



Christopher Newfield

The structure and silence of the cognitariat

Only a small "creative class" achieves the creativity and freedom attributed by stereotype to all knowledge workers, writes Christopher Newfield. Below this elite exist far more numerous "perma-temps", who are highly qualified yet interchangeable. In the American university system, which has parallels in Europe, recipients of higher education are increasingly prepared for a working life in a knowledge economy where independence and social protections have been eroded.

Many people in wealthy countries assume that because business and political leaders agree that we live in a "knowledge economy", they therefore support an increase in knowledge production and support the university systems that perform the majority of this basic research. The reality is something quite different. Leaders are preoccupied with reducing public expenditures on higher education and with lowering the cost of each degree produced. They are containing and cheapening the research and educational systems on which they say the future of their economies depend. Yet why would wealthy societies cut back on the sources of high-tech knowledge when they believe their future lies with high-value, high-tech industries? What is the logic of cuts that contradicts the knowledge economy's apparent requirement of a *mass* middle-class, a society that has a majority of college graduates and of knowledge workers?

The contradiction exists only if we assume that today's leaders of the knowledge economy actually seek a mass middle class, desire high standards of living for the vast majority of their population, and believe that the knowledge economy needs armies of college graduates. If instead, we posit that the political and business leaders of the knowledge economy seek a smaller elite of knowledge-based star producers, then the unceasing cheapening of public higher education in the US and elsewhere makes more sense.

Managing and dividing

For nearly four decades, a range of American commentators thought knowledge work meant a kind of independence, creativity, and even liberation. Clark Kerr's landmark *The Uses of the University* (1963) described the centrality of the university and its knowledge workers to advanced capitalist economies. John Kenneth Galbraith saw the college-trained middle classes forming a "technostructure" that ruled large corporations in *The New Industrial State* from 1967. In 1979 Barbara and John Ehrenreich defined the "professional-managerial class" (PMC) as a new and dominant force in previously binary class dynamics. Robert Reich's 1991 *The Work of Nations* defined "symbolic analysts" as a new ruling class, one that Richard Florida

would rechristen the "creative class" in 2003, to which all-important social resources would flow. The fullest endorsement of the idea of a self-determined knowledge class came from management guru Peter Drucker, who in the immediate aftermath of the fall of the Berlin Wall offered this vision of knowledge work leading to "post-capitalism":

The leading social groups of the knowledge society will be "knowledge workers" — knowledge executives who know how to allocate knowledge to productive use, just as the capitalists knew how to allocate capital to productive use; knowledge professionals, knowledge employees. Practically all these knowledge people will be employed in organizations. Yet, unlike the employees under Capitalism, they will own both the 'means of production' and the "tools of production".¹

But do knowledge companies want these armies of brainworkers? There is much evidence to suggest that they do not. The first is that high-tech industries have famously stratified workforces and pay structures in which their blue-collar workers do not make living wages. The second is that when they grew large, they hired as many temporary workers as possible. Microsoft, one of the wealthiest companies in history, was sued for its practice of hiring "permatemps", second-class employees with different coloured badges and lower wages and benefits who would nonetheless often work with the company for years.² A third piece of evidence is that they are as inclined towards mass layoffs as any other industrial sector.³ A fourth is that the large majority of occupational sectors within "high tech employment" in Silicon Valley declined during the 2000s. A fifth piece of evidence is that total direct employment in high tech fields (science, technology, engineering, and mathematics, or STEM occupations) was 5.2 per cent of all jobs in the US in 2007, which means that high-tech firms cannot see themselves as sources of mass employment.

There are about 7 million STEM jobs in the US, while the higher education system produces about 2.3 million bachelors, masters, professional, and doctoral degrees every year (in all fields).⁴ This means that the US university system could reproduce the entire STEM workforce in 3 years (2 years if we include associate degrees). If a normal STEM careers lasts about 30 years, we can conclude, using very rough figures, that the US university system produces about 10 times more graduates than the economy needs in its technical workforce.

The issue for knowledge industries then, is *not* how they can create armies of knowledge workers. The issue is the opposite: how can they limit their numbers and manage their output? What happens to the nine-tenths of college graduates who, according to our simplified numbers, work in a knowledge economy but who do not directly produce its technical knowledge?

Stratification through knowledge management

A big part of the answer is that they are demoted to a lower class of worker. The mechanism is a form of sorting that emerged in the 1990s as large numbers of college students who had grown up with computers entered the workforce with tastes and skills ideally suited to building the Internet and related industries. One term was "knowledge management" (KM), and it received particularly clear codification in a book by Thomas A. Stewart. At the time, Stewart was a member of *Fortune* magazine's Board of Editors; he later

became editor-in-chief of *Harvard Business Review*. KM was part of a system that hoped against hope (and against the economic evidence) that, "the greater the human-capital intensity of a business — that is, the greater its percentage of high-value-added work performed by hard-to-replace people — the more it can charge for its services and the less vulnerable it is to competitors". The reasoning here was that a company could thrive when it was, "even more difficult for rivals to match those skills than it [was] for the first company to replace them".⁵ KM was thus not window-dressing, but the life-or-death creation of the human capital that would allow a firm to survive in the cutthroat New Economy.

Stewart distinguished between three different types of knowledge or skill. Type C (my label) is "commodity skills" which are "readily obtained" and whose possessors are interchangeable. This category includes most "pink collar" work that involves skills like "typing and a cheerful phone manner". Type B is "leveraged skills", which require advanced education and which offer clear added value to the firm that hires such skill, and yet which are possessed by many firms. Computer programmers or network administrators are examples of essential employees who worked long and hard to acquire their knowledge, and yet who are relatively numerous. Ironically, they may have entered the field because it was large: its size may have signalled to them when they picked a major in college — and to their stability-minded parents — something like "the high-tech economy will always need computer support specialists".⁶ Yes, but not any particular computer support specialist, and not at a very high wage.

Type A consists of "proprietary skills", which Stewart defined as "the company-specific talents around which an organization builds a business".⁷ The knowledge manager must nurture and cultivate only the skills that directly contribute to the firm's propriety knowledge, and stamp out (or radically cheapen) the first kind of knowledge worker, whose skills are interchangeable commodities. Only the star producers — those who create proprietary knowledge — enable the firm to seek rents, and only they are to be retained, supported, cultivated, and lavishly paid.

Of particular interest is Type B, the large group caught in the middle, those with "leveraged skills". Part of this group is not generally associated with four-year university degrees: it includes "skilled factory workers, experienced secretaries", or back-office bookkeepers. The latter, for example, have accounting skills as well as plenty of informal knowledge about how the particular company works. They have experience-based cultural knowledge that cannot be easily codified and transferred, and that helps them figure out what anomalous figures mean since they've seen them before, or which routes of project approval are slow and which are fast. Such knowledge directly improves efficiency and profits in various ways. Tough luck: they may be trained, intelligent, valuable and even necessary but they are not perceived to contribute directly to the firm's main sources of profit. Thus a good knowledge manager should try to codify some of their informal knowledge, disregard the rest as irrelevant, and outsource as many of these workers as possible.

The other part of this middle group consists of college graduates who produce much added value with high-end skills. They are people with expensively acquired, difficult knowledge, like code writing in a particular computer language, but who nonetheless are similar to their counterparts in other companies. KM will treat these workers as it treats their non-college colleagues: they must be transformed into distinctive specialists who directly

contribute to the firm's proprietary knowledge, or they must be fired and their functions outsourced to a company that specialises in such skills. These employees followed the post-war college path to success: they finished school, did well, are reliable, hard-working, adaptive, and intelligent, but are too similar to their counterparts from other universities to add unique value. They are "excellent" but they are not "unique": they are productive, but not proprietary. KM insisted that good college grads are no different from other production workers: there is nothing wrong with them, exactly, but they do not contribute the only thing that counted in the knowledge economy — unique comparative advantage through proprietary innovations. KM codified the major development in attitudes about white-collar labour in the 1990s, which was that, for the most part, they were as interchangeable and disposable as their blue-collar brethren before them.

Once KM had slotted knowledge workers according to their relevance to the firm's proprietary goods, its other major goal followed rather easily. That goal was to convert human to structural capital. Most experts offered the knowledge manager the kind of advice that Stewart did: recognise them and their importance. Give them the resources they need. But don't get permissive and go too far. "Fund them too much, and you'll start to want deliverables. You won't get what you want. You'll get what the community wants to deliver".⁸ Too much independence for knowledge workers would become a threat to the process by which knowledge was put to productive use. Toward the end of the 1990s, as elite knowledge workers became scarce or mobile enough to strike good deals for themselves, they caused all sorts of corporate complaining about the pampering of coders who acted like teenagers and the rise of a bratty class of "gold-collar workers". Granting any bargaining power to knowledge worker — to say nothing of self-management — interfered with the task of maximising their knowledge's value to the firm.

Only satisfied knowledge workers could satisfy the firm's need for proprietary knowledge that would allow rent-like profits, and yet self-management, the central source of knowledge workers satisfaction — as for all workers — could not be permitted in any general way. Self-managed workers posed permanent loyalty problems; they needed knowledge managers as much or even more than, in this view, industrial workers had needed Taylorization. Management in the knowledge economy consisted of separating employees with proprietary knowledge from the vast majority of knowledge workers, and then minimising this latter group's independence and social protections as thoroughly as had happened to industrial workers in an earlier age.

A three-tiered university

Meanwhile, the US university was following an uncannily similar path. Faculty members are knowledge workers par excellence; nearly all faculty members in 4-year universities have doctoral degrees, and most conduct some level of research. Nonetheless, over the past thirty years, the share of instructors lacking full-time and/or permanent contracts has doubled. The US system now operates with a teaching staff that is 70 per cent temporary. Even in the best-funded science and technology fields, "the share of full-time faculty declined from 87 per cent in the early 1970s to 75 per cent in 2003."⁹ These non-tenurable faculty members have no say in university governance and little input if any into their own departments. They are on short-term contracts — from 1 semester to 5 year — and are distinctly second-class in relation to the tenure-track faculty; in most cases they can be fired during times of financial stress.

The most important trend in the last thirty years has been the growing inequality between private and public universities. The wealth gap between them is the best known of these differences: around 2005, Harvard was spending \$60 000 per undergraduate at a time when the University of California was spending about one tenth that amount on its undergraduates. Other gaps have grown as well — graduation rates, student–faculty ratios, acceptance rates, and faculty salaries. It is fair to say that the United States now has a three–speed system of higher education. At the top is the Ivy League Plus, which educates the top 1 per cent of the 18 million people currently enrolled in some kind of higher education institution in the US. Europeans will have heard of all of these universities, from Harvard and Stanford to Duke, M.I.T., and Cal Tech, and they dominate world rankings as well. There are around 20 of these universities. Next comes a group of about 150 colleges and universities that are "selective" and have good reputations outside of their local area. This includes public research universities like Wisconsin, Michigan, North Carolina, Texas, Florida, and many others.

This leaves over 3,500 institutions of higher learning that admit more or less everyone who applies, are often focused on regional needs and vocational training, and that must make do with far fewer resources than is the case with the upper two tiers. These third tier institutions are often "community colleges". Whatever good things happen for these students in their classrooms — and there is no reason to assume that learning and academic benefits are inferior at these places — these schools confer mass degrees that offer their possessor no special advantage in the job market. Though their graduates have acquired meaningful cognitive skills and some focused credentials, they have obtained no social advantage. These institutions are about basic employability, but not about social mobility. They are increasingly seen as the only destination for knowledge training that the society's leaders are willing to pay for. They are the training grounds of the true "cognitariat", knowledge workers and rarely knowledge managers, and in fact heavily managed starting with curricula oriented towards immediate job skills from their first year in college.

Similar tiers have long been part of European higher education, and modernisation is only making them worse. France already had a two–speed system of universities and grandes écoles; the legislation passed by the Sarkozy administration — la loi relative aux libertés et responsabilités des universités (LRU; passed in August 2007) — uses the concept of university autonomy to increase an inequality of funding that will lead to a intensified tiering of campuses within the national university system. The German "Elite 10" competition is another example, and was a response to the increased prominence of international rankings of universities — generally from incommensurate national educational traditions and with diverging social missions — in the creation of educational policy.

Tiering blocks a direct response to the real problem of these university systems, which is their gross under–funding — France and Germany spend about one eighth per student of what those elite American universities spend that appear at the top of international rankings. An obvious response would be to reverse the decline of higher education funding as a share of personal income on the traditional capitalist economic grounds that it is a good investment in future prosperity. This argument certainly circulates in the United States. But it is not prevailing. Why isn't it, even as the educational damage done through stratification becomes more obvious?

Cognitive capitalism as open innovation

Aside from the fact that the rich and famous like paying lower rather than higher taxes, there is an emerging structural reason that is built into knowledge industries themselves. These now have an innovation strategy that rejects the managerial cadres and white-collar armies of the industrial age. They have a strategy that they believe benefits their own innovation without requiring major "sunk costs" in a fixed knowledge infrastructure. This innovation strategy depends on leveraging rather than investing, and on a disruptive rather than a curatorial relation to one's own workforce.

The current situation of the high-tech university-industry reciprocity can be summarised via the influential paradigm known as "open innovation". It is called open because it tries to respond to the genuine insight in the theory of the knowledge worker, which is that knowledge is common rather than scarce, widely rather than narrowly distributed in the population, and mobile in ways that even the most powerful corporations cannot control. As Henry Chesbrough, the business scholar most associated with the concept, has put it, technology-driven businesses must learn to operate a "landscape of abundant knowledge".¹⁰ The lead intellectual property strategist first for IBM and then for Microsoft, Marshall Phelps, has claimed, "Whereas some 80 per cent of major innovations during the 1970s had come from inside a single company's own R&D labs, by the dawn of the twenty-first century, studies now showed, more than two-thirds of major new innovations involved some sort of inter-organizational collaboration -- either between private firms, or between firms and federal laboratories or research universities."¹¹ "Open" innovation systems accept high labour mobility and value collaborations outside their institutional boundaries, particularly with universities. Open innovation theory tends to understand that value is created by individual intellectual labour within complex social networks, and puts collaboration across boundaries at the heart of the knowledge economy.

And yet the purpose of open innovation strategy is to absorb the value created by social collaboration into the firm. Phelps notes that open innovation rests on intellectual property (IP) (as did "closed" innovation). The difference is that "intellectual property could no longer be viewed solely as a negative right" to block someone else's use of your IP or to extract a tax on that use in the form of licensing fees. "From now on, IP's greatest value would lie not so much in being a weapon against competitors, but rather in serving as a bridge to collaboration with other firms that would enable companies to acquire the technologies and competencies they needed to compete successfully". The leading firms, such as Microsoft, would create networks of smaller firms, subcontractors, and clients whose own products would depend on Microsoft's through a system of cross-licenses that would bind the whole together as one large "ecology" with Microsoft as its constitutive legal and technological *standard*.

Phelps and other open innovation gurus had figured out that true market dominance didn't come from open warfare for control waged against competitors, since this meant that you alienated customers and allies, soured your public image, lost the chance to access other people's inventions, and lost big chunks of real estate. On the other hand, if you could convince your potential competitors to give you access to their inventions in exchange for something of yours, you could influence -- if not directly control -- a much larger business ecosystem than before. Moving from sovereignty to governance in Foucault's sense, open innovation companies like Microsoft used open not to undermine their monopolies but to extend them, precisely by making them more flexible. Open innovation gave small companies the chance to access

established markets by participating in the Microsoft brand, as well as acquire some IP and financial support. For the bigs, open meant Ottoman-like expansion of a polyglot empire that nonetheless had their code written into all of its operations.

The most successful knowledge corporations, then, are those who are best at using other people's money and other people's inventions. The name of the game is *leverage*. Intel, for example, the world's dominant manufacturer of computer processors, approaches an existing lab, already fully funded and staffed with a combination of federal grants and university contributions, suggests topics and personnel, funds a project for far less than what it would cost them to do it (informal estimates among technology transfer personnel suggest that a company like Intel pays the university lab between 5 per cent and 10 per cent of what it would cost for Intel to conduct the research internally). This is of course money the university would not otherwise have, and it is sometimes accompanied with state-of-the-art equipment and excellent scientific input from Intel staff. The research may be pathbreaking, as was the case for nanotechnological research that Intel funded at the University of California at Santa Barbara, which aimed toward developing silicon chips that would route light instead of electricity. For its sponsorship, Intel gets access to research results, often exclusively for a set period, and first pick of inventions that may turn into useful intellectual property. Universities do not generally disclose financial terms — they are not favourable to the university — but they do publicise the alliance with a prestigious firm like Intel and trumpet interim research results. The strategy works for Intel because it can absorb other people's inventions, turning them into its own IP at a discounted cost.

Open innovation has a clear implication for knowledge workers. They are not more valuable to a company just because they work for that company. Intel might find a graduate group at a university that does something that is relevant to a product development project and replace their own group that was doing that work before. Since profitable knowledge can come from anywhere at any time, management has no incentive to be loyal to its brainworkers as opposed to the brainworkers at a start-up or government lab or competitor who have just done something interesting. Any individual or group of employees, even if their work is excellent, will be evaluated in some version of KM terms: can they be automated, outsourced with cheaper workers, or turned into sources of proprietary knowledge? Only the latter group will be supported and protected; the rest will often be retained, but with the kind of second-tier pay, resources, and working conditions that have become normal in the university world. Open innovation logically tries to keep the vast majority of its knowledge workers as liquid as possible. This means retaining the absolute loyalty only of that minority of employees who produce proprietary knowledge while minimising commitments to the rest.

Management through inequality

Like other theorists of cognitive capitalism, André Gorz anticipates the rise of political tensions between knowledge workers and knowledge managers, writing of a class struggle transposed onto the new terrain of the public sphere.¹² The conflict is real, but resistance is weak. Large American research universities allocate very different levels of resources to different types of education. Professional schools receive about three times more funding per student than do undergraduates. Medical students on average receive 10 times more funding. Different undergraduate fields receive unequal resources as

well: in one case study, engineering received over 5 times the resources per student as the social sciences. These financial differences are usually concealed by rhetoric of common professional status, and by a lack of precision regarding one another's salaries and working conditions.

Here is one recent example. In 2009, faculty members throughout the University of California system were given "furloughs", meaning their 8 per cent or so pay reductions would be accompanied by the ability to work 8 per cent less. Many faculty members decided that they would take many of their furlough days during instruction: they would cancel classes. Some were doing this so that the furloughs would be divided between teaching and research. Others did this in order to "make the budget cuts visible" to the public, so they could see that the cutting of the state budget was hurting higher education. Most of those protesting were in the humanities and social sciences, where they teach more courses than do faculty members in technical fields. The faculty's formal representative body, the Academic Senate, unanimously agreed that some furlough days could be used for instruction. In late August 2009, the head academic officer for all of the UC campuses declared that no furlough days would be taken during instruction, intervening in an unprecedented way in faculty allocation of instruction. At the same time, he developed a mechanism whereby faculty with extramural grants — mostly in the sciences and engineering fields — could replace their lost salary with grant funds (if the grantee so allowed).

In a single sequence of administrative actions, university officials had overridden the faculty's historic autonomy over its teaching, and then differentiated between faculty with and without extramural grants, allowing the former but not the latter to avoid the pay cut. This is the sequence that knowledge management routinely involves: first the denial of the knowledge workers autonomy within the organisation, and then a stratification of different classes of knowledge workers depending on whether they are seen to be immediately responsible for the organisation's cash flow. The UC President calls the extramural grant people "entrepreneurs", and has said on various occasions that these are the people you want to make sure you keep. The loyalists who do the organisation's daily work are given second billing. Their own "entrepreneurial" activities, such as inventing and designing courses, creating ideas for students that they give away, in short, the value they create by inventive *labour*, are entirely overlooked.

Blocked psychology of the three estates

These hierarchies within communities of knowledge workers induce anger, withdrawal, and paralysis. The winners may well recognise the issues, but are reluctant to jeopardise their own advantages and feel that they can do little about the overall system. Those that benefit from the system tend to try to ignore it, and exceptions are rare. The losers react with a combination of anger and hesitation. In the UC case, disarray and fragmented strategies replaced the large-scale walkouts that had at first been imagined. The source of the anger is obvious — the sense of unjust subordination, of labour and value-creation that is ignored and even repudiated by the organisation. The hesitation comes from a sense of futility mixed with anxiety that action from one's position of powerless will lead only to further powerlessness and injury. Since the bonds of the organisation are, in a knowledge economy, unquestioning, and since the dominant value is the return that can be measured financially, the losing knowledge worker cannot rely on a stable relationship with senior management. This is true even of faculty with tenure — though their superiors

cannot without enormous effort take away their jobs, their superiors have already taken away their stable, honoured, unquestioned, visible place.

One common reaction is wounded narcissism, which Christopher Lasch long ago identified as a common phenomenon in bureaucracies, where one feels that "professional advancement had come to depend less on craftsmanship or loyalty to the firm than on 'visibility', 'momentum', personal charm, and impression management."¹³ Although knowledge workers are supposedly characterised by their independence, this is the one feature that a concern for their image prevents. Having largely given up on equalising their status by forcing meaningful organisational change, they mostly focus on maintaining favourable individual relationships with superiors, which requires a general acceptance of their dependent place, leading to further resentment, dependence, and paralysis.

There is indeed a conflict between the modes in which knowledge is produced and owned within cognitive capitalism. But this does not translate into a political conflict of the kind Gorz calls class war. Analysts often suggest that two general phenomenon can undermine a productive contradiction like that of cognitive capitalism. The first is *immiseration*, in which bad conditions force a revolt. The second is *inefficiency*, in which elites tire of wasting money controlling people and not getting that last 20 per cent out of knowledge workers made sullen by mediocre treatment. Neither of these function in the case of knowledge economies, where the knowledge worker masses are still middle class on a world scale, and where a sense of professional duty produces good enough efficiency in nearly all cases (and threats of layoffs and closure where it does not).

If we use a harsher language than is ever tolerated in US discussions, we can see within the Bush and the Obama Administrations the shadow of the ancient regime, signs of a sun king return of the Three Estates.

First Estate: international-level political and corporate executives enjoy a very limited accountability to the national population at large. This power rests largely on concentrations of wealth that have both intensified over the past several decades, and expanded beyond a tiny group of moguls and great families to include traders, bankers, and executives who make tens or even hundreds of millions of dollars per year. Its lower reaches begin with the top 0.1 per cent of US earners, with incomes above \$1 600 000 in 2007, but is better represented by "the almost 15 000 families with incomes of \$9.5 million or more a year".¹⁴ It is skewed toward global corporations and the financial sector and its colleges are largely "Ivy League Plus" — Harvard, Yale et al plus Stanford, MIT, perhaps Duke, and a just a few others, all private.

Second Estate: this is the enabling high-tech clergy, and it provides the highly developed legal, managerial, and financial skills that enable successful business and investment in highly profitable, largely oligarchic sectors such as information technology, communications, banking, pharmaceuticals, and others. Medical and engineering knowledge are also important, though more indirectly. Their incomes place them in the top 1 per cent (starting at \$350 000 a year in 2007).¹⁵ They speak technical languages of law, management, and finance that are largely indecipherable even to highly educated non-specialists, and maintain an invisible empire of ownership structures and lucrative transactions whose existence makes itself known only through occasional disasters like the 2008 financial meltdown.

Third Estate: the new Third Estate is characterised by the increasing insecurity and political helplessness of the top as well as the bottom of the rest of the population. Nearly 80 per cent of US society has not had a raise in inflation-adjusted dollars since the 1970s, and their share of both net worth and financial wealth in the US has steadily declined. The 19 per cent that follows the top 1 per cent has done the best in this group, but it too has largely seen its stable pension plans converted into mutual funds that lost a quarter of their value in the fall of 2008, has seen its healthcare costs mushroom, and has seen its ranks thinned through waves of mass layoffs over the past twenty years. Its children are taking on increasing debt to go to college in order to obtain an increasingly shaky claim on stability and affluence. This estate includes blue-collar workers in construction, agriculture, and hospitality, but also the vast majority of brainworkers whose jobs require college degrees, additional specialised knowledge, and complicated experiential "know-how" — nurses, social workers, accountants, urban planners, architects, and college professors with doctorates in anthropology or the history of art. Though the top of this estate enjoys vastly better life chances than the bottom, working conditions for all of this majority group are less secure than they were twenty years ago, its productivity is less appreciated, and its own condition significantly less upwardly mobile.

The analogy with France's pre-revolutionary estates is obviously inexact, but its type of social stratification is both intensifying and hardening in most wealthy nations. It represents a near total defeat of golden-age visions of majoritarian rule, mass prosperity, general equality, and the cultural progress made possible by the reduction of scarcity. Scarcity is back, for all but that top 1 per cent whose accumulation of lunatic, utterly unspendable amounts of personal wealth are themselves a tribute to the fear of the fear of scarcity — of life as it is lived by even the best educated little people in the increasingly defenceless world that these elites have helped create. What Barbara Ehrenreich called the middle class's "fear of falling" now defines the life of the vast majority of knowledge workers. Knowledge management is there to draw a line around them, and between the second and third estates — between the proprietary knowledge creators, who enjoy the remnants of golden-age security, and those who are merely very well educated, highly trained, very overworked, and who do excellent labour whose effects cannot be captured by the firm but that spill over to less visible members of society, like students, or to society at large.

I see a two-track strategy to deal with all this. The first is the exposure of the leveraging, the free-riding, and the hidden subsidies through which the Third Estate and its institutions support the other two — by which public universities support private industry, to their increasingly detriment. The second is to re-imagine and articulate the broad social and cultural missions that will flow from the other nine-tenths of knowledge workers, the non-technical brainworkers (in the traditional sense) whose ideas about diversity, equality, justice, technology for use, sustainable development, and so many other issues can transform the world. The university is the obvious place for this re-articulation to begin, and it needs to assume a post-Kantian parity of the faculties that will allow all the knowledge lost via the subordination of non-proprietary knowledge workers to make itself felt again.

A longer version of this text was originally published in the web journal [Edu-Factory](#). Research was partially funded by NSF Grant SES 05-31184.

- ¹ Peter F. Drucker, *Post-capitalist society*, New York: Basic Books 1993, 8.
- ² The case, originally filed in 1996, was *Vizcaino v. Microsoft*, U.S. Court of Appeals for the Ninth Circuit (1999), <http://www.techlawjournal.com/courts/vizcaino/19990512.htm>.
- ³ See for example, *TechCrunch Layoff Tracker*, <http://www.techcrunch.com/layoffs/>.
- ⁴ National Center for Education Statistics, "Digest of education statistics", Table 186, http://nces.ed.gov/programs/digest/d08/tables/dt08_186.asp.
- ⁵ Stewart, *Intellectual capital*, 91.
- ⁶ See US Bureau of Labor Statistics, "Chart book: Occupational employment and wages", (May, 2007), Figure 1, <http://www.bls.gov/oes/2007/may/figure1.pdf>.
- ⁷ Stewart, *op. cit.* 89.
- ⁸ Valdis Krebs, cited in *Ibid.* 100.
- ⁹ National Science Foundation, *Science and engineering indicators 2006*, Chapter 5, <http://www.nsf.gov/statistics/seind06/c5/c5h.htm#c5hl2>.
- ¹⁰ Henry Chesbrough, *Open innovation: The new imperative for creating and profiting from technology*, 2003; Boston: Harvard Business School Press 2006, xiv.
- ¹¹ Marshall Phelps with David Kline, *Burning the ships: Intellectual property and the transformation of Microsoft*, Hoboken, N.J.: Wiley Publishers 2009.
- ¹² André Gorz, *L'immatériel: connaissance, valeur et capital*, Paris: Galilée 2003, 70. Gorz writes, "Le conflit qui se développe et s'exacerbe entre le capital immatériel des firmes et les acteurs de cette résistance est, à bien des égards, une lutte des classes déplacée sur un nouveau terrain: celui du contrôle du domaine public, de la culture commune et des biens collectifs".
- ¹³ Christopher Lasch, "Afterworld: The culture of narcissism revisited", in *The Culture of narcissism*, 1979; New York: Norton 1991, 236.
- ¹⁴ Louis Uchitelle, "The richest of the rich, proud of a new gilded age", *New York Times*, 15 July, 2007, [http://www.nytimes.com/2007/07/15/business/15gilded.html?ex=1342238400&en=96cb71bacf64440e&ei=5124&partner=permalink&exprod=p](http://www.nytimes.com/2007/07/15/business/15gilded.html?ex=1342238400&en=96cb71bacf64440e&ei=5124&partner=permalink&expprod=p) Uchitelle relies on the research of Thomas Piketty and Emmanuel Saez.
- ¹⁵ Grep Ip, "Income inequality gap widens," *Wall Street Journal*, 12 October 2009, http://online.wsj.com/public/article_print/SB119215822413557069.html.

Published 2010-02-05

Original in English

Contribution by Multitudes

First published in *Multitudes* 39 (2010) (French version)

© Christopher Newfield / Multitudes

© Eurozine