

Credential Inflation and the Future of Universities¹

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Most problems of the contemporary university are ultimately connected to the process of credential inflation. The inflation of educational credentials that drove university expansion throughout the 20th century shaped the internal structure of universities as well, and thus the conditions of academic work. We will need this broader viewpoint in order to capture the main dynamics which have driven the proliferation of academic disciplines, as well as their internal differentiation into specialties and their compulsion to continuous research. If the fundamental versus applied character of the disciplines are at issue in today's university, as well as the growing distance between a highly paid elite of noted researchers and a professorial underclass of temporary lecturers, the causes are in the economic strains of a system whose mass production of educational credentials for employment has become extremely expensive. Educational Credential Inflation and the Expansion of the University System.

The expansion of higher education has been driven primarily by the changing value of educational degrees in the job market. As the number of persons with academic degrees has gone up, the occupational level for which they have provided qualifications has declined. At the turn of the 19th century, when high school degrees were held by less than 10% percent of the population, they were badges of substantial middle class respectability, and until mid-century they conferred access even to managerial level jobs. By the last quarter of the century, when a large majority graduates from

¹ In Brint S. (ed.) (2002). *The Future of the City of Intellect*. Stanford: Stanford University Press, pp. 23-46.

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high school, the degree barely qualifies for manual or menial service work. Similarly, college degrees went from possessions of a tiny elite of professionals and the wealthy, to being held by over a fifth of the US population; in enrollments and above all the aspirations of the youngest cohorts, now over one half the population is on the path to a B.A. level degree; under these circumstances, the occupational value of the degree has declined. Higher level occupations require increasingly higher and more specialized academic credentials. Lower degrees have not lost all value, but it is increasingly within the educational system, as a way-station towards acquiring yet higher levels of education. A high school degree has become little more than a ticket into a lottery where one can buy a chance at a college degree, and that in turn is becoming a ticket to a yet higher level lottery. Most degrees have little substantive value in themselves; they are bureaucratic markers channeling access to the point at which they are cashed in, and guaranteeing nothing about their value at the point at which they are cashed.

The process of credential inflation is largely self-driven; it feeds on itself. A given level of education at one time gave access to elite jobs. As educational attainment has expanded, the social distinctiveness of that degree and its value on the occupational marketplace has declined; this in turn has expanded demand for still higher levels of education. This is the main dynamic, although other factors have played into it.

Education is valued not only as an occupational credential; at one time it indicated social status, or admission to elite or at least polite middle class circles; in the first half of the 20th century, a considerable portion of female students, being excluded from the job market (except for teachers) attended college as a social experience and marriage market. This social eliteness of higher education has largely disappeared, except perhaps in a few enclaves within (not coextensive with) expensive private colleges. On the social-consummatory side more broadly, college for many students was a place for sociability and carousing; that aspect has lost its Scott Fitzgerald tone but the same kind of activities are carried on by the entertainment side of higher education as scene of sports spectacles and drinking parties. The former has grown essential to the public recognition and revenues of many universities, while today's administrators tend to carry on a moralistic crusade against the latter, perhaps in the confidence that the university is so firmly esconced in the necessities of occupational credentialling that it need no longer appeal to students as a place to have a good time. All these are

auxiliary features of the social attractiveness of higher education in America, and they all have their antecedents: remember Doctor Faustus carousing in the wine cellars of Leipzig University. They also contain some aspects of inflation as well, such as the spiral of revenue and expense in big-time college athletics. On a very different side of university culture, higher education still has significance to some unknown proportion of people who treat it as cultural consumption for its own sake; but it may well be the case that the pool of generally cultivated persons who enjoy the accumulated fruits of learning has been winnowed down to high level intellectuals who cultivate esoteric specialties mainly because they are professors of them. Another cultural theory of the expansion of higher education, Ramirez and Boli's (1982) argument that it spreads as a mark of modernity, does not apply to the US, at least at the institutional rather than individual level; for it was the US which originated the model of mass higher education as characteristic of a modern society, the model which other societies have emulated. Meyer and Rowan (1977), who provided the institutional theory on which Ramirez and Boli drew, use schools as a prominent example of institutions whose prestige is based on a myth of what they actually do. Credentialling indeed is a manifestation of organizational myth, and it has come to define the respectable culture of modernity: but it was the dynamics of credential inflation in the expansionary U.S. higher educational market that created this culture.

Rounding out the list of auxiliary factors in the growth of education, at the lowest level some rise in education has been due to compulsion, motivated by campaigns to assimilate immigrants, inculcate nationalism, religion, or moral respectability. This was important largely in 19th and early 20th century primary and secondary schooling; it has become largely irrelevant to higher education, which has become increasingly sustained by its own economic compulsion of career credentialling, so that compulsory features of colleges have gone by the way as superfluous. Nevertheless, there is a vestige of 19th century community control campaigns in the stay-in-school propaganda aimed at teenagers disillusioned with being in the tail end of credentialling competition; increasingly this campaign is switching towards the academic low end of the colleges, such as the finish-your-degree campaign for athletes. One can foresee more of the same at successively higher levels in the future. Thirty years from now we may have "don't drop out of college" campaigns.

All these processes play into and reinforce the cycle of rising

educational attainment and rising occupational requirements; whatever the reasons for more people finishing a given level of schooling, they all ratcheted job requirements upward, and that in turn has increased pressure for educational attainment. If job access may have been a less important part of schooling in the early 20th century and before, with rising credential inflation it steadily has come to overwhelm all other considerations.

Credential inflation is largely supply driven, not demand driven; i.e. it is driven by the expansion of schooling, like a government printing more paper money; not from demand of the economy for an increasingly educated labor force. The opposing theory, that rising educational requirements have been determined by the functional requirements of jobs in the modern economy, does not hold up under the evidence. I have summarized that evidence 20 years ago (Collins, 1979; Dore, 1976; see also Brown, 1995; Bills, 2000; Brown, 2000) and have seen nothing since then that leads me to believe educational requirements are any more demand driven in our era of educational hyper-inflation than they were in late-mid-century educational inflation. Even in our “high-tech” era, the value of educational credentials is still mainly determined by the fact that the US educational system has built up continuously widening access to each successive level of degree; it has been able to flood the market for educated labor at virtually any level.

Many people have been mesmerized by the high-tech sector and easily fall into the rhetoric which makes it a justification of massive educational expansion. I will not repeat the analyses given in *The Credential Society* (Collins, 1979) but only note that the skills of the cutting-edge high-tech industries, such as computers, are generally learned on the job or through personal experience rather than in the formal bureaucratic setting of schooling. Advanced computer skills are generally learned by teenage boys, in much the same way that heavy machine operators and other well paid skilled labor learned their job skills through family and other early personal connections. Technical schooling has always been a way of trying to catch up with the informal networks which produce the self-trained elite of the technical world. Compare the financial success of the youthful founders of Apple or Microsoft (some of them school dropouts) with the more modest careers of graduates of computer schools. Spence’s (1974) economic theory of “market signalling” admits that education may not provide job skills but only is taken by employers as a signal that might be correlated with desirable employees; what is missing is the dynamic nature of credential

inflation over time, and the recognition that it is driven from the side of public pressures to expand access to schooling, not from the side of employers with a constant interest in signalling.

Let us be clear about what this means. A high-tech society does not mean that a high proportion of the labor force consists of experts. A more likely pattern, and the one we see emerging today, is a bifurcation of the labor force into an expert sector (perhaps 20%) and a large proportion of routine or even menial service jobs. Indeed, with future computerization and automation, it may well be the case that routine middle class jobs will disappear (just as skilled and semi-skilled manual jobs have greatly diminished) leaving an even bigger gap between a small technical/managerial/financial elite and everyone else. For this reason, we may expect that the most vexing social problem of the future will be not race or gender, but class. In a largely automated economy further on in the 21st century, the majority of the labor force may be kept employed mainly because their wages are cheaper than the costs of maintaining robots -- especially if the production of robots changes as faddishly as the production of computer systems. Under such conditions, credential inflation processes will continue, indeed at even higher pressure. First: with few good jobs, there is extremely high competition for access to them, hence driving up educational requirements to very high levels. Second: the educational system comes to play an important role in dealing with the displaced part of the labor force, warehousing people and keeping them temporarily off the job market (and thus keeping down the unemployment rate); it may even serve as a hidden welfare system, doling out social support in the form of student loans and subsidizing WPA-style make-work. Education is politically acceptable as welfare because it is not defined as such. But the warehousing also keeps up the supply of education credentials, reinforcing the first process.

The development of the high-tech economy has also been affected by educational credential inflation. For example, as the competition for managerial positions increased among B.A. holders in the 1960s and 70s, M.B.A. degrees became increasingly popular, and eventually the new standard for access to corporate business jobs. Holders of these degrees have attempted to justify the credential by introducing new techniques of management; often of a faddish quality, they nevertheless have given a technical veneer to their activities. Credentialed labor tends to redefine their jobs and to eliminate non-credentialed jobs around them. Thus the

spiral of competition for educational attainment and rising credential requirements for jobs tends to be irreversible. Credential inflation has been driven to unprecedented levels in the US during the 20th century because the US has a uniquely open educational market. Schools of all kinds have been founded by religions, state jurisdictions at virtually all levels (with notable exception of the federal government), and commercial entrepreneurs. Educational overexpansion has been common in some periods, and many institutions have been financially strapped or failed (e.g. college in mid-19th century). But with the long-term inroads of credentialing throughout the job market, reinforcing a large popular demand for degrees, the market has largely been an expansive one. The flattening of enrollments in the 1970s, especially of male students, was one of those temporary checks when the inflation in the occupational value of the currency, vis-a-vis the rising personal costs of acquiring education, brought a readjustment of goals; but the inflationary cycle has taken off again by the 1990s. This proliferation of educational institutions has continued in recent times, with new institutions - community colleges, commercial schools - pointedly oriented to providing practical job credentials and discarding older cultural justifications for education. There has also been a renewed educational expansion on the part of religious sectarianism in the form of Christian schools, or in the black community, Muslim schools. According to Jencks and Riesman's (1968) model of the "academic procession", self-consciously alternative forms of education all end up emulating the credentially pattern of mainstream education, and thus the window of distinctiveness of these forms of education may not be open very long. They may all be seen as an effort to get a head start, away from the palpably alienated and defeatist atmosphere of the struggle for credentials in public high schools. Home schooling might seem a genuine break with formal credentialing; it remains to be seen how this will work out. There are suggestions (Bills, personal communication) that pressures to make home schooling conform to official patterns of credentialing are already under way.

The growing split between high-tech high-paying jobs and all the others is already upon us; as downsizing (generally imposed by new M.B.A.s applying their economic rationality) has displaced traditional managerial and white collar jobs, the surplus has flowed into increasing the number of educational entrepreneurs (just as it increases the number of consulting firms). Our popular ideology celebrates this, by lionizing the few who are

most successful; what is overlooked is the overall change in the structure and the increase of stratification within it.

The dynamics of credential inflation and what it has been doing to educational careers and educational organization has not been much recognized; it is conspicuously alien to official pronouncements. In a concrete way, of course, inflationary dynamics are understood by many in backstage, private contexts, where it is usually taken as humor or cynicism. Education for high-tech is a legitimating ideology; it is a quarter-truth, at best, insofar as some percentage of persons who make it through the educational system acquire skills relevant to their jobs, and may even apply them at some part of their careers. Education is also legitimated as democratic equality of opportunity; here is another quarter-truth, since the massive expansion of educational access through the 20th century has not reduced the association between occupational attainment and family background, and sociologists have extensively documented how educational advantage and disadvantages are passed along through family culture and economic means. We all know these latter points. Yet it is striking how virtually all ideological factions in the USA embrace education as our favorite solution to social problems. It is a kind of secular religion, keeping alive the ideology of equality because we go through the motions of having our children in public schools in which they are superficially treated as equal.

The combination of ideologies favoring education - high-technology plus democratic opportunity - also operates as a protective ideology for those of us who make our living in the educational system. If that focusses on a crass material aspect of our academic lives that we prefer to keep discretely hidden (like our salary negotiations), one can add that the high-tech/democratic opportunity ideology supports not only our jobs, but the material base of intellectual life; it helps get us the sponsorship that allows those of us who are interested in so doing to concern ourselves with the production of knowledge and the enjoyment of high culture. Credential inflation is the dirty secret of modern education; if everyone admitted it publically - worse yet, if it became a topic for political discussion - it would force us to face head on the issue of class inequality and indeed growing class inequality, in part directly tied to the expansion of credentialing. By several routes, the continual expansion of an inflationary educational credential system palliates the problem of class conflict in the USA: both by holding out prospects for mobility somewhere down the line, while

putting the connection in a remote enough form to cover all failures of the system to deliver; and by hidden transfer payments to the un- or under-employed, the Keynesian or WPA aspect of the educational system.

Cost Limits on Inflationary Minting of Credentials In principle, educational expansion and credential inflation could go on endlessly, until janitors need PhDs, and household workers and babysitters will be required to hold advanced degrees in household appliances and childcare. Persons could be kept in school at increasing ages, up through the age 30s and 40s, or in the distant future of the later 21st or 22nd century, even longer. This is not without precedent for a limited segment of the population; in the late Chinese dynasties, massive competition over official degrees kept the gentry studying for exams into their 40s (Chaffee 1985). In principle, since this is a self-feeding process, any amount of education over the life span can become required by rising credential inflation. It may even happen in some distant future that a species of socialism will come about when virtually the entire population is on stipend in school, or working for the school system, while the material work of society is done by computers and robots.

In reality, the spiralling pathway of school expansion and credential inflation does not unfold smoothly. So far, my discussion of credential inflation has neglected the question of cost. In the case the monetary inflation on which it is modelled, the costs of printing more currency are negligible. Educational credentials, however, are generally costly to mint; they include the costs of teachers, staff, physical plant, instructional materials, and student living expenses. Historically there have been instances where universities have straightforwardly printed (or inscribed) and sold degrees, such as moribund French universities in the 18th century (Collins, 1981). In the modern US, accrediting agencies try to eliminate diploma mills, ensuring that all educational credentials are as costly as the prevailing standard. It is not possible, after all, for credential requirements to rise to any level at all --- the "PhDs for janitors" level; the limit is set by what percentage of the GNP can go into producing educational credentials as compared to productive work. More precisely, let us break suppliers of educational credentials into public and private sectors (which may be analytically overlapping). For the public sector, the limit is how much of the government budget (and of public taxation) can be devoted to education; for privately produced education, the limit is how much students (or their parents) can afford to spend. As credential inflation rises (i.e. as it

takes more years to produce the educational degree currency usable on the job market), costs of either private investment or public subvention in supporting the production of educational currency rise, to some point at which counterpressure slow down, stop or even reverse the expansion of education.

Several kinds of adjustments are possible. Individuals can drop out of the contest for credentials, caught between the cost of education and what payoff they can get (or expect to get) on the job market. This happens to a varying extent in all periods and is part of the trail of dropping out that shapes the hierarchy of educational attainment. Another kind of adjustment takes place on a collective level; public willingness to pay for education may decrease. Instances of public reactions against education are documented in Collins 1998: 515-520, 581-582; educational hyper-inflation in Spain during the 1500s brought a wave of disillusionment with schooling and the collapse of many schools; in Germany and France during the late 18th century, there were widespread movements to abolish the university, which was actually carried out in France. In the contemporary USA, education continues to have strong ideological legitimation; politicians on both sides of the political spectrum generally favor educational spending. There is a third form of adjustment: to cut the costs of producing educational credentials. This can be done by cutting back of teachers and staff; or by attempting to eliminate superfluous activities and concentrate on the allegedly practical content which is supposed to be credentialized. The latter is to a certain extent artificial, given that the value of the degree is its symbolic legitimation vis-a- vis the prevailing standard of education in the population; nevertheless if one is in a cost-cutting, get-down-to-business mode, that is reflected in the way in which the content of degrees are defined. These various forms of adjustment may all go on at the same time, in varying proportions; all are part of the environment in which academics operate today.

Historical Expansion of the Social Sciences in the Context of an Inflationary Credential Market As an example of how disciplines have been shaped by the process of credential inflation, let us examine the growth of the social sciences. The existence of the social sciences historically has depended largely upon expansion of the university system (on these processes, and for sources on historical comparisons in what follows, see Collins, 1998; Collins, 2000). The original university structure emerged in medieval Christendom to credentialize theologians, lawyers, and medical

doctors; it developed internal degree credentials - originally the Master of Arts - as entry requirement into the guild of teachers of the preparatory subjects within the university leading up to the advanced professional faculties. The second phase of credential production, and of change in university organization, came with the foundation of the German research university in 1810, a model which was adopted by most other Western educational systems later in the 19th century. Reform of the German universities was carried out in the context of establishing educational credential requirements for positions in government administration, and for the expanding system of free and compulsory public schooling, also pioneered in German states. The key internal development was that the credential for professors - entry into the guild of higher teachers - became the publication of original research. The expansion of research, and indeed the very idea that the professor should be an innovative scholar, was thus tied to the creation and expansion of credentialing of modern occupations. The development of laboratory sciences flourished in the 19th century German university; so did historical disciplines, and eventually the humanities as well.

The social sciences branched off as specialized professorships were established. This came about in part because universities competed among themselves in prestige according to the new ethos of scholarly innovation and discovery; in part because as university enrollments grew, the increasing numbers of faculty pressed to create specialized niches as distinct fields of intellectual competition. Many of the social sciences had precursors outside the university, such as the amateur explorers who did archeology and anthropology, or the political reform movements of various kinds which fed into sociology and economics. Disciplinary identities and self-conscious focus upon systematic theory and research, however, generally came about with the establishment of university positions and degrees. Psychology based on laboratory experiment developed in the 1870s in Germany as underemployed physiologists colonized more abundant positions in the older field of philosophy. Economics developed into a technical field using mathematical tools above all in the British universities of the 1860s and 1870s, newly reformed on the German model, as mathematicians like Jevons migrated into older chairs in moral philosophy. Anthropology grew partly out of medical and biological professionals, partly as an intellectual rejuvenation of long-standing professorships in classics or newer research professorships in languages.

Sociology got its academic niche through several routes; its most militant disciplinary statement was produced in France during the educational reforms of the Third Republic, where Durkheim used a chair in pedagogy as a base from which to organize a discipline whose autonomy was formulated as a science of society.

It was above all in American universities that the range of social sciences became most fully institutionalized and set of the path towards expansive research enterprises. This came about in part because the American universities from the late 19th century onwards, building upon an earlier proliferation of religious and state colleges, rapidly became the world's largest pool of institutions of higher education, and contained the largest student enrollments. Both conditions favored internal differentiation. Underlying this was the larger dynamic. The era of credentialing, initially for the classic professions as the turn of the 20th century, and subsequently for all higher occupations, was the era of differentiation of the social sciences as an array of research specialties. The social sciences did not become research disciplines merely in order to carry out practical work at the behest of commercial interests; there was some of this pressure, and perhaps even more of a covering ideology put forward by university statesmen extolling the practical benefits their research faculty were producing. But this was public relations, and in fact the expanding credential system made the professors much more autonomous from outside commercial concerns. Credential inflation has been good to us as scholars, because it gave us a material base and insulated us from other pressures; as long as the numbers of students seeking job credentials went up, and those numbers were able to pay for themselves, academic specialists could go their own way. The snide phraseology of "publish or perish" hides a subjectively much more favorable atmosphere of the revolution of the professors, what I have called the intellectuals, for the first time in history, taking control of their own material base (Collins, 1998, chapter 12). In a favorably expanding credential-producing market like the USA during most of the 20th century, differentiation of specialties took place on two levels. One was the separation of disciplines. The positive side of this has been obscured by our current habit of disparaging disciplines and extolling the ideal of interdisciplinarity. What the creation of disciplines did was to give specific groups of scholars the power to recruit their own members according to their own criteria; thus the founding period of disciplines is also the founding period of systematic

theories. Our theories, or our conceptions of distinctive methods and ways of framing subject-matters, are what give us the rationale in terms of which we reserve a set of salaried positions for persons who operate in our own network of discourse. Disciplinary theories and methodologies operate as frameworks for credentialing our own colleagues and students. Theories are the cultural expression of scholars' guilds. One could pursue this line of argument into a sociology of knowledge or sociology of academic ideas, relating theory change to organizational bases.

The second kind of differentiation takes place within disciplines, which is to say within departments. The US has been in the forefront here for organizational reasons. Unlike German, French, and British universities, US universities have created entire departments for specialties rather than individual chairs, and allowed multiple chairs (i.e. Full Professorships) within the same department, thus promoting specialization within disciplines. Here again we have a circularly self-reinforcing process; expansion in numbers of teachers within a department (or the prospects of successfully making arguments to university administrators for such positions) promotes differentiation of specialties; and the ethos of creating new research specialties, by hybrids or other forms of research entrepreneurship, keeps up the pressure to establish new teaching positions. Intellectual substance and material considerations reinforce one another; the competition for prestige among universities, and among departments across universities, focusses attention on the departments that carry out research in the prestigious newer specialties; administrators, in turn, encouraged by the idea (not always unrealistic) that greater prestige will bring more funding (from increased numbers of students, more successful alumni, and more grants and subventions), tend to go along where they can with the forefront of research specializations.

There is more room for differentiation into research specialties by doing empirical studies than by producing synthetic theories; this is one reason why the huge US university system during the 20th century became the world leader in empirical research throughout the social sciences, whereas the smaller European systems often have maintained some eminence in the more theoretical areas. The growth of empirical research in the US universities has had other causes as well: the distinctively American pattern of funding by philanthropical foundations, by governments, earlier in the century by religions, and sometimes by business and other organizations seeking practical applications. But all these promoted the

growth of massive empirical research because they played into an organizational structure of disciplines based on university careers into which the research dissertation was the credential of admission. By extension, with the development of internal ranks in professorial careers (initially Assistant, Associate, and full Professor, modelled on the German Privatdozent, Extraordinarius, and Ordinarius; now elaborate salary step systems in highly bureaucratic universities like the University of California), the emphasis has shifted to a lifetime of publishing. Again the ideal and the material aspects of the process mesh; we are supposed to be (and indeed many of us are) dedicated to making an endless succession of discoveries which we want to publicize by publications; this is also structurally demanded of us by the intermittent routine of reviews which we impose on each other, making careers by “difference lists” based on our C.V.s between last and current research publications. Contemporary Pressures What happens to this system of careers rewarded by specialized research under conditions of economic strain within the entire credential-producing system, i.e. the system of higher education as a whole? Universities are under pressure to credential more students at lower cost; they also face an ideological problem of convincing students, politicians, and others who pay the bills, that the ideals of the system are meaningful even though the strains of credential inflation are felt in daily practice. Different levels of the credential-producing sector provide parts of the machinery, and comprise parts of the cost, of minting credentials that are used at other levels of the educational system. Research faculty at the universities prefer to concentrate their energies, and derive their prestige from, their research and the kind of teaching which is closest to it, apprenticing graduate students to carry on their kinds of research. But only some of their students will become full-scale productive researchers; even among the relatively successful, many of them will primarily teach undergraduates. The same division holds analytically within a particular individual professor’s allocation of work time; part is devoted to shepherding undergraduates through the process that will get them job credentials or intermediate credentials within the academic progression. Whether the division occurs within a single professor’s time or between graduate and undergraduate-oriented specialists, the several areas of credential production depend upon each other; as is well known in academic budgeting, undergraduate enrollments are needed to support graduate students; and indirectly research professors depend upon academic

credentials having enough value on non-academic job markets (such as those pursued by most undergraduates) in order for their own jobs to exist.

High level research professors like ourselves often identify only with the intellectual parts of our disciplines; our main consideration of material conditions is to issue righteous complaints about the level of support and the intellectual unworthiness of our students. In reality, our research lives depend upon large numbers of undergraduates being attracted to our field, for whatever reasons, whether pure intellectual or not. Structurally it doesn't matter whether students like sociology (or some other field) because they are genuinely interested in its ideas and discoveries, or for ideological attraction, or because they think it will give them a practical skill, or just for the sake of an easy course to fill our requirements on the way to a degree. Teaching non-intellectual students and indeed undedicated or even alienated students is the price we pay for our material infrastructure of life on the research frontier. The price can be paid by each professor sharing the burden; or it can be done by farming it out to a lower class of instructors. Structurally, either way will work; but the decision has consequences for the ethos of a discipline, especially in an era when ideals of many social science disciplines are democratic. Indeed, this may be an especially hard problem (below, I will describe it as a latent conflict) within sociology, precisely because the self-image of the generation of sociologists now occupying top professorial positions is that of egalitarian social reformers, and this disciplinary self-presentation is a major factor in inducing students to join our field.

All this suggests another reason why the disciplinary organization of departments is useful to professors working in specialized research fields that do not attract many students. Because they all belong to a larger department which receives funds as a unit, the more popular courses in attracting students pay the way for the esoteric or elite specialties. Smaller specializations, including the various interdisciplinary mixtures which are continually being constructed, are not usually viable inside the budgetary economy of the university. And there is a strain on the individual level: professors in small specialized departments find less opportunity to work in their preferred area. Thus traditional departments usually end up surviving even though frontier-area researchers like to complain about them.

My analysis has concentrated on the pattern in which popular demand for credentials is met by allowing students to push through to higher and higher amounts of education, making each level successively more

massive. There is another way in which inflationary pressures can be met: by restricting the numbers who get through each credential bottleneck. This is done in some contemporary professions, e.g. by making state bar examinations harder in order to limit the number of lawyers. The Chinese government examination of the Ming and Ch'ing dynasties responded to massive increases in numbers of students for the most part by setting smaller and smaller quotas of those passing exams; this was mitigated by some adjustment over the centuries by adding more levels of exams, and giving some social privileges to those who passed intermediate levels of exams, even though they had not yet passed the very highest exam which gave access to government appointment (Chaffee, 1985). Within American universities, our current period of credential inflation has gone along with several other kinds of inflation: grade inflation, admissions inflation (students multiplying the number of schools to which they apply), recommendation inflation (as increasingly glowing rhetoric is used to extol the merits of students and job candidates), C.V. inflation (as academic job candidates add more and more details to their resumé). Our prevailing cultural ethos is for teachers to treat students sympathetically, to try to get them through what they recognize as a competitive grind. The ethos of democracy and equality fits with the structure of self-reinforcing inflation. The opposite pattern, found in some other historical circumstances (and more within some fields like premedical science courses than in the social sciences) is to deal with massive competition by raising standards; here a elitist or hierarchical cultural ethos goes along with a deflationary or at least inflation-resisting dynamic. The alternatives fit the pattern which Pareto proposed for political and economic cycles, alternating between democracy-cum-inflationary-market-expansion, and authoritarianism-cum-deflationary-economic-retrenchment.

What we mean by "pressures" on the academic system are a matter of perspective. If we are committed to continuing the ethos that prevailed during the relatively smooth expansion of the research disciplines throughout the middle 20th century when the price of minting educational credentials seemed reasonable to those concerned, then the readjustments looming in a period when minting credentials is becoming to seem too costly, look like intolerable pressures. But adjustments are not necessarily crises; they are largely a matter of how big a proportion of the whole the research-oriented faculty will be, and how privileged they are in their work lives at the expense of teachers of non-intellectual students. Short of some

truly apocalyptic crisis, it is not likely that research faculty will disappear, but only will become fewer, and hence more aspiring professors (and graduate students thinking of their careers) will have to face their reduced chances for such a position.

The rub comes on the ideological level, in what cultural terms we define to ourselves what we are doing as disciplines, and also define ourselves and our student recruits to the outside world. This is a difficult ideological problem; for many reasons, we lack the vocabulary to talk about it in a way that we are willing to have overheard. The reasons are scattered through what I have been arguing: our general unwillingness to see that the educational system, and research careers within it, are based upon a credentialing mechanism subject to inflationary pressures; our preference for idealized ways of describing what universities do, and what the social science disciplines (and others) do; our somewhat contradictory legitimating rhetorics of high-tech and of educational democracy; and especially in the social sciences oriented towards liberal social reform, the inability to talk about inequality inside our own ranks as something which is structurally built into the very system of conducting research and teaching about its discoveries. I make no claim to solve that ideological problem here; all I am doing is sticking to my trade as research sociologist, and trying to give the most realistic picture I can of the social dynamics of higher education today.

It is an easy, and glib, rhetoric to declare that we are working for greater equality. The structural realities work in the other direction. Consider differentials in pay within departments. Well-known research professors get paid more than teachers, even at schools which attract academically elite students in admissions competitions. The prestige of a department depends primarily on its biggest names, its research-based reputations; hence the competition among the many upper-tier universities today drives up the salaries of the star professors, and leaves proportionately less for the mass of the routine teachers and the lesser-known researchers. Universities are one of the few long-established sectors of late 20th century economy where oligopoly does not prevail, and concentration of market share has even been decreasing. Financially, universities would be better off if there were a more stable hierarchy of prestige among them, since the labor costs would be lower for the same level of professorial prestige; hence the entire credential-producing sector would be less costly. If universities were merely profit-oriented enterprises, they would not be a good investment.

But the credential-producing economy is a prestige economy, closer to the structure of the potlatch than the Smithian market. We lack a good theory of why competition among universities over prestigious faculty goes up in an era of rampant credential inflation.

This is one basis for the increasing split between the elite research professors and everyone else, and the especially apparent growth of an academic underclass of temporary employees at very low salaries. This structural split is papered over on the ideological level by identification through disciplinary membership. We are all sociologists (or economists or psychologists), the hundred thousand dollar annual salaried research professor and the acting instructor paid a few thousand dollars per course. The ideological identification is strong too because the latter may well be pupils of the former, or at least connected in a chain of teachers and pupils; and because such low paid temporary positions may seem like another extension of the genteel poverty of graduate student years before landing a regular tenure track job. And the gap is papered over because we teach the same things; indeed the academic underclass may teach the very research produced by the elite professor. And since much of that research in a field like sociology has a leftist slant both in theory and topic, the content of what they think and lecture about makes them comrades in liberal reform or radical emancipation at the same time that practical realities of their lives puts one of them in the stock-market playing upper-middle class and the other at the level of the working poor.

Is There a Crisis in Intellectual Quality? What effects do such pressures have upon the intellectual contents of research disciplines? We have little in the way of systematic empirical analysis here, which would call for comparative studies of the quantity and quality of intellectual production under various conditions of credential inflation and credential system cost. What follows are crude estimates, guesses, and theoretical suggestions. Credential inflation manifests itself in heightened pressure for publication, all the more so because competition concentrates on a diminishing proportion of tenure-track jobs. At the same time, the financial rewards for the highest research reputations may also foster competition over the kind of innovativeness which makes big reputations; it may well be the case that the quality of intellectual work at the top level increases under these conditions. This example warns us against assuming that a situation of crisis or difficulty within some levels of the academic community is necessarily bad for other levels or aspects of the system.

In some ways the increased pressure for publication throughout academia has favored the social sciences vis-a-vis the humanities. The same pressures exist inside the humanities, where scholars during the last century have had to concentrate on more and more minutely detailed materials within canonical literature and the conventional topics of history. Publication pressures have been in part responsible for the shift towards social history and literary theory. The latter is a good example of a theoretical framework which legitimates a new subject matter. The various movements which have gone under the names of “structuralism”, “poststructuralism”, “deconstruction” or just “literary theory” have all worked in the same way to legitimate humanistic scholars working on a widened terrain, one which discerns text-like or semiotic features in all areas of culture. The upsurge of these movements occurred in the French academic system during the time when it was undergoing the rapid expansion of higher education in the 1960s, from a closed elite system to a US-style mass system; the alienation of students and young degree-holders of the late 1960s and the following decades was related to the shortage of academic jobs resulting from a bulge of overproduction of high-level degrees (on this period, see Bourdieu, 1988). This shift towards the study of textuality tends to make the research field of the literary and aesthetic disciplines coextensive with the topics of the social sciences. The movement away from the canon of high-culture writers is not merely a result of insurgent political/ideological movements (feminism, racial/ethnic nationalisms, gay liberation) but a way of opening up fresh materials for publications. This has been favorable to the social sciences, especially anthropology and sociology, since sociological models and researches have acquired a wider audience; and there has been fruitful cross-fertilization especially in the area of the sociology of cultural production. Indeed, one can say that the sociology of culture has been in a golden age, due to this crisis-induced rearrangement of disciplinary definitions.

At the same time, there is an atmosphere of disillusionment, in part reflecting the career difficulties in a severe competition over positions; these difficulties have been especially acute in the French academic system, where recent decades have seen massive unemployment and underemployment of credentialed intellectuals. More generally, it has been the case throughout world history of intellectual communities that when there is a proliferation of schools and hence the formulation of a very large number of intellectual positions, a skeptical epistemology becomes

prominent. Given a cacophony of positions (what I have called a violation of the upper limit of the law of small numbers, the number of teacher-pupil networks can reproduce themselves coherently across the generations; see Collins, 1998, chapters 3 and 9) the argument becomes widely accepted that apprehending truth is impossible. The periods of skepticism in ancient Greek and in late medieval Christian philosophies occurred under these structural conditions; the skeptical strain in deconstructionism or postmodernism fits the same pattern. We need not take this meta-skepticism at face value. Under the umbrella of these forms of semiotic/textual theory, a great deal of work has confidently gone on exploring the production, historical valuation, and audience consumption of culture, work which is not skeptical about its own projects. Epistemologies only frame the intellectual field at a high level of aggregation; they are so to speak foreign policy statements about the relations among disciplines (in this case, denigrating the older, traditional, or safely funded fields as positivist, naive, or illegitimately privileged), while inside the disciplinary boundary work goes ahead which yields publications whose truth value is not questioned by peers.

Let us return to the established core of the social sciences. Here, despite various conditions of strain in the university base and movements of ideological self-questioning, I would judge that intellectual advance has been moderate to good. In the field I know best, sociology, there are a number of research areas which in recent years have produced empirical studies and theoretical formulations which are the high-water mark of those fields; these fields include historical sociology, especially dealing with state-building, state-breakdown and revolution, and global/world-system processes; ethnographic and micro-sociological studies of street codes, violence, and emotion; network analysis, and overlapping with it, a burgeoning field of economic sociology which formulates an alternative to idealized neo-classical economic conceptions of how markets operate; and as already mentioned, the sociology of culture. A good deal of sociology also operates on the level of what Kuhn called "normal science", elaborating details within well-established paradigms. I am less able to judge the proportion of cutting-edge or golden-age fields vis-a-vis normal science in anthropology, psychology, economics, and political science; my impression is of a good deal of normal science in these disciplines, with hot areas here and there as well. In a condition of credential inflation and hence massive publication pressure, naturally the large majority of publications

will be relatively detailed and not attract attention outside of narrow sub-specialties. But we judge a field by its best results, those which make the biggest splash in the intellectual attention space, not by its average publications; thus there may be a growing split in quality between top and middle, without a sense that the field as a whole is doing badly intellectually.

Pressures for Practicality There are two main ways that crisis pressures of credential production can affect intellectual content. One, just reviewed, is via the publication explosion; the second, which we now consider, is increased pressure to be practical. This arises in part because researchers in a cost-cutting university system seek sources of funding from clients seeking practical payoffs; another source of emphasis on practicality can come from the desire to convince students that a credential in a social science does indeed carry practical work skills. The shift to practicality is easier in some social sciences than others. Some social sciences, like anthropology, have generally had a pure-knowledge appeal, although they have had the advantage that some of their researches (e.g. in archeology) have a considerable audience as popular entertainment. Others, like sociology, have a practical side which is largely oriented towards “social problems”, and therefore which have a strong politically partisan position (on the ramifications of this point, see Turner & Turner, 1990).

Sociology’s application is generally from the point of view of liberal reformers or left radical social reconstructors; hence support for applied sociology largely depends upon leftward political swings in the surrounding society and partisan government patronage. It needs to be added, too, that the contribution of liberal social science to applied problems is largely in providing descriptions (e.g. documenting how much racial segregation exists, gender discrimination, etc.); there is relatively little well-established theory of what kinds of interventions produce what kinds of ameliorative results. One can hire a team of sociologists, or economists, anthropologists, etc. to show the extent of a social problem; but there is little they can reliably offer as to what to do that will change that condition, based on social science knowledge per se. Such social scientists, of course, are quite willing to offer prescriptions, but these are usually identical with those of liberal political programs, and meet with the same kind of political struggle as any other political ideology. This is another way in which the politicized character of social science limits its salability as practical skills. There are some other areas in which the social problem is not necessarily approached

from a liberal side; criminology and criminal justice studies may take a conservative or merely administrative stance. But here too the social problem itself is framed by social interests and conflicts (see Black, 1993); and thus actual interventions are strongly shaped by political partisanship. There are yet other fields which blow in and out of favor depending on political winds. In political science, security studies (i.e. the military aspect of international relations) experienced a sharp drop in interest and funding with the end of the Cold War; they have had to retrench towards other problems of security (e.g. ethno-nationalist conflict, terrorism).

The social sciences which have had the easiest time in expanding their applied offerings have been those which have big subfields operating below the level of ideological controversy. These are psychology and economics, the two fields which have done best in the competition for student enrollments (Waller & Collins, 1994) when the cost crisis of credential inflation first hit in the 1970s and 80s. Economics prospers by turning out analyses for business, investment, and government; it has done especially well with the investment boom of the 1990s and its call for detailed economic information about particular sectors and firms. Credential inflation for business careers, bringing about the proliferation of business-school programs and the requirement of M.B.A.s for higher level business jobs, has been a major source of support for economists. Psychology has prospered on a side that was once quite low on the totem pole of its disciplinary subspecializations, counseling and clinical psychology. Beginning in the 1970s, with the creation of credential programs leading into professional licensing in clinical psychology, applied psychology has boomed, making big inroads in the professional practice once controlled by psychiatrists credentialled by medical degrees; alongside the strictly licensed clinical psychologists, there have proliferated a variety of "soft" credentialled psychologists offering various kinds of counseling and self-help programs on a commercial market. Psychology and sociology, before 1970s, had approximately equal numbers of undergraduate students (Waller & Collins, 1994). The former has boomed while the latter has not, above all because psychologists have been able to sell a practical service directly to individual customers in any part of the ideological spectrum; for example, there are now conservative Christian psychologists, and many rightist religious groups have adopted psychological group dynamics techniques. In contrast, sociologists generally have had to find institutional patronage on the liberal philanthropic or welfare side.

Even in the successful applied social sciences, there is a split between a pure research oriented sector and the applied sector. Among economists, there is a prestigious elite which commands high salaries in the leading economics departments and competes for Nobel Prizes, by formulating esoteric mathematical theories remote from the mass of applied economists tracking the performance of particular stocks. The split is especially severe in psychology, where the professional association split in the 1980s, as the applied/counseling psychologists became a majority, whereupon many of the leading research-oriented experimental psychologists seceded to form their own association. Such splits, where institutionalized or not, and indeed whether publicized or ignored, exist in all the social sciences.

Conclusion

Inside each academic discipline is a highly differentiated community: differentiated by specialties, and even more importantly, differentiated by rank and resources. The top of the research elite does rather well under current conditions of costly credential inflation production; they do well not merely materially, but intellectually; in general, the research forefront of the social sciences has been making at least normal progress, and some subfields are experiencing golden ages. At the other end of the professoriate, there is a growing and increasingly beleaguered teaching proletariat; the material conditions of their lives are poor, and the strains of making their careers are severe. Not least of the severity is the uncertainty about where they are heading in the career spectrum; most start out struggling for tenure-track jobs, and they are produced in the same graduate programs that include the privileged ones who will follow the normally defined career of academic promotion through publication. Between the top and bottom is a middle mass, where strains are probably increasing because of the publication inflation which goes along with increased competition over a declining proportion of research/teaching jobs. Proposals for greater accountability or even abolition of tenure strike mainly at this middle mass. It is entirely possible for the intellectual condition of the system, determined by what is done by the research elite, to be flourishing, while there is pressure, alienation, and misery at the levels below.

Will there be a revolt of the professorial proletariat? Framing the issue in those terms makes it seem at least hypothetically possible. Theory of

social conflict, on the other hand, suggests that it is not very likely. Mobilization of an unprivileged stratum depends upon formulation of a self-consciousness ideology of group identity, and upon organizational conditions for mobilization; such conflict would be further complicated by the existence of middle strata in the academic hierarchy, who have their own latent interests (and even more cross-pressures regarding their identity). Theory of revolution now indicates that mobilization at the bottom alone does not change a system of power; such changes start with breakdown at the top, and struggle among competing elites over how to fix it. All this is very remote from conditions of academic life today. We still define ourselves primarily in terms of the intellectual content of our disciplines, and this gives enormous implicit power to the research elite. The strains which are palpable today for many scholars lower in the hierarchy seem likely to remain merely localized, personal troubles. It seems likely there will be little overt resistance as our disciplines become much more severely stratified.

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