KNOWLEDGE R.I.P.? Resurrecting Knowledge Requires Rediscovering the University

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Abstract (Article Summary)

In a world where sociologists routinely call ours a `knowledge society' and `Chief Knowledge Officers' (`CKOs') occupy top posts in universities, corporations and public sector agencies, it may come as a shock to learn that the pursuit of knowledge is becoming an endangered species of human endeavour. A sign of the times is that `knowledge management' — `KM' to its followers — sounds less like a contradiction in terms than a potentially lucrative career path. The very idea that knowledge is something that needs to be `managed' suggests that its growth should not be left in a wild state: at best it remains unused and at worst it wastes resources. Yet, this managerial mindset goes against the grain of the last 2500 years of Western thought, which has valorised the pursuit of knowledge `for its own sake', regardless of its costs and benefits. What has changed in the interim? Has it been for the better? And if not, what can be done about it?

Full Text (4,294 words)

Until the mid-19th century, knowledge was thought to be something that could be — indeed, should be — pursued by any reasonably wealthy person in his or her spare time. The life of the mind was treated rather like the life of the body still is, at least in some quarters. Consider the instinctive repulsion that amateur sports devotees continue to feel toward `professional athletes' whose feats are fuelled by drugs and dollars. That begins to recall the sort of resistance that the Master of Trinity College Cambridge, William Whewell, met in the 1830s, when he introduced the neologism `scientist' to denote someone who, after having received specialist training, was paid to engage in the systematic pursuit of knowledge on a full-time basis. Before Whewell, new knowledge was not systematically acquired in order to save time or make money. On the contrary, the observation of nature and the performance of experiments typically consumed the bulk of one's time and inheritance. Isaac Newton was rare in being a Royal Society member who drew a regular salary from a university. His contemporaries read this as testifying to his humble origins. Yet even Newton wrote Principia Mathematica in his spare time. He needed external funding only to publish his arcane and hefty tomes, not to conduct the research reported in them.

A measure of the long-term significance of Whewell's semantic innovation is that most professional natural and social scientists today find themselves in a situation that is the exact opposite of Newton's: If one can find the money to do research in the first place, the publishers are more than happy to oblige in communicating its results.

The rise of knowledge management can be seen as a backlash against professionalism in the pursuit of knowledge — but without the interest in reviving amateur ethic. This backlash is registered on two levels. At a popular level, the KM mentality resonates with the perceived lack of scientific genius in our time. But at a potentially deeper level, it concerns the very sort of knowledge worth pursuing.

What was the last episode of scientific genius: Einstein's development of the Special Theory of Relativity in 1905? Heisenberg's formulation of the Uncertainty Principle of quantum mechanics in 1927? If these are the main contenders, it would seem that, over the past century, professional knowledge producers have become less — what shall we say — critical? intelligent? imaginative? But there may be a more down-to-earth explanation. Perhaps genius will not be ascribed to people who require enormous resources prior to the production of new knowledge.

To be sure, considerable resources — both economic and cultural — are needed after a putative breakthrough to enable it literally to `break through' existing scientific and social practices. Nevertheless, a `most bang for the buck' principle seems to rule our intuitive judgments of genius. Television producers know this all too well. It explains why we are more impressed by a Joe Bloggs who invents something that stumps the experts than a battalion of well-financed lab scientists who arrive at some equally counter-intuitive and probably better founded discovery. But the consequences of requiring payment for research run deeper than the subject of the next installment of Panorama. If the people who are regularly paid to produce knowledge find publication relatively easy, then it should come as no surprise that the ratio of useful to useless research turns out to be unacceptably low, at least to the untrained eye. Enter the knowledge manager, who promises to sort out the situation.

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When academics hear the phrase `the most knowledge produced at the lowest cost', they presume it implies an interest in an absolute increase in society's knowledge stock. Unfortunately, they have failed to consult their local knowledge manager, who wants return on investment. After all, there are reasons why the most profitable firms do not devote too much of their budgets to `Research and Development' (`R&D'). Knowledge manag ers are mainly interested in exploiting existing knowledge more efficiently so as to capture a larger share of the markets in which they compete. Their interest in producing and distributing new knowledge extends only to what will enable them to realise that goal. Indeed, KM specialists are masters of what may be called `counter-entrepreneurship'. They are in the business of manipulating scarcity at both the supply and demand side of the exchange equation.

KM strategies tend to move toward one of two directions: they either restrict the production and open up the distribution of knowledge, or vice versa. Knowledge managers urge their firms to adopt a strategy inspired by the former Fortune editor Thomas A. Stewart: `Outsource or specialise'. Put more bluntly: `rent or own'. Firms should either rent forms of knowledge that others can produce more cheaply or own

forms of knowledge that others cannot (and subsequently will not) produce more cheaply. The idea of knowledge as intellectual property has been finally taken with deadly seriousness.

This is a revolutionary proposal, which professional knowledge producers ignore at their peril. We are used to thinking that knowledge is produced by hard work that is never fully rewarded, the fruits of which are nevertheless distributed as widely as possible. For economists, this is what distinguishes knowledge as a `public good'. However, from a KM standpoint, it is not a very economic scenario. It would be better for the reverse to occur. Effort toward innovation would then be discouraged except where a profit is likely to result. This would license, on the one hand, the redundancy of research staff and, on the other, the acquisition of intellectual property rights. In both cases, capturing knowledge takes precedent over cultivating it.

Generally speaking, the competitive advantage likely to be gained from the introduction of a new product largely depends on one's ability to create a demand for it, which usually has more to do with an ability to second-guess consumers than anything truly revolutionary in the product itself. Thus, relatively small innovations can end up making major profits for big companies, while truly radical innovations can be easily captured or ignored. And if the fate of non-petroleum-fuelled cars is any indication, some innovations may even be captured *in order* to be ignored.

These features of the *Realpolitik* of knowledge management begin to explain why the recent increase in the number of British scientific publications and patents has failed to enhance this country's competitiveness in global markets. Even if there is some truth to the widespread view that scientists and industrialists do not communicate with each other very well, a deeper problem is that businesspeople regard the need for new knowledge as the moral equivalent of a necessary evil: the more necessary, the more evil. Economists often fail to recognise this point because of the rather patronising attitude towards business that is enshrined in their `constrained maximisation' model of rational action. In this model, the average corporate executive appears as a harried and impatient person who must strike a balance between doing what is best in the short and long terms. This may involve curtailing the work of the R&D division. However, had the corporation a limitless supply of time and resources, it would increase its R&D investments and eventually reap the corresponding benefits, since new knowledge is presumed to be the royal road to an increased market share.

The rise of knowledge management reveals that `the average corporate executive' does not think like this at all. Indicative is the difference in the biological imagery to which the economist and the KM specialist typically appeals. Economists regard new knowledge as spontaneously generated, much like a mutation that eventually becomes the basis for a new species. Despite their pessimism about the prospects for controlling the growth of knowledge, economists are generally optimistic that such uncontrolled growth will ultimately result in overall good. In contrast, knowledge managers regard the uncontrollable character of knowledge growth as itself a problem. Where economists imagine a proliferation of new variations and species, KM specialists see only potential

weeds that crowd out the effort needed to maximise profitability. Where economists see `factors of production' in the staff and equipment of the average knowledge-intensive firm, knowledge managers see `conspicuous consumption', the cost-effectiveness of which is presumed dubious, until proven otherwise.

Difference in historical perspective plays an important role here. Economists' views of knowledge remain anchored in the Industrial Revolution of the late 18th and early 19th century when capitalised innovation did indeed result in a general expansion of markets and increase in wealth. However, KM is anchored in the `information explosion' of the late 20th and early 21st century in which corporations are struggling to cope with overflowing databases, the care of which has been left to a highly skilled but mobile labour force.

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It would be a mistake to think that knowledge managers have their sights set solely on the business world. By defining their field of expertise as `intellectual capital', KM specialists mean to take aim at all knowledge-based organisations, including universities. This has resulted in the proliferation of what professional knowledge producers can only regard as invidious distinctions. Amongst the heroes of KM culture are short-term contract researchers who can deliver client-centred knowledge by a set date. This fits the just-in- time mentality that colours so many stories of corporate success in our time. It is to be distinguished from the derided just-in-case mentality that is said to govern normal academic knowledge production. Here one is led to imagine a warehouse of stockpiled knowledge products for which there is no clear immediate demand. Before the advent of knowledge management, this place was called a library.

Universities have adapted accordingly. An increasing percentage of academic staff is on short-term contracts. The `harder' sciences tend to bear the brunt of the contract researchers, whereas the `softer' sciences absorb more of the contract teachers. The difference reflects the source of income: lucrative grants versus student enrollments. But in both cases, library budgets have been generally cut, and more academic journals require an author-generated subsidy for publication. Yet the incursion of knowledge management into academia runs deeper. In Thomas Stewart's words, universities are `dumb organisations' that are `high on human capital' but `low on structural capital.' Behind this swarm of buzzwords is the view that a fast food chain like MacDonald's is a `smart organisation' because it makes the most of its relatively ill-trained staff by maximising the interconnectedness of the staff's activities. Business as usual in academia proceeds almost exactly in reverse, which is why its well-educated staff must be required — or begged, as the case may be — to declare `office hours'.

From a KM standpoint, the traditional university is a whole much less than the sum of its parts. Imagine a firm whose goals are dictated almost entirely by the various trades unions from which its labour force is drawn. Each union has the final say on the performance standards to which its members are held. Management ensures that the firm's employees do not interfere with each other's work, without aspiring to any greater level of co-operation and co-ordination of effort. If we replace `trade union' with

`academic discipline' or `professional association', the firm starts to look like a university.

To be sure, the last 20 years of public sector liberalisation have forced universities to set goals that transcend the interests of their constituent disciplines. Unfortunately, instead of setting their own organisational aims, university administrators have allowed those aims to be dictated by others who would see academic institutions as means to their own ends. The result still fails to impress knowledge managers, who now wonder whether each competing demand might not be more efficiently served by such `post-academic' institutions as electronically administered degree programmes or privately funded research parks.

Ironically, the most obvious symptom of the problem in the British context has been seen in other parts of the world as a breakthrough in corporate accountability. I refer here to the periodic national evaluations of teaching and research: TQA (Teaching Quality Assurance) and RAE (Research Assessment Exercise). Whatever their respective merits, the two exercises have little, if anything, to do with each other. Yet, universities willingly participate in them, whilst paying lip service to the idea that academics should unify teaching and research in their practice.

It is clear that TQA is driven by a desire to maximise the number of highly skilled workers. And if well-trained workers continue to be paid less in Britain than other parts of the world, TQA should contribute to an effective global market strategy. The motives behind RAE are more elusive, since a high rate of scientific publications and patents is more a striking indicator than an underlying cause of a nation's wealth. In the symbolic world of politics and public policy, this is not a trivial point but one worth keeping in perspective.

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So far we seem to be heading for a world where the pursuit of knowledge is de-professionalised, and perhaps even de-skilled, as the teaching and research functions of the university are subjected to increasingly polarised demands. For some this institutional meltdown is returning us to the liberating conditions of the original Industrial Revolution. Yet, there is also reason to believe that both business and government are slowly rediscovering what academics have traditionally done better than anyone else, namely, to give a shape and direction to entire bodies of knowledge.

In the annals of knowledge management, much is made of the fact that James Watt perfected the steam engine with hardly any academic training. Much less is made of his correspondence with Edinburgh University chemist Joseph Black, who helped Watt understand why certain prototypes of the engine did and did not work. Whatever the virtues of `trial-and-error' learning, it is difficult to deny that access to an organised collective memory base can help economise on time and effort - especially when, as in the Watt-Black exchange, no consultancy fees are charged.

Closer to our own time are the industrially funded teams that brought to life such

interdisciplinary fields as molecular biology and artificial intelligence. KM specialists make much of the frustration that the pioneering scientists felt within the disciplinary confines of their home universities. However, it was the subsequent establishment of university departments and academic degree programmes that ultimately ensured that these fields remained in the public domain as scientific knowledge, and not converted into trade secrets and other bits of intellectual real estate. The combination of efficiency, systematicity and publicity highlighted in these two examples point to the institutional uniqueness of universities. They are virtues that even business has begun to appreciate as firms suffer from what knowledge managers call `corporate amnesia', the negative by-product of quickly formed, flexibly organised associations of providers and clients. Whilst the existence of these nimble networks has enabled the business community to adapt to a changing competitive environment, the only knowledge traces they leave are those embodied in their joint products. For, once its mission is accomplished, a network's human nodes simply disperse and connect with other nodes to form new networks in pursuit of new projects.

The precedent for this diabolical situation is captured by the phrase `market failure', which is the economist's way of talking about goods that markets fail to generate because no one finds it in their interest to produce them. This is because the cost of producing the goods can never be completely recovered in profits. In welfare economics, market failure defines the frontier where state provision of `public goods' begins. Similarly, we may speak of the role of universities in redressing `network failure' by reproducing and extending knowledge that might otherwise be lost through network dispersion.

Knowledge managers have yet to realise the full significance of universities in this capacity because they tend to diagnose network failure much too locally, as mere instances of `knowledge hoarding'. The idea here is that companies become dependent on the services of certain employees — often IT personnel — who do not make their knowledge directly available. We are asked to envisage these human nodes as blocking the flow of information in the network by refusing to share what they know with the other nodes. Thus, the knowledge hoarder appears as a moral failure who needs to be taught greater concern for her colleagues. Little is said about the emergence of knowledge hoarding as a defensive strategy for remaining employed or even employable in the knowledge economy's volatile labour market. The KM targeting of the individual knowledge hoarder aims to ensure that firms receive an adequate return on their `knowledge investments' as measured by the clients, contacts or web links those employees accumulate. It is very much the point-of-view of managers trying to keep their firms afloat. However, from a more global perspective the tendency of knowledge to escape from its formative networks may be seen as a positive market mechanism for counteracting the corporate hoarding of knowledge, which could result in that ultimate blockage of free exchange, a monopoly.

In this context, universities institutionalise knowledge escape so as to redistribute the corporate advantage accumulated in a firm's staff, databases and intellectual property. Classically this task has involved synthesising disparate cases from their original contexts

of discovery and inferring larger explanatory principles, which are then subject to further study and ultimately dissemination through teaching and publication. This was certainly Whewell's vision of the scientist's activities. Nowadays they extend beyond contemplating the design of nature to `troubleshooting' and `reverse engineering' products to enable their improvement and even replacement.

This image of academia as a giant knowledge trustbuster has been promoted in several quarters in recent years. Two outstanding instances will be considered below. The first is the call for `evidence-based policy', which has been sounded by government, public sector agencies and the liberal professions. The second is the emergence of the `Executive Ph.D.' as a successor degree to the MBA. In both cases, the signs are somewhat equivocal but overall they point to a more favourable future for knowledge.

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On its face, much of the rhetoric surrounding evidence-based policy is anti-academic and even anti-intellectual. The soundbite version accuses academics of using needlessly obscure language, which impedes the uptake of new knowledge by practitioners and policymakers alike. Excessive theorising and hyperspecialisation are often held responsible for this deplorable situation. However, informing these soundbites is an implicit critique of both the providers and users of professionally produced knowledge.

On the one hand, research-based knowledge is admitted to be a vital corrective to practices and policies that draw on a parochial and often outdated body of evidence. Moreover, part of the complaint about academic jargon needs to be understood in terms of the tendency of knowledge users to appropriate precisely the jargon, and not the underlying research, to justify whatever they are already doing. In that case, the jargon becomes one more rhetorical device for camouflaging opposition to change. On the other hand, this appropriation is able to occur in the first place because many academics fatalistically regard publication as tantamount to abandonment. Academic books and journals are too often so many bottled messages aimlessly seeking readers. The reluctance of academics to be engaged in the public conveyance of their knowledge points to the disjunction of research and teaching that the KM mentality has both recognised and deepened. For Marxists this is just the old story of workers alienated from the fruits of their labour, only now rewritten for an upwardly mobile, well-educated audience.

In this respect, the call for evidence-based policy may be heard as part of a broader plea for academics to embody the knowledge they produce, not least by person ally explaining its significance in a wide range of forums and perhaps even participating in the formation of new professional practices and public policies. Without denying the nobility of these sentiments, it is worth observing that academic ineptitude at self-publicity has been a long-term adaptive response to policies taken by the governments of the most scientifically advanced countries — Bismarck's Germany and Cold War United States most notably.

In these cases, the state wanted academics to focus on self-contained problems that admitted of technical solutions, which could then be used without consulting the original knowledge producers, just in case their ethical or political scruples interfered with the interests of national security. The main mechanism for containing knowledge production in this fashion was `peer review', whereby academics with the relevant competence but different ideological commitments would have to approve a proposed advance in knowledge before it was licensed to enter the public domain. Over the past century, academics have turned peer review into the standard-bearer for the autonomous pursuit of knowledge. To be sure, there is some substance behind the symbolism. However, peer review has also helped launder claims to knowledge of controversial political consequences whilst encouraging the sort of research specialisation that evidence-based policy now aims to oppose. Whether governments are ready to accept the potentially de-stabilising consequences of this re-opened Pandora's box remains to be seen. Nevertheless it is a box worth re-opening.

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Finally, we turn to what is perhaps the most hopeful sign that knowledge is receiving a new lease on life, namely, the establishment of the Executive Ph.D. as a degree programme in business schools. The pilot for this programme, appropriately called `Fenix' (`phoe nix'), began as a joint venture between the highest levels of academia and business in Sweden. Academia is represented by the Chalmers University of Technology (Sweden's answer to MIT or Imperial College) and the Stockholm Business School. Business is represented by most of the major Swedish multinational corporations, including Volvo, Ericsson and AstraZeneca.

The premise behind this programme is that the business world is much too dynamic today and hence needs to recover the qualities of mind that have enabled academics to sustain collective bodies of knowledge that not only survive changes in fashion but also provide standards for evaluating new forms of knowledge. Being on top of the latest trend makes good business sense only if the trend is likely to leave a lasting trace. Otherwise, one risks wasting effort now and suffering obsolescence later. Moreover, as corporations come to regard themselves as potential victims of a mobile labour force, they have found it more congenial to adopt the standpoint of the `knowledge disadvantaged', which in turn renders the `public good' conception of knowledge more attractive than perhaps it previously seemed.

As in the drive toward evidence-based policy, business was initially attracted to this idea in order to tap into what was imagined to be an unfathomed wealth of knowledge lodged in esoteric texts and inscrutable databases. Thus, `advanced research skills' were seen as enabling middle managers to subject the scientific literature to such favoured KM activities as `mining' and `prospecting'. However, as the Executive Ph.D. programme has evolved, the sense of what counts as `metal' and `ore' has shifted from a hardcore KM orientation to one more attuned with academic values.

Perhaps the clearest example of the Gestalt switch involved here is the move away from thinking that some brute sense of `information' is the metal that needs to be extracted from its ore-like theoretical and methodological encasement. Instead, these budding doctors of business come to regard this encasement not so differently from how stock market analysts think of `fundamental' indicators. One learns not to be too impressed by a striking research result, unless one is in a position to judge the robustness of the theory and method that inform it. Such judgment usually involves some knowledge of the history of the research field in question.

An important but little remarked upon feature of the constitution of the Executive Ph.D. programme is that its `academic staff' consists almost entirely of contract researchers. Like other such researchers, the paucity of regular academic posts initially drew them into a paid collaboration with business. Usually the collaboration results in the contract researcher adopting habits associated with the business world, notably a penchant for problem-oriented thinking aimed at practical short-term solutions. This can then make it difficult for the contract researcher to re-integrate into academic culture once a regular post opens up.

But here we see exactly the reverse occurring, as the business doctoral students acquire habits of mind that were not part of their undergraduate degree training (usually in narrow technical subjects) and that have not been especially fostered in the business environments where they have been working. These include a tolerance, respect and capacity for sustained reading, rigor, abstraction, synthesis and criticism. Indeed, the Executive Ph.D. programme addresses the problem of corporate amnesia quite literally by teaching students how to institutionalise a corporate conversation that continually rehearses the history and re-plots the aims of the organisation, in light of current practice.

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So, will the spread of Executive Ph.D. programmes ultimately rescue academia from the knowledge manager's bottom-line thinking? Not completely. The KM perspective has identified the fundamental structural weakness of the modern university. The teaching function, which is organised in terms of rigidly defined departments, works at cross-purposes with the research function, which favours largely self-organising interdisciplinary teams. There is no doubt that this tension has only worsened in recent years; research activities - be they in the lab or the field — have required more time and space away from the preparation and delivery of courses.

It may well be that knowledge managers will persuade universities of the cost-effectiveness of allowing research to migrate off their grounds. In time research would become completely outsourced to facilities specially tailored to the needs of major clients. Academic employees would be then left with the perennial job of filling classrooms. But by the time this scenario came to pass, hopefully there will be enough

holders of Executive Ph.D. degrees in public and private sector administration to undo the damage that will have been done.

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