'rules of the game' in enabling Japanese practices. At one level, they argued that knowledge concerns action and meaning in specific contexts,[7] but they desire that lessons from Japanese companies should become 'universal'. By implication, the particular power exercised to represent the tacit as explicit in specific contexts will become the basis for a universal power, in a blending of Hobbes' particularism with Boyle's quest for universal principles:

> Japanese companies have taught us that innovation can be achieved by continuously creating new knowledge, disseminating it widely through the organization, and embodying it quickly in new technologies, products, and systems. This knowledge-creating process is no longer an enigma. This process is also no longer endemic to Japanese companies. It is universal.[8]

Nonaka and Takeuchi's particular-universal juxtaposition turns upon two propositions: (1) tacit knowledge can be communicated, but it 'has to be converted into words or numbers that anyone can understand'[9] and (2) 'knowledge is created only by individuals'.[10] We suggest that both of these propositions (which are enabling assumptions for Nonaka's celebrated 'knowledge creating spiral') can be contested: tacit knowledge belongs to a different universe of meaning to explicit knowledge and group-level knowledge can be considered as an entity qualitatively different to knowledge possessed by individuals. When KM advocates translate Nonaka and Takeuchi's ideas into a new genre of management fashion, Japanese specificity is marginalised, with regrettable results.

Japan's Specificity

Japan is the only G–7 economy whose traditional social values owe virtually nothing to Mediterranean origins: its Western counterparts share Judaeo–Graeco–Roman traditions to an extent that the differences amongst them appear less pronounced when they are compared to Japan.[11] Although contemporary Japan has an American-style constitution (imposed by the Allied Occupation) and a legal framework that appears to guarantee individual rights, there are relatively few lawyers[12] and recourse to the law remains rare: power is maintained by implicit constraints. These implicit rules can be represented in explicit terms (as illustrated by the various etiquette guides produced for foreign visitors), but their interpretation—and hence the power enabled or constrained by the use of such rules in practice—involves insider judgements: the manifestation of action guided by group-level tacit knowledge. The study of Japan's 'rules of the game' (from the point of view of them being power/knowledge practices that are enabled and constrained) illustrates a counterfactual to Western expectations about knowledge and causal representations of power relations.

Japan's implicit rules privilege obligations to the group over individual rights and have evolved to situate working, learning and innovation practices inside tightly bounded company-as-family workplace organisations, each of which delineate a bounded 'frame of reference' or '*ba*' (interpreted here as 'interaction field') for the interpretation of rules by insiders. Japanese organisation's deal as a collective (*us*) with the outside world (*them*), through appropriate channels—such as the relationship with a supplier or customer—on a long-term basis with repeat transactions providing an emergent 'common sense' of what constitutes acceptable action within each relationship. Social prohibitions against job-hopping and recruitment by poaching have militated against the development of a significant labour market for specialists[13] and enable organisations to take the co-operation of their permanent male employees for granted. Within Japan's workplace organisations, close community relationships amongst long-term colleagues lower the marginal cost of information transfer and enable insiders to act as a group, which is able to ostracise and retaliate against those who break their code. This has significant implications for the management of practice and interaction with sources of knowledge developed elsewhere, under different systems of power and rules of the game.

In Japan, the processes that create order and reduce uncertainty in exchange are dominated by implicit rules. These are learnt without conscious effort on the part of the Japanese and shape taken-for-granted assumptions about how insider practice should be conducted.[14] While disciplined introspection or psychoanalysis might facilitate the creation of explicit representations of these implicit rules, their application in practice (like any rule) is a matter of 'here and now' interpretation. In Japan, the tradition of maintaining uniformity amongst group-insiders serves to heighten concern about deviations from the norm (as the famous saying warns, 'the nail that sticks out gets hammered down'). A highly nuanced sense of awareness is essential to appropriate action in any given Japanese context.[15] As we noted earlier, this has emerged from interactions of power, imagination and history that differ from other economically significant advanced industrial nations.

The dominant features of contemporary nation-state capitalism in industrialised countries reflect the imprinting conditions—social movements and macro-environmental forces—that framed the transition from the craft to the industrial age.[16] In Japan's case, its imprinting conditions were forged during more than two centuries of self-imposed international isolation. When Commodore Matthew Perry delivered US demands to open trade relations in 1853, weaknesses in the Tokugawa Shogunate's 250 year unbroken authority became critical as fear of colonisation undermined the status quo. But the Meiji Restoration in 1868—which many take to mark the birth of modern Japan—was an adjustment to the established authority structure; it was neither a Norman Conquest nor a French Revolution.[17] Under the slogan 'rich nation, strong army' (*fukoku kyôhei*) the Meiji government sought to establish a prosperous nation that remained free from Western colonisation. Japan learnt from the West but did not adopt Western rules. From the outset, Japan's industrialisation was 'plan-rational'[18]—instead of simply setting the rules of play (as in market-rational Anglo-Saxon economies) the Japanese government has been intimately involved with shaping the structure of industry and setting goals for innovation.

Although there was a high rate of labour mobility amongst factory workers at the beginning of Japan's industrialisation, employers started to strengthen links with their employees. The emergence of payments in kind—welfare benefits,

company dormitories and houses at nominal rent—increased the potential for soft control and surveillance of an emerging industrial workforce unused to the new disciplines, habituated instead to more seasonal agricultural rhythms. By the end of the First World War, Japanese manufacturers had established a system whereby, each spring, large companies hired boys who were leaving school and indentured them as firm members. Such recruits exhibited a sense of loyalty and a willingness to accept workplace rules. In the 1920s and 1930s, uniforms for workers appeared, along with badges and insignia denoting rank. The military–industrial complex responsible for fuelling imperialist expansionism accentuated the trend. It also pushed small and medium sized enterprises towards particular *zaibatsu* (groups of companies owned by a single family), thereby curtailing much of their freedom to negotiate business arrangements[19] as they became locked into fixed supply and distribution chains, in which each firm was dependent on the one above for orders.

For Johnson, the removal of Japan's military interests in 1945 freed the civilian bureaucracy from its greatest rival. This allowed more scope to devote plan-rational authority to economic recovery,[20] while preserving much of the established economic structure. When the Allied Occupation ended in 1952, the Ministry of International Trade and Industry (MITI) was able to engineer the reformation of the military-era *zaibatsu* groups of companies into 'headless' bank-based *keiretsu*. While the extent of MITI's role as primary architect for subsequent miracle growth has been the subject of debate,[21] *keiretsu* embody remarkably stable arrangements of trading relations. Notwithstanding recent realignments and adjustments, Japan is hardly the subject of Schumpeterian gales of creative destruction.[22] A more appropriate metaphor might be 'steady state' knowledge generation in which new technologies emerge from existing organisations, as employees collectively learn, work and innovate together.

Within Japan's macro-level structural stability, expectations of career-long employment for male employees (recruited on a one-off, entry-level-only labour market) emerged as an established part of business practice, in part as a response to the new union pressures of the democratic era.[23] Japan's company-as-family workplace organisations merged as tightly bounded 'safe spaces' where techno-logical innovations gleaned from the West could be domesticated, according to Japanese precepts. Leading Japanese manufacturing firms (notably in sectors such as cars and consumer electronics) became custodians of trajectories of continuous improvement innovations that have set new international standards for high quality, high reliability products.

Japan's Workplace Ba

For permanent male employees, Japan's workplace organisations provide the frame of reference—or *ba*—around which all other activities are structured. The concept of *ba* refers to a field of interaction shared by people who have a common sense of purpose, together with a willingness and capability to communicate with each other. In the classic text *Japanese Society*, Nakane[24] developed the idea that *ba* 'sets a boundary and gives a common basis to a set of individuals who are located or involved in it'. The concept of *ba* captures the insider–outsider distinction that bounds the myriad nested and overlapping groups that comprise Japanese society. But some *ba* distinctions are more important than others. Nakane argued that English words such as 'company' or 'enterprise' do not convey the meaning that

the corresponding Japanese word '*kaisha*' has for the Japanese. Specifically, they fail to convey the sense in which *kaisha* implies a mutually binding employer–employee commitment.

> In an extreme case, a company may have a common grave for its employees, similar to the household grave. With group-consciousness so highly developed there is almost no social life outside the particular group on which an individual's major economic life depends. The individual's every problem must be solved within this frame. Thus group participation is simple and unitary. It follows then that each group or institution develops a high degree of independence and closeness, with its own internal law, which is totally binding on members.[25]

Within workplace *ba*, age-related seniority delineates implicit rules about who should be treated with what degree of respect, shaping knowledge and power relations between senior managers and their understudies, allowing huge amounts of information to flow without challenging the status quo. While this might run against Anglo-Saxon concerns with efficiency, it allows enormous flexibility. A high density of information transactions within the organisation enables colleagues to develop their collective tacit sense of how individuals might act in any given set of circumstances and is invaluable in building consensus and implementing plans; people are happier to execute a policy if they had a hand in its creation. Formal hierarchy can also be overlain by 'notional equality' in fixed-term project teams (embracing members from all levels) to achieve specific objectives—senior staff think and typically drink with the team, but are nonetheless senior staff. According to an experienced British business practitioner who was beaten by a Japanese team in the race to build an identical plant, the opposition: 'lived, worked and dreamt together, twelve or more hours a day. .. they were in each other's minds'— telephone calls and memos to check things became unnecessary.[26]

Sometimes, as doubtless seems to be the case to critical observers, Japan's lack of alternative employment opportunities might seem overwhelmingly patriarchal and stifling. But, from an insider perspective, it might be difficult to appreciate how the status quo could be otherwise. The negative, coercive management of power within these companies is simply not an easily available option. Internal power confers authority over insiders, but the constraints of being an insider simultaneously limit the use of that authority; and the ultimate sanction of ostracism is sufficient to ensure compliance with group norms. In many ways, Japanese organisations are a case study in what Foucault intended with his conception of positive power. Once permanent male employees have managed to be selected by an upper-level employer, they can expect to spend about 35 years in the same company—and the company of each other. While expectations are changing, they are not changing at a radical pace. The practice of everyday organisational power within a cocoon of basic privilege is a much more positive experience than in more exposed and bleaker situations.[27]

Higher Education

Japan's prestigious employers recruit their permanent male employees from top-ranking universities, but the ranking order is fixed by long-standing traditions and directly affected by neither teaching standards nor research. Higher-ranking

universities have harder entrance examinations and thereby select the country's elite. Graduation is almost assured to those who pass the entrance examinations. What matters most is the cachet associated with graduating from a particular university, with Tokyo University outshining the rest by a huge margin. Studying for a post-graduate degree to increase personal capital does not translate into improved employment potential. On the contrary, employers typically prefer first-degree graduates who can become good team players. In the course of a career, they will do many jobs and the skills of specialists could be overtaken by events as the team collectively develops new competencies in the course of collective working, learning and innovation practice. The 'learning organisation' is most certainly not an oxymoron in this context but Western images of nurturing individual creativity in a 'research university' run counter to the rules.

In comparison to its Western counterparts, Japan produces few PhDs. Although Japan's higher education profile is changing, as illustrated by rapid recent increases in MBA education,[28] this is not being accompanied by the emergence of a labour-market that is capable of translating these qualifications into propellants for Western-style career-building by moving between organisations. But the implicit rules that 'police' Japanese labour practice are not readily apparent to outsiders; thus, the nature and degree of social stigma associated with job-hopping is often overlooked.

Private sector collaboration with universities, boundary-spanning communities of practice and informal research networking, comprise horizontal forms of association that remain untenable in Japan's vertically segmented (*tatewari*) society with its top-down chains of control and dependency. Vertical columns of descending parent–child (*oyabun–kobun*) family-style dependencies link top-tier organisations to their child organisation, which are monopsony customers for their own dependent organisations. Within organisations, the parent–child relationship or master–servant connection (*shujû-no-kankei*) emphasises long-term links between a subordinate and superior, as they rise through the organisation in tandem. Tacit knowledge held in common enables the superior to communicate with a subordinate in a manner that borders on telepathy (*ishin-denshin*). The subordinate responds instinctively to the superior's implied commands and, in return, the subordinate's interests are represented at higher levels. By the time the superior retires, his subordinate is expected to have cultivated his own generation of 'servants' to perpetuate the master's footsteps—thereby sustaining longitudinal continuity. Intra-organisational vertical orientations prevail over horizontal links with outsiders.

Neither Mode 1 nor Mode 2 knowledge production are well embedded in Japan.[29] Japanese universities are not Mode 1 research powerhouses, as they are represented to be in the West, and firms do not seek to make Mode 2 alliances with leading scientists in order to bring innovative knowledge into Mode 2 practice. Rather, they practice innovation within their everyday practices.

Japan's Lost Decade

In the early-1990s, Japan's miracle economic growth faltered with an impeccable timing: just as the United States began its long boom. Fears that Japan had perfected a new and superior alternative to Anglo-Saxon capitalism gave way to a renewed faith in liberal individualism, formal rules and impersonal market dealings. Despite the fact that Japan's 1980s success seemed to undercut

convergence theories of development, by the 1990s their was a renewed confidence that the West was the best and that California represented all our common futures.

Writing after Japan's decade of faltering economic growth, Porter—in collaboration with Japanese colleagues Takeuchi and Sakakibara—posed the question 'Can Japan compete?'. The fourth of seven chapters—entitled 'What Does Explain Japanese Competitiveness?'—begins and ends with bold affirmations of Anglo-Saxon values.

> Our study of Japan's competitive and uncompetitive industries has generated findings that are consistent with what we know to be universally true about the competitiveness of nations: vigorous competition in a supportive business environment, free of government direction, is the only path to economic vitality. Japan is not a special case after all.[30] The micro-economic foundations that drive competitive performance in the rest of the world are just as decisive in Japan. Understanding this reality is essential in order to chart an accurate course for the nation's future.[31]

But such uncritical realism is not sustained in the book's concluding chapter. Here the authors argue that Japan's stability-based system has already given way to a competition-based system in those parts of the economy that are productive and successful; the challenge is to spread this competition-based system throughout the economy. Accordingly,

> [J]apan will need to embrace some elements of the Western approach, much as it has done in the past. The result, however, will not be a clone of American capitalism but a new and distinctly Japanese conception of competition.[32]

Japanese pragmatism is favoured in the face of outside commentators who fail to understand the nature and significance of the country's implicit rules, in their rush to apply universal (US neo-liberal) theory.

From a Japanese insider's point of view, there is no reason why a techno-logical and economic superpower should, so to speak, 'show its workings'. This is especially the case where prestigious foreigners proclaim that a reliance on implicit rules is synonymous with a less complex and inherently less efficient society. While the view from outside has emphasised problems in the banking, property and construction sectors as a drag on the overall macro-economy, consumer electronics, auto and other internationally competitive manufacturing sectors have maintained their innovative flair. Certainly, Japan's 'lost decade' of faltering economic growth has seen many previously unimaginable changes as foreign pressure has leveraged incremental shifts in the status quo. But con-vergence is not a useful way of representing what is occurring: the power embodied in tacit knowledge maintains the status quo in the way that a gyroscope maintains its angle of spin. Tacit knowledge enables practice and facilitates imagination: the ability to conceive difference, and, under appropriate rules of the game, make a difference.

In developing his influential definition of institutions as the 'rules of the game', those humanly divided constraints that shape human interaction, Douglass North[33] differentiated between informal constraints (sanctions, customs, traditions and codes of conduct) and formal rules (constitutions, laws and property rights). For

North[34] the difference is one of degree located on a continuum that stretches from the informal to the formal, with the change from less to more complex societies marking a unidirectional move (albeit lengthy and uneven) from unwritten customs and traditions to written laws that underpin specialisation and the division of labour. The implication is that economic progress comprises a normative, teleological march towards individualism, impersonal transactions and the logic of Anglo-Saxon market-rational capitalism.[35]

While, in Western cultures, a history of knowledge production since the seventeenth century could be written in terms of communities of experts who aspire to achieve recognition that is on a par with insights generated by the scientific method, latterly the object of construction and contestation—knowledge—has itself become the preserve of a special body of experts—the Knowledge Managers. The secret of Knowledge Management is seen to reside in making mechanisms clear and self-evident so that we know *how* to do something else when we want to, because the causal power to do so evidently controls the mechanisms. Foucault comes closest to capturing the specificity of power and knowledge as mutually implicated with each other and is thus most useful for thinking about the relations of power and knowledge. As Foucault[36] suggests, 'power produces knowledge. .. power and knowledge directly imply one another. .. there is no power relation without the creative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations'. Thus, as a new field such as KM emerges, not only will it be shaped by power but it will also shape power.

The Knowledge Debate

Although Nonaka and Takeuchi's[37] much-cited study of Japan's knowledge-creating companies drew Western attention to the importance of tacit knowledge, their focus on tacit–explicit 'knowledge conversion' is often used to justify mainstream KM's representation of tacit knowledge as explicit information. However, the implication, that knowledge is ultimately all of one type and can be transferred—in an unproblematic way—from one context to another, raises fundamental questions about the nature of tacit knowledge and the processes by which contexts are bounded. While Nonaka and Takeuchi build on Polanyi's interpretation of the tacit dimension,[38] their argument takes a different view of tacit knowledge. For Polanyi,[39] the tacit dimension depicted an inexplicable, preconscious, instinctive and reflexively automatic use of knowledge that enabled people to act and think. It is rooted in practice and enables practice. Thus, the tacit knowledge necessary to ride a bicycle is only revealed in the act of riding. Riders might have difficulty in explaining how they 'know what they know' and 'do what they do'. No amount of book learning can enable someone, who has never ridden a bicycle, to know the type of feeling that is generated by the practical experience of riding.

In contrast to Polanyi, Nonaka and Takeuchi propose that aspects of tacit knowledge can be made explicit through a process of 'externalization' and that tacit knowledge can be segmented into two types: the 'technical' dimension that enables skilled action—such as Shigeo Nagashima's prowess as Japan's Mr Baseball—and the 'cognitive' dimension associated with generating new thoughts. Externalisation might be limited—when they asked Mr Baseball what made him so good, the closest he could get was to say 'you have to feel it'.[40] But externalisation

nevertheless provides the pivotal concept in Nonaka and Takeuchi's theory of knowledge creation.

> [E]xternalization holds the key to knowledge creation, because it creates new, explicit concepts from tacit knowledge. How can we convert tacit knowledge into explicit knowledge effectively and efficiently? The answer lies in a sequential use of metaphor, analogy and model.[41]

To be sure, metaphors and analogies play a vital role in leveraging understanding by explaining one thing in terms of another but, if the challenge is to explain the inexplicable knowledge processes that enable acting and thinking, one is thrown back to the problem of Mr Baseball's 'feel'. Metaphors and analogies are language games that deal in what is known, whereas Polanyi's concept of tacit knowledge belongs to a universe of meaning that is grounded in practice: tacit knowledge has no meaning in an abstract sense. By its very nature, tacit knowledge is not commensurate with linguistic representations. But it is essential to the use and interpretation of language and fundamental to interpreting the signs that surround and bound our context of existence.

The thrust of Nonaka and Takeuchi's model (and its exploitation in mainstream KM literature) is concerned with the treatment of what they call 'cognitive tactic knowledge', which consists of:

> schemata, mental models, beliefs, and perceptions so ingrained that we take them for granted. The cognitive dimension of tacit knowledge reflects our image of reality (what is) and our vision for the future (what ought to be). Though they cannot be articulated very easily, these implicit models shape the way we perceive the world around us.[42]

Such things as schemata, mental models and so on are expressed in language: their transformation from inchoate concepts to coherent stories involves the generation of explicit knowledge enabled by tacit knowledge. Tacit knowledge (in Polanyi's sense of the term) does not necessarily become explicit knowledge. Knowledge is neither consumed nor diminished through use. On the contrary, the mutual interaction of different types of knowledge—to enable practice—generates new knowledge.

Nonaka and Takeuchi have a simple interpretation of the amplification and diffusion of knowledge. Socialisation amongst individuals generates tacit knowledge that is externalised, combined with extant explicit knowledge, shared across a wider community, who internalise it to expand their mind-set. The SECI sequence (socialisation, externalisation, combination and internalisation) underpins a 'spiral' of knowledge creation, as successive cycles sweep outwards to enrol an expanding community of knowledge holders. Communication and knowledge creation is presented as cutting across sectional, departmental, divisional and organisational boundaries[43] as if they were a seamless continuum. Thus, the ontological continuum between the thinking individual and the wider community does not engage with the processes by which knowledge-generating contexts are bounded. In Japan's company-as-family workplace *ba*, such boundaries are important.

Although Nonaka and his colleagues subsequently adopted the concept of *ba*, their interpretation of boundaries is ambiguous:

> *Ba* sets a boundary for interactions amongst individuals, and yet its boundary is open. As there are endless possibilities to one's own contexts, a certain boundary is required for a meaningful shared context to emerge. Yet *ba* is still an open place where participants with their own contexts can come and go, and the shared context (*ba*) can continuously evolve. By providing a shared context in motion, *ba* sets binding conditions for participants by limiting the way in which participants view the world. And yet it provides participants with a higher viewpoint than their own.[44]

The suggestion that the boundaries of Japanese *ba* are 'open' runs counter to the insider–outsider distinctions that writers such as Nakane[45] and Itami[46] insist are essential to making *ba* a comprehensible concept. That organisational boundaries do indeed matter is evident in Nonaka *et al.*'s conclusion:

> [T]he knowledge creating process is not confined within the boundaries of a single company. The market, where the knowledge held by companies interacts with that held by customers, is also a place for knowledge creation. It is also possible for groups of companies to create knowledge. If we further raise the level of analysis, we arrive at a discussion of how so-called national systems of innovation can be built. For the immediate future, it will be important to examine how companies, government and universities can work together to make knowledge creation possible.[47]

From Anglo-Saxon perspectives, the implicit assumption that companies, government and universities cannot work together might seem odd, but, in a Japanese context the power/knowledge 'rules of the game' that sustain its vertically segmented society act against horizontal links of the type taken for granted by Western advocates of KM. The Western reception of KM implies a degree of boundary spanning that runs counter to Japan's 'rules of the game'.

Pluralist Epistemology and Practice

Cook and Brown argue persuasively that Nonaka and Takeuchi's insights can be strengthened by recognising qualitative differences between: (1) tacit knowledge (according to Polanyi's version of the term) and explicit knowledge; and (2) the ontological status of individual knowledge and group-level knowledge. While the ontological status of the group has long been controversial, there is a case for arguing that not every action undertaken by a human collective can be usefully or meaningfully reduced to an account of actions taken by their constituent members.[48] In contrast to the epistemological quagmire of 'knowledge conversion', Cook and Brown argue that tacit and explicit knowledge, at the individual and group level, constitute a quaternary representation of knowledge in which no one knowledge category is 'subordinate to or made up of any other'[49]—instead they mutually enable the active process of knowing in practice.

Saussure's distinction between *parole* (what is expressed in language) and *langue* (the system of language as a whole) is a useful way of representing the difference between individual and collective knowledge. At the explicit level, this is clear enough. For example, medical practitioners construct stories that explain reality to the group (the *langue* of their knowledge base). Thus, collective knowledge of pneumonia as a medical condition is different from the diagnosis (*parole*) that a

particular person has pneumonia, although the former provides a knowledge tool for articulating the latter. Similarly, Mode 1 science might be regarded as a special kind of story according with the rationality of methods established by scientists. Narrative techniques to explain reality—such as 'war stories' about great successes or failures—are innumerable and have been used throughout human history to steer collective interpretations of events.

The meaning of information expressed using collective explicit knowledge tools depends on collective tacit knowledge. And the use of tacit knowledge to enable practice is always temporally and spatially fixed, instinctive and reflexively automatic. Accordingly, the ontological solidity of group-level tacit knowledge depends on maintaining a 'common instinct' or 'common sense' about the meaning of information in a particular context. The nuance of words differs across contexts—as illustrated by differences between aspects of American and British English—and the 'interpretation code'[50] used to make sense of information in different contexts may be more or less reliant on collective tacit knowledge. Within Japan's workplace *ba*, tacit knowledge (generated by shared experience about 'the way things are done around here') is held in common by insiders and plays a highly significant role in enabling insider practice.

Figure 1(a) illustrates how each of Cook and Brown's knowledge categories act directly on practice, through 'knowing in action'. Whereas individual-level concepts and group-level explicit 'stories' are privileged in Anglo-Saxon contexts, Japanese practice tends to exploit tacit knowledge tools—and in particular reflexively instinctive 'genres' for acting in specific contexts.

Cook and Brown's distinction between knowledge tools that can be possessed, and their use in practice, provides a useful vocabulary of concepts for distinguishing between Mode 1 and Mode 2 knowledge. Figure 1(b) shows how Mode 1 knowledge represents a special type of story for explaining reality. The practice of scientific research produces Mode 1 scientific knowledge objects, as depicted in the top right-hand quadrant. But Mode 2 knowledge production is a process—the practical process of 'doing things' in the 'context of application'[51]—and generates knowledge tools that fall into all four quadrants. While the practice of science produces science that is preserved as a knowledge tool, many of the outputs of practice do not belong to any systematically archived body of knowledge. To some extent, recorded history engages with explicit information covered in the two upper-level quadrants, but the lower level quadrants are concerned with tacit skills (to act and think) and genres to read contemporary signs that require a 'living' storage space. Traditional skills associated with individuals have to be kept alive though continuous practice that inter-links successive generations. Similarly, the living genre to read the insiders' world is shaped by the nature, frequency and continuity of information transactions. Japan's company-as-family workplace *ba* provides a living space that nurtures and exploits this form of Mode 3 knowledge, which Figure 1(c) locates in the bottom right-hand quadrant.

Bounded Contexts

By moving from a binary to a quaternary model, Cook and Brown's approach makes it possible to relate individual tacit and explicit knowledge to collectives, thereby paving the way for a consideration of the power/knowledge processes by which 'rules of the game' enable boundaries to be maintained or eclipsed. Of course, boundaries might be more or less fuzzy, vary in their permeability to
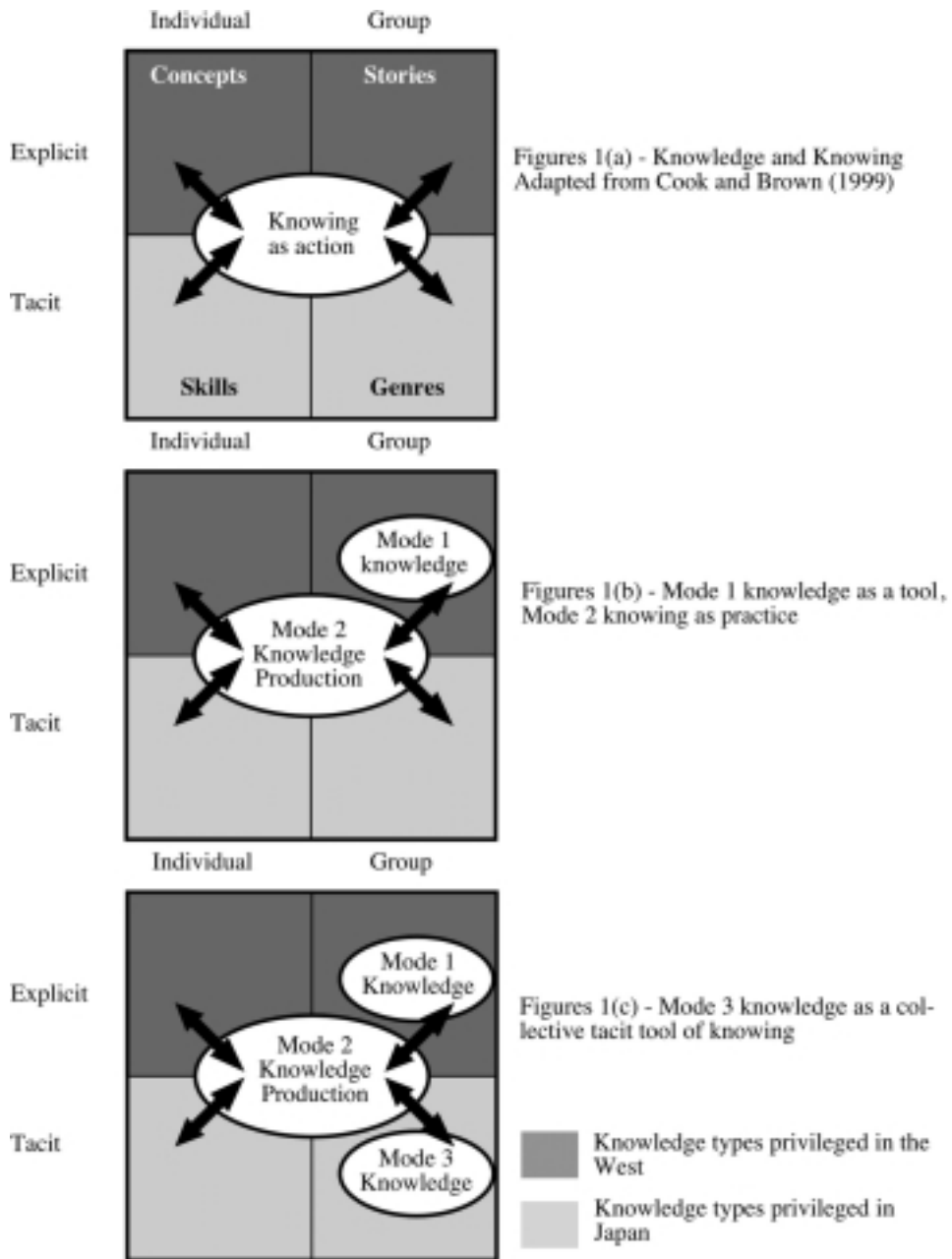
Figure 1. Knowledge types and modes [adapted from Cook and Brown (1999) and Ray and Little (2001)].

information flows as well as the extent to which they constitute barriers to the retention or recruitment of members. Japan's implicit 'rules of the game' enable its company-as-family workplace *ba* to maintain clear insider–outsider boundaries, thereby affording considerable ontological solidity to the meaning of insider knowledge.

Although the term 'organisational boundaries' enjoys popular currency in Anglo-Saxon management literature, the insider–outsider distinction is often ambiguous, causing management science to be muddled when it looks, literally, for the edge. Where the edge is at any moment will always be a shifting frontier of control: of shares, of labour, of management, of capital—of anything that at any time might be strategic. Horizontal communities of practitioners (that would run counter to Japan's 'rules of the game') criss-cross organisational boundaries and generate conduits for information flows that might differ from expectations embedded in canonical rules. According to Wenger,[52] practitioners are bound together by a sense of *joint enterprise, mutual engagement* and a *shared repertoire*, which might include communal resources, language, routines, sensibilities, tools and stories that emerge from practice. For Wenger, communities of practice are 'social containers' for competencies and comprise the 'basic building blocks' that are situated within wider social learning systems. Individuals develop identities through multi-membership of different communities. These communities are situated in the wider context through three reflexive 'modes of belonging': engagement associated with doing things together; imagination concerned with constructing an image of others as references for local activity (for example, by imagining a nation as if it were a community); and alignment with wider values (such as the scientific method or moral code). As Wenger[53] observes, multi-membership of different communities of practice is an inherent part of personal identity, 'you don't cease to be a parent because you go to work'.

In Anglo-Saxon contexts, liberal individualism is often equated with the idea that everything can be reduced to the thinking individual. Managers typically assume that any suitably qualified person could do a given job. If the person fails, immediate options include more training, more information, or the introduction of an alternative individual who can rise to the task in hand. Although team spirit might be sensed—if the group surpasses itself in a crisis or fails when new members do not resonate with the way things are done—a failure to understand what is being sensed undermines the status of Mode 3 knowledge. Japan's workplace organisations usually 'know what they know' or, to be more precise, have a collective sense of what might be achieved in practice.

Conclusion

KM is one striking example of the many management techniques that have failed to deliver what was originally expected. A power/knowledge interpretation of 'rules of the game' and practice situated in bounded contexts elucidates why this should be the case by providing critical connections between macro-level processes and micro practices. The case of Japan, as a counterfactual to Anglo-Saxon expectations about power and knowledge relations, illustrates implications that arise when the 'rules of the game' situate practice in tightly bounded contexts: collective tacit knowledge is retained as an effective tool for guiding practice. Japan's vertically segmented society, with its top-down circuits of power relations, resembles a truncated pyramid: the apex that would be occupied by a US President or UK Prime Minister is missing. Instead, there is a 'power plateau' that is coordinated by the government-bureaucracy, but checked and constrained by its horizontal interleaving (*yuchaku*) with top-tier organisations. Successive parent-child style dependency relationships delineate vertical tentacles that descend from the plateau, transmitting control downward with spectacular effectiveness. In economic

downturns, top-tier flagship organisations are able to sail on, while hardship is absorbed at the lower levels.

Japan's steady state structural stability owes much to the enduring nature of rank orders—firms are ranked, government bureaucracies have a pecking order descending from the Ministry of Finance, while university rankings begin with the University of Tokyo as number one. The 'rules of the game' militate against horizontal labour mobility, Mode 2 communities of practice and ad hoc industrial–academic research networks: vertical ranking is embedded in the structure. Ranking embodies a social currency not easily devalued or re-indexed. In this light, Porter, Takeuchi and Sakakibara's appeal for Japan to adopt what they 'know to be universally true about the competitiveness of nations' is problematic because the market-rational processes they presume to be universal are not available in the way they presume in Japan. Japan is not an Anglo-Saxon economy or society and to assume that it is, does analysis no good. It produces untranslatable simplisms—such as those of Porter *et al.*[54] Market-rational selection of the 'best' person for the job is untenable in the absence of a labour market for specialists. The best candidate is the most appropriate suitably positioned insider.

Japan's 'rules of the game' privilege an in-built stability over tendencies to change. Japan's vertically segmented society, with its tightly bounded organisations configured with regard to a fixed ranking order, provides remarkably effective social containers for Mode 3 knowledge. These nest in fixed relationships with the overall structure, one that is steered by the integrated plan-rational government-bureaucracy. While this might constrain individual creativity, individual leadership and the possibility of sudden policy changes, its ability to deliver continuous improvement innovations is spectacular. If uncertainties remain within the limits of past experience, Japanese organisations are able to exhibit outstanding levels of flexibility, but the lack of relevant past experience may cause paralysis. The reflexively automatic features of Mode 3 knowledge allow for knowledge generation that falls outside the realm of mainstream KM. Japan's power/knowledge practices are not commensurate with the horizontal dimension of KM and Anglo-Saxon assumptions that global communications can be equated with a global context. Japan's 'rules of the game' render, what has become the Anglo-Saxon conventional wisdom concerning KM, unworkable—despite the genealogy that is usually drawn from Japan—while Anglo-Saxon 'rules of the game' limit the currency of Mode 3 knowledge.

Notes and References

1. J.-C. Spender, 'Pluralist epistemology and the knowledge-based theory of the firm', *Organization*, 5, 2, 1998, p. 243; Scott Cook and John Seely Brown, 'Bridging epistemologies: the generative dance between organizational knowledge and organizational knowing', *Organization Science*, 10, 4, 1999, pp. 381–400.
2. Ludwig Wittgenstein, *Philosophical Investigations*, Blackwell, Oxford, 1972.
3. Blackler attributes the term 'knowledge about' to James (W. James, *The Principles of Psychology*, Dover, New York, 1950) and equates it with Ryles' 'knowledge that' (G. Ryles, *The Concept of the Mind*, Hutchinson, London, 1949): see Frank Blackler, 'Knowledge, knowledge work and organizations: an overview and interpretation', *Organization Studies*, 16, 6, 1995, p. 1023.
4. There are two main ways in which reason has been assumed to be a property of knowledge: either through the exclusion of politics or of experiments. For Boyle, the creation of an experimental technology that would allow observation of phenomenal events of his sovereign design, by others than merely himself, was to be the theme for the new era of

knowledge. Hobbes, by contrast, sought to legislate a situation in which sovereignty in the Body Politic puts an end to disputation over anything much other than the proof an argument conducted as if on the lines of a discourse among geometers or mathematicians. Boyle sought to exclude politics from empirical knowledge; Hobbes sought to exclude empirical knowledge from politics. Hobbes sought to exclude experimental science from the discourse of political science and Boyle sought to exclude politics from the discourse of experimental science.

5. A landmark study in this debate suggested that, while the push–pull debate was an oversimplification of a complex process, the occasional significant contribution of commercially exploitable scientific discoveries had to be set in the context of myriad improvement innovations to meet 'customer needs' or 'management objectives': J. Langrish, M. Gibbons, W. G. Evans and F. R. Jevons, *Wealth from Knowledge: A Study of Innovation in Industry*, Macmillan, Basingstoke, 1972.

6. Michael Gibbons, Camille Limoges, Helga Nowotny, Simon Schwartzman, Peter Scott and Martin Trow, *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*, Sage, London, 1994.

7. Ikujiro Nonaka and Hirotaka Takeuchi, *The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation*, Oxford University Press, New York, 1995, p. 58.

8. *Ibid*, p. 246.

9. *Ibid*, p. 9.

10. *Ibid*, p. 239.

11. Ronald Dore, *British Factory, Japanese Factory: The Origins of National Diversity in Industrial Relations*, Allen and Unwin, London, 1973, p. 419.

12. In 1999, Japan had 16,800 licensed lawyers compared to 900,000 in the United States.

13. Ronald Gilson and Mark Roe, 'Lifetime employment and labor peace', *Columbia Law Review*, l, 2, 1999, pp. 508–540.

14. As with the *emic* (insider) and *etic* (outsider) perspectives in anthropology, ultimately there is no outsider view. In post-structural terms, all meaning is textual and intertextual; there is no 'outside of the text'.

15. Chie Nakane, *Japanese Society*, University of California Press, Berkeley, 1970, p. 124 noted that, 'Japanese who spend their teens or twenties abroad face considerable difficulty in meeting all the complicated techniques of personal relations, which do not require much intellectual manoeuvre but demand highly sensitive and nervous procedures'. Children of Japanese posted overseas—who readily adapt to host-country behaviour—are, for example, especially prone to accusations that they have lost the appropriate sensitivities when they rejoin their peers in Japan. For a candid account of an adult Japanese male professional returning to Japan after 10 years in the United States, see: Masao Miyamoto, *Straightjacket Society: An Insider's Irreverent View of Bureaucratic Japan*, Kodansha International, Tokyo, 1994.

16. Arie Lewin, Chris Long and Timothy Carroll, 'The coevolution of new organisational forms', *Organisation Science*, 10, 5, 1999, pp. 535–50.

17. Richard Mason and John Caiger, *A History of Japan*, Charles E. Tuttle, Rutland, 1972, p. 217.

18. Chalmers Johnson, *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925–1975*, Charles E. Tuttle, Tokyo, 1992, p. 19.

19. Kenichi Miyashita and David Russell, *Keiretsu: Inside the Hidden Japanese Conglomerates*, McGraw-Hill, New York, 1994, p. 117.

20. Chalmers Johnson, *Japan: Who Governs? The Rise of the Developmental State*, W. W. Norton and Company, New York, 1995, p. 29.

21. Michael Porter, Hirotaka Takeuchi and Mariko Sakakibara, *Can Japan Compete?* Macmillan, Basingstoke, 2000, p. 20.

22. Joseph Schumpeter, *Capitalism, Socialism and Democracy*, George Allen & Unwin, London, 1976, p. 84.

23. Japan's vertically segmented society effectively choked any moves towards horizontal craft unions; employers and employees are part of the same 'family' and enterprise-based

unionism is a reflection of social prohibitions against boundary spanning links that reach into other families. Domestic discord is an internal matter that is resolved within the organisation; the segmentation between workplace groups prevents the flows of information and building of collective consciousness associated with mass movements for change. In Japan, the term 'democracy' is a convenient label for stressing the importance of consulting the lower orders in the vertical hierarchy to build consensus. However, the deeply embedded feudal precepts that confer absolute authority on the higher orders pre-ordains the nature of whatever 'consensus' is reached and thereby pre-empts Anglo-Saxon notions of democratic change.

24. Nakane, *op. cit.*, p. 1.
25. *Ibid*, p. 10.
26. John Harvey-Jones, *Managing to Survive: A Guide to Management Through the 1990s*, Mandarin, London, 1994, p. 178.
27. Elsewhere Kono and Clegg have focused on the everyday practices of power in minute detail, looking at areas such as the dual career tracks, loser-recovery systems, separate job and status ladders with many rungs and small differentials: Toyohiro Kono and Stewart Clegg, *Trends in Japanese Management*, Palgrave, London, 2001.
28. Lola Okazaki-Ward, 'MBA education in Japan: its current state and future direction', *Journal of Management Education*, 20, 3, 2001, pp. 197–234.
29. Kono and Clegg, *op. cit.*
30. Porter *et al.*, *op. cit.*, p. 100.
31. *Ibid*, p. 118.
32. *Ibid*, p. 188.
33. Douglass North, 'Institutions', *Journal of Economic Perspectives*, 5, 1991, 97.
34. Douglass North, Institutions, *Institutional Change and Economic Performance*, Cambridge University Press, Cambridge, 1990, p. 46.
35. Of course, such evolutionary schemas are nothing new—they have been a staple of sociology since Comte and St. Simon. While these schemas have largely dropped out of use in contemporary sociology, they are still in use in cognate disciplines, such as management and economics. North's idea of a continuum between informal constraints and formal rules invokes images of mechanistic connections serving a progression towards a greater use of codified information as a higher stage of development.
36. Michel Foucault, *Discipline and Punish*, Penguin, Harmondsworth, 1977, pp. 27–8.
37. Nonaka and Takeuchi, *op. cit.*, 1995.
38. M. Polanyi, *The Tacit Dimension*, London, Routledge & Kegan Paul, 1966.
39. Polanyi's conception of the tacit dimension stemmed from his famous observation that 'we can know more than we can tell' (1967, p. 4). In speculating about what this meant, Polanyi discussed the police's introduction of photo-fit identification as a way of expressing something tacit about the recognition of faces, but cautions that we cannot tell how we do this: 'This very act of communication displays a knowledge that we cannot tell' (*ibid*, p. 5). He also considers the use of practical classes in university education to communicate the knowledge that cannot be told, arguing that this is only possible '. . . by relying on the pupil's intelligent co-operation for catching the meaning of the demonstration'. Thus, your thoughts are always your thoughts and my thoughts are my thoughts, but the representation of one person's thoughts in explicit language might leverage understanding in the intelligent co-operation of the listener. Every human activity is enabled by tacit knowledge, but this knowledge can never be objectified—its existence is merely revealed by the ability to accomplish physical and mental actions.
40. Nonaka and Takeuchi, *op. cit.*, p. 9.
41. *Ibid*, p. 66.
42. *Ibid*, p. 8.
43. *Ibid*, p. 72.
44. Ikujiro Nonaka, Ryoko Toyama and Noboru Konno, 'SECI, ba and leadership: a unified model of dynamic knowledge creation', *Long Range Planning*, 33, 4, 2000, p. 15.

45. Nakane, *op. cit.*
46. Hiroyuki Itami, 'Firm as an informational "*ba*" (interactive field)', in Yuji Ijiri (ed.), *Information and Internationalization*, Carnegie-Mellon University Press, Pittsburgh, 1992.
47. Nonaka *et al.*, *op. cit.*, 2000, p. 30.
48. Cook and Brown, *op. cit.*, p. 399.
49. *Ibid*, p. 382.
50. Itami, *op. cit.*
51. Gibbons *et al.*, *op. cit.*
52. Etienne Wenger, Communities of practice and social learning systems, *Organization*, 7, 2, 2000, p. 229.
53. *Ibid*, p. 239.
54. Porter *et al.*, *op. cit.*