

Esperantists in a Tower of Babel

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Abstract: The problems and possibilities of interdisciplinarity are explored in this essay from the perspective of a favorably-disposed agnostic. It is argued that a piecemeal, step-by-step approach may prove more effective in helping to promote the necessary changes in attitude and practice than a radically proselytizing one. Some of the main hindrances—both social and cognitive—to interdisciplinary development are reviewed before noting that, at the micro-level of individual specialisms, a number of relevant activities already occur. Though there remain significant barriers to progress, an encouraging area of common concern can be identified on which to base a systematic move towards greater intellectual unity.

Background

The arguments and ideas set out in this paper have evolved gradually over the past two decades. Although my main interest is in teaching and research in higher education, rather than in interdisciplinarity per se, I have encountered that theme in three different but not entirely unrelated contexts. In the early 1970s, I was a member of a small research group concerned with documenting and analyzing new developments in undergraduate education in British universities. Interdisciplinary courses were among the more interesting of these, and prompted a separate substudy of the problems and possibilities of interdisciplinarity as a framework for teaching (Squires *et al.*, 1975). Shortly afterwards, I took up an appointment on the staff of the University of Sussex, which had been founded in 1961 on the basis of interdisciplinary principles (Daiches, 1964). There I was able to observe at close quarters how such principles had been modified over the years in response to disciplinary counter-pressures. Later, in 1980, I began a study which was to occupy me over the next decade, with a central focus on the cultures of academic disciplines.

This inquiry related to twelve subject areas, spanning pure and applied science, the social sciences, the humanities and the social professions. It was based on in-depth semi-structured interviews with 221 academics in British and American universities. It culminated in a publication which sought to portray the day-to-day working patterns and the value systems of academics in different fields and to explore the relationships of these ways of life to the cognitive characteristics of their subject matter (Becher, 1989). One striking feature was the way in which, at the micro level, specialisms and sub-specialisms within apparently homogeneous knowledge domains seemed often to develop characteristics which were out of line with the epistemological and social norms of their parent disciplines. At this level of dis-aggregation, indeed, one could discern a form of counter-culture in which close intellectual alliances were established across disciplinary boundaries (Becher, 1990). This phenomenon seems to me particularly relevant to the exploration of interdisciplinarity, and I shall return to it later in the discussion. A logical place to begin, however, is with a brief consideration of the motives behind the quest for unity in the academic world.

The unity of knowledge

Those who argue for the closer unification of knowledge, or against its progressive fragmentation, do so for a number of different reasons. It is perhaps significant that even the Unitarians are not fully united in their justification of their common cause. One argument stems from a predominantly social motive: the academic community is damagingly divided, and only an improvement in the level of mutual communication and understanding can ameliorate the progressive onset of chaotic sectarianism. Another approach is philosophical in its emphasis, pointing to the inadequate state of knowledge itself, rather than to defects among the knowers. The issue might from this standpoint be described as one of converting a patchwork quilt into a seamless cloak. Then there are those whose anxieties are neither social nor philosophical, but utilitarian. Many of today's most pressing concerns, it is contended, cannot be adequately tackled from the vantage point of any single discipline: what is needed is an interdisciplinary strategy which overrides, and indeed renders obsolete, the conventional disciplinary divisions. My subsequent comments will take some account of each of these perspectives, but the main emphasis will be on the first, socially-derived rationale for promoting greater harmony among the disparate groups engaged in the pursuit and transmission of knowledge.

It is a sound injunction that those who comment on value-laden issues should not pretend to neutrality, but should make it manifest where they themselves stand. My attitude towards the quest for a common academic culture can best be explained by

reference to a classic contribution to political theory: namely, Charles Lindblom's seminal article on "The Science of Muddling Through" (Lindblom, 1959). In it, he contrasts two fundamentally different approaches to the resolution of policy problems, which he labels respectively the root method and the branch method. The first of these is appropriately radical, but at the same time imbued with a strong sense of rationality. It depends on starting with a clean slate, clarifying and crystallizing the objectives of the policy in question, investigating all the feasible means of achieving those objectives, systematically evaluating the relative effectiveness of each approach, and adopting the one calculated to have the highest probability of success. The second, branch method is more modest in its ambitions. It involves acceptance rather than dismissal of the status quo, and calls for no more than a series of small steps moving from it towards a broadly defined goal, each step constituting a successive approximation to a state of affairs whose conception may itself be subject to negotiation and modification as the iteration proceeds.

Admirers of Karl Popper may discern in Lindblom's branch method something akin to the "piecemeal social engineering" advocated in *The Open Society and its Enemies* (Popper, 1966). It is this piecemeal approach that I favor, in relation to the issue under review as well as to other, even more major, issues such as the distribution of world resources and environmental preservation. Put starkly, the choice here lies between strongly partisan proselytizing and attempts at mass conversion on the one hand—designed to bring about a revolutionary shift in attitudes—and a more limited but equally determined strategy of what Lindblom labelled "disjointed incrementalism." To opt for the one approach rather than the other is, I suspect, more a matter of personal temperament than of superior intellect or greater natural virtue.

In the end, the two may indeed turn out to complement each other. The incrementalist approach can come to nothing if it fails at the last to change basic structures and assumptions. The move towards universal suffrage has had in most political systems the jerky, erratic progress characteristic of Lindblom's branch method but has culminated in major change. One might thus argue that successful incrementalism has eventually to lead to radical reform. But on the other side, revolutionary slogans are not enough on their own: they have to connect with slow, piecemeal changes in people's everyday lives. It may take a zealot to begin the difficult business of changing entrenched habit and opinion (as in the case of the recent campaigns against smoking or drunk driving), but the necessary amendments in house rules or legislation and policing call for a less dramatic, more low-key process of incremental evolution. And that is to suggest that proselytizing is only effective if it yields in the end to gradual but fundamental adjustment. Either way, major shifts in attitude and belief take time—and reformers may choose, according to temperament, whether to buy that time at the beginning or at the end.

It may be inferred from what has been said that my attitude towards the unification of academic activity is sympathetic, but agnostic. There are many difficulties in the way of halting the fragmentation which already exists in the scholarly community. It is—at least from an incrementalist's perspective—important to recognize, as realistically as one can, what those difficulties comprise. They may be divided into those which are unlikely to yield to pressure or persuasion, and those which—though stubborn to remove—might succumb to a well-planned program of reform. It will be useful to consider the former, intractable problems first.

One possible entry into the exploration of the issues is to ask why knowledge is organized in the way it is. There are three well-known answers to that question, each unfortunately incompatible with the other two. Each of them has, moreover, very different implications for would-be reformers. The first, which is usually labelled the realist position, holds to the simple view that the state of human knowledge directly reflects the nature of reality—or, to put it in a fancy slogan, that epistemology mirrors ontology. If that were indeed held to be the case, there could be no more to be done. To try to change the configuration of knowledge could not affect the underlying given, the world as it is: the only outcome would be to detach knowledge from reality, and hence to degrade it into mere illusion.

Many of us, however, tend nowadays to adopt a more sophisticated view, leaving "naive realism" as the fading empire of a few old-fashioned professional philosophers. It is the sociologists and anthropologists who have above all made relativism respectable, with their insistent suggestions that knowledge is "socially constructed." We view the world as we do, according to this contention, because we have been indoctrinated by our own cultural milieu. What we see is a product of our collective and individual histories. Where different people perceive the same things differently, it is not a matter of one being right and the other wrong, since "right" and "wrong" have no meaning independent of the context in which they are used. On this thesis, the current configuration of academic knowledge is a result of mere historical accident—had history been otherwise, there might have been no mathematics, no chemistry, no history to be otherwise, and perhaps no social science to tell us that realism is an illusion. The reformer's task is accordingly relatively simple: it is merely to change the course of future events by changing the cultural norms. Once disciplines are clearly seen to be the products of no more than prejudice and habit, their hegemony can be challenged. A new world view can be promulgated which will eventually do away with the artificial divisions which currently ensnare us and drive us apart.

The third account of the nature and status of human knowledge is frankly pragmatic—some might more dismissively describe it as functionalist. Knowledge fields, on this view, are as they are because they happen to work. Physics survives as an organized discipline, and physicists as a clearly identifiable community, because there happens to be a whole range of interrelated questions which are amenable to its associated investigative techniques. The status of geography is less certain,

because it seems to be a subject without a clearly-defined center. Economics has prospered since the days of its founding fathers, but its current credibility has diminished with successive failures of prediction. Reform of the structure of knowledge must depend on identifying more useful ways of organizing human inquiry; and insofar as the solution is held to lie in interdisciplinary investigation, that too must justify itself in operational terms.

Constraints on interdisciplinary inquiry

The concept of interdisciplinarity, like other concepts related to the academic domain, has two distinct aspects: the social and the cognitive. To be aware of the constraints in the way of its promotion, it is necessary to look at the social and cognitive features of knowledge communities, and to remind ourselves of how they operate. Starting first with the social dimension, it has to be recognized that specialization imposes what Ruscio (1985) described as an “iron law.” It is the inexorable result of every getting academic’s need to compete for scholarly reputation with others in the same field. Typically, this will lead to attempts to establish and colonize a particular patch in which one’s own special expertise can be demonstrated. Often that patch will be narrowly bounded and deeply penetrated. Pre-eminence—with important exceptions—is not seen to derive from broad (and certainly not from shallow) subject-matter coverage. For many academics, asking them to abandon their closely-contained specialisms and to widen their frames of reference is akin to urging the citizenry to suspend their strong local loyalties, abandon their sense of nationhood, and see themselves as members of a wider and more diverse multinational community. It can be done—and is perhaps happening, very slowly, in relation to Britain’s membership in the EU—but it is a precarious and protracted affair, allowing of sudden reversions to nationalism and the slow business of acclimatizing a new generation more readily than the old. One example of how that acclimatization may come about in the academic context relates to the post-war unification and quantification of the biological sciences, in which the earlier specialisms, based mainly on taxonomic distinctions, began to give way to an approach focusing on general mechanisms and processes. The Old Guard failed for the most part to make the adjustment. Doing so was left to the Young Turks, aided by an immigrant cohort of physicists moving into what they saw as a challenging new arena (Mulkay, 1974).

What can the reformers offer as the rewards for heeding their injunctions? Interdisciplinary work cannot by any means guarantee—though it can on occasion promote—a higher quality of research or a better professional reputation than specialized monodisciplinary inquiry. It may hold out a promise of a better collective defense against a hostile environment, on the “united we stand, divided we fall” principle. It may also be argued to demonstrate a stronger sense of accountability and a clearer acceptance of social responsibility. But such lofty goals seem rather remote from the everyday concerns and the understandable career ambitions of most academics. Even where some commitment to interdisciplinary activity exists, the problems of achieving coherence among a diversely-trained team of people remain. A clinical psychologist specializing in child abuse commented to me recently how difficult it was to reconcile her own emphasis on the interests of the individual child with the social worker’s concern for the restoration of family relationships and the prime motivation of the police to obtain a successful prosecution: yet all three groups were expected to operate as a coherent team in their attempts to resolve any particular case. In a somewhat similar vein, a sociologist of science (Pinch, 1990) recently wrote of an experiment in solar-neutrino physics, involving nuclear physicists, astrophysicists, neutrino-physicists and radio-chemists. When the experiment went wrong, he noted that “scientists from each discipline [*sic*] would perceive one or more of the other disciplines as being the cause of the problem . . . when it came to their own discipline, expressions of confidence were often made.” It may, then, be a difficult social process to build up a coherent and coordinated group of people working on the interface of two or more different disciplines. In my study of disciplinary cultures, I came across one such group, in the field of space physics, comprising physicists, chemists, an engineer and a computer scientist. The leader of the group, after assuring me how effectively they had learned to work together, confessed himself to be in despair. The computer scientist was leaving shortly for a better-paid and more senior post: there was no one to be found with an appropriate background to replace him, and the team was faced with the slow process of inducing a newcomer to their particular way of working and thinking. This example reminds us, not only how unified interdisciplinary activity is itself difficult to bring about, but also how even here, highly specialized knowledge may be at a premium.

The issues noted so far—the more evident rewards of specialization, the problems of ingrained disciplinary loyalties and the need for time to build up a working interdisciplinary team—are predominantly social in their origins and emphasis. But there are cognitive issues to be considered as well. It is undeniable that an individual academic who is able in his or her person to combine two or more sets of disciplinary skills may succeed in coming up with important and original findings. One of the many examples of this process is Joseph Needham, who has been able to combine his expertise as a biochemist and his capabilities as a sinologist to produce his monumental study of *Science and Civilization in China* (Needham, 1956-1988).

The rare combination of abilities needed to undertake such achievements is however itself a reminder of one important cognitive feature of interdisciplinarity. Needham’s could fairly be described as a one-off intellectual triumph: his research has generated no obvious line of academic succession, no latter-day disciples dedicated to continuing and extending his work. To say this is not to imply that Needham’s *magnum opus* will have no long-term impact on scholarship. It will doubtless remain

for many years a key reference source for both sinologists and historians of science, and may well provide a starting point for other scholarly activity. But the particular combination of skills that the work required is unlikely to be widely replicated, and insofar as the investigation is taken forward it is likely to be in a piecemeal fashion uncharacteristic of a fully-fledged intellectual tradition. Those who are dubious about the significance of interdisciplinary inquiry are prone to point critically to this feature of its apparent lack of continuity. In common with the hybrid mule, the hybrid research topic seems regrettably incapable of reproducing itself.

To make matters worse, where such an accusation can be shown to be invalid—where a combined attack on a problem from two or more different disciplinary perspectives proves to be particularly fruitful—the result is no more favorable to the advocates of interdisciplinarity. Once it becomes evident that a wide new arena has been opened up for subsequent exploration, a new kind of specialism begins to establish itself, gradually acquiring all the features of a conventional academic discipline in its own right. This is precisely what happened in the cases of biochemistry and biophysics: and it is what now seems to be happening in the field of cognitive sciences, defined by one leading exponent as covering “psychology, logic, linguistics, artificial intelligence, and neuroscience (and, potentially, anthropology). More accurately, it covers *a particular approach* [author’s emphasis] to these subjects, whereby they are seen as integral parts of an interdisciplinary research program into the nature of mind” (Boden, 1991). The “particular approach” is already being embodied in a new series of degree programs, a collection of dedicated journals, a special library classification, one or more professional associations, and all the other trappings of a standard disciplinary community.

To sharpen, simplify and polarize the argument, it would seem that interdisciplinary activity is in cognitive terms a loser almost by definition. If it deals effectively with a particular issue, but fails to generate further research, it is branded as sterile. If it is successful in giving rise to a rich and productive line of inquiry, that inquiry is prone to be labelled as a new discipline, and hence as no longer a valid example of interdisciplinarity.

Cognitive considerations

The considerations so far advanced point to a generally pessimistic conclusion. Cognitively, as well as socially, there would seem to be quite daunting barriers in the way of achieving a greater degree of intellectual coherence in the academic world. Nonetheless, it is necessary to remind ourselves that there are more positive features, suggesting the possibility of at least some modest, incremental moves in the direction the Unitarians would wish to go.

In the first place, disciplines themselves are far from being monolithic. While they might seem to be set in concrete from the macro perspective which tends to be adopted by an outsider, seen from an inside micro perspective they appear rather to be in a constant, Heraclitean state of flux. Bucher and Strauss (1961), in their study of medical specialization, underline the heterogeneity of the various groupings and the divergence of interests between them, writing of “loose amalgamations of segments pursuing different objectives in different manners and more or less delicately held together under a common name at a particular period in history.” Every discipline has its constituent specialisms, and many of these are in turn subdivided (so that Mulkay, 1977, for example, was able to refer to a classification of solid state physics into “twenty-seven relatively distinct fields of investigation”).

Such subdisciplinary elements can be represented as forming a counterculture to that of their parent disciplines, in that they may generate overlaps of interest between specialist groups in neighboring knowledge domains (Becher, 1990). These overlaps are manifested in various ways: through boundary disputes between one discipline and another: through a process of boundary maintenance, involving an explicit or tacit division of intellectual labor; or sometimes through a sense of close identification between the inhabitants of the territories concerned. Pinch (1990) comments that “Although ... I may call myself a sociologist and introduce my colleague from the next office as a sociologist, my own research on the rhetoric of science has more in common with linguists working at other universities than with the person in the next office.” Buchanan (1966) argues that “it is easier for an economist working with non-market decisions to communicate with a positive political scientist, game theorist or organizational psychology theorist than it is for him to communicate with a growth-model macro-economist with whom he scarcely finds any common ground.” Similarly, one of the mechanical engineers interviewed in my study claimed to have more in common with mathematicians studying fluid mechanics than with other engineers studying his own research topic of combustion.

These considerations hold out the prospect of a limited but nonetheless significant series of linkages between different knowledge fields at the sub-disciplinary level. In his own persuasive advocacy of the unification of the social sciences, Campbell (1969) urged the development of “collective comprehensiveness through overlapping patterns of unique narrowness,” and the creation of “a continuous texture of narrow specialties which overlap other specialties,” as against “trying to fill these gaps by training scholars who have mastered two or more disciplines.” He saw this as calling for a “fish scale model” in which specialist research areas overlap like the scales on a fish, so bringing about “a collective communication, a collective competence and breadth.” One is reminded of Wittgenstein’s (1953) metaphor of a rope, which derives both its unity and its resilience not from a continuous thread of material running through its length but from a great multiplicity of short,

overlapping fibers.

It is also important to keep it in mind that much of what goes on in higher education is not in a strict sense “disciplinary” at all. All of us tend to fall back on a simple stereotype of an academic discipline, much as we are liable to conjure up a too-ready notion of research. One has only to look at some of the recent policy decisions of the governmental agencies responsible for funding higher education in Britain—and they at least ought to know better—in relation to research selectivity, financing and planning, for it to be obvious that they are dominated by the vision of elaborate equipment, large teams and substantial budgets. Yet even in the sciences, most research groupings are relatively small, do not depend on vast apparatus, and make only limited financial demands; while in the humanities and social sciences, which account for the majority of academic staff, research is largely individual, and costs very little more than the time of the people engaged in it. This does not prevent academic policy-makers from behaving as if the academic world were engaged predominantly in the study of high energy particle physics, space science and radio astronomy.

There is, in a similarly misleading way, an inclination to speak as if everyone in academia can be identified as belonging to an established disciplinary grouping, modelled on the tidy prototypes of history in the humanities, economics in the social sciences and physics among the sciences. In actuality, there are a number of areas of inquiry centered on a particular theme, but not identified with a particular intellectual approach: many of them carry the tell-tale label of “studies”—European studies, women’s studies, media studies and the like. From a traditional perspective, some of them—black studies is a case in point—might be dismissed as intellectually dubious and organizationally unstable. In cognitive terms, their validity depends on holistic and pragmatic arguments (Klein, 1990); in social terms, it is manifested by their continued survival in the face of sustained hostility, and by the steady increase in their range of coverage and the numbers of their adherents.

It is even more surprising that arguments about interdisciplinarity tend to overlook the existence of the very large category of academic subjects which deals with practical concerns, including medicine, architecture, engineering, social work and education. The training for most such professional areas draws, *inter alia*, on a number of different academic disciplines: medicine on various of the biological sciences, statistics and demography; architecture on aesthetics and materials science; engineering on management as well as on mathematics and the physical sciences; social administration on political science and sociology; education on psychology, sociology and other areas of social science. Whether one chooses to label them as interdisciplinary, or merely as applied or professional subjects, they are clearly very different in kind from the traditional disciplines, both in their shared concern with vocational preparation and in their generally heterogeneous and eclectic knowledge base.

The question that has to be asked is whether the existence of such fields of intellectual activity—which between them account for a very significant proportion of the total staff and student population—is a source of increased unity across the academic world or whether it merely exacerbates and multiplies the divisions. If one again responds from a macro perspective, the obvious answer is that applied, vocational fields, like theme-based studies, do little to counteract the fissiparous tendencies which seem to beset the scholarly domain. People whose concern is with development studies or dentistry are no less cliquy than those engaged in pure mathematics, and appear little more ready to embrace a more synoptic standpoint.

The picture is again, however, more encouraging when viewed from the micro level. Indeed, on one interpretation of interdisciplinarity, theme-based and vocational inquiries are prime examples of the genre, since they commonly call for the application of several different disciplines in their search for a better understanding of the issues with which they are concerned. Media studies depend, among other subjects, on sociology, history and literary criticism; pharmacy draws heavily on microbiology and pharmacology as well as on chemistry: and so on. According to this line of argument, there is not too much to worry about, since a substantial part of academic activity already involves the collective application of a number of different disciplines.

Social considerations

But the concerns that lie behind the debate about the fragmentation of knowledge commonly go deeper than this. The mere fact that different disciplines can be brought to bear on particular kinds of problems in no way ensures that the proponents of those several disciplines enjoy a common set of interests and values, a mutual sense of respect and a shared tolerance of each other’s idiosyncrasies. What is needed, it may be argued, is something more fundamental than an overlap of specialisms or a combination of intellectual perspectives. The real problem lies in people’s attitudes rather than their practices: and its solution must be found in a way of changing those attitudes in the direction of greater collective coherence.

This brings us back to the view earlier identified, of academic unity as a predominantly social issue. Seen in these terms, the situation is not as drastic as the pessimists would lead us to suppose. There are a number of promising trends worth reviewing. One relates to the apparent convergence of values and practices in different areas of knowledge. A well-informed observer of the academic scene, the American anthropologist Clifford Geertz (1980), saw signs as long as a decade ago of a “culture shift,” a “refiguration of social thought” bringing the humanities and the social sciences closer together in their intellectual kinship, as the latter moved away from “physical process analogies to symbolic form ones.” It does indeed seem the case that historians and sociologists are wandering more freely nowadays into each others’ territories, even if important differences of method and

approach remain. But it also has to be remarked that any coming together of this kind is likely to be at the expense of a move away from the previously dominant scientific paradigm. The physical sciences have as a result come to seem more insular, except insofar as economics—or at least one substantial branch of it—is becoming virtually indistinguishable from applied mathematics.

Within the sciences themselves, the possibility may be opening up of a very different process of unification, brought about less by changes in what Geertz called “the way we think about the way we think” than by the exigencies of inadequate research funding. When money was relatively plentiful, it was seen as important in most scientific fields to be actively involved in empirical work. Those who concentrated instead on the synoptic and theoretical aspects of research tended to be viewed as parasitic on the workers at the coal face, doing (as one of my interviewees said) “damned little work for their syntheses,” or taking (in the words of another) “a cheap and easy way out.” The emphasis was on exploration rather than consolidation: on opening up more and more new seams to be mined, as against asking where the process was leading and what its relative significance might be. Progressive fragmentation was, one might say, promoted at the expense of any concern with coherence and reflection. Perhaps, however, the enforced reduction in the breakneck pace of laboratory-based and field-based inquiry may at least bring the benefit of directing attention towards some of the many findings whose implications deserve closer analysis, and of encouraging moves towards a more systematic synthesis of what is already known.

Leaving aside changes in intellectual perspective or in the political and financial context of research, there are at least two other significant developments which demand attention in the British context. The first is the slow, but now seemingly inexorable, broadening of the secondary school curriculum; the second, a change (related both to this and to the shortage of research funding) in the relative status of teaching as against research. As far as the first is concerned, all the expectations are that the reduction in the presently excessive degree of specialization from the age of 14 onwards which is called for by the 1988 Education Act will result in a comparable change in undergraduate provision. There is already a significant range of modular degree programs, joint honors courses and interdisciplinary offerings of various kinds: one would expect the move from the standard closely-defined single subject honors pattern to gather momentum as more and more university entrants are drawn either from less specialized upper school programs, more broadly-based vocational courses, or general entry on the basis of relevant work experience. On the whole, it might be predicted that the less elitist recruitment to higher education becomes, the less viable the tendency will prove to regard undergraduate teaching—as UK universities currently do—as first and foremost a preparation for a research career in a particular discipline. Such a change may do something to promote a more catholic perspective among existing teachers in higher education, as well as helping to insure that future generations of academics will have a wider frame of reference than those brought up within the confines of a single subject field.

By general admission, the reward system in universities has been heavily skewed in favor of research—or perhaps one should say the ability to get work published—and against teaching. In Britain, various changes have begun, even if only modestly, to adjust this imbalance. One is the greater premium placed on pedagogic competence in a context in which students can no longer be assumed to be both highly-qualified and drawn from the top ten percentile of ability. Another is the effect of the already-mentioned limitation on research funding. Fewer and fewer academics can now expect—as they have traditionally done in British universities—to have at least a quarter of their total time available for research, together with a further allocation for study leave of up to one term in seven. Those no longer so privileged understandably demand better recognition for their teaching activities. A third factor is the growing political pressure for accountability in higher education, and in particular for what is fashionably labelled as “quality assurance” in relation to teaching. One of the most noticeable features of undergraduate teaching—which is often the subject of positive comment even among those who are most active in research—is that it necessarily demands a widening of one’s mental perspective, drawing one out of the confines of one’s current intellectual obsession and enforcing some contact—which is at times found to be highly beneficial—with other ideas. It is not perhaps unduly optimistic to expect that a combination of broader undergraduate curricula with an enhanced emphasis on teaching might have the effect of reducing, even if not of eliminating, the parochialism of current research practice.

Barriers to progress

At this point, having suggested that the omens are more favorable for the development of a coherent intellectual community than they have been over the last generation at least, I want to draw attention to two interrelated sets of attitudes which are prevalent in the scholarly world and which serve to perpetuate and reinforce the insularity of, and hostility between, different subject-based communities. The first of these is the academic equivalent of the jingoism and xenophobia which besets particular nations at various times. Just as the ‘little Englander’—more, alas, a reality than a mere legend—could be characterized by the slogan “my country, right or wrong,” so too there are more than an eccentric minority of academic staff who live out the counterpart motto, “my discipline, right or wrong.” And just as the most bigoted anti-semitic will proudly assert that “some of my best friends are Jews,” so too those who have close personal acquaintances in other subject fields will nonetheless continue to pillory those associated with such fields and to denigrate their competence, if not their intellectual integrity.

When I was trying to understand, in the course of my recent research, what were the distinguishing cultural features of

different academic fields, I spent some time in the early stages asking people in each disciplinary area to give me their own impressions of what colleagues in other particular subject areas were like (Becher, 1981). What struck me in carrying out this exercise was not only how ignorant each group was of what the others did and how they did it, but also how negative and dismissive their stereotypes were. To give just a few examples, biologists were said by one respondent to be “ethereal folks who spend time cutting up flowers and being very delicate”; one interviewee was under the impression that the main function of sociologists was to teach social workers; physicists were said variously to be clever but incomprehensible, introverted, paranoid and defensive, technocratic and conservative; and engineers to be dull, conformist, mercenary, unacademic, uncultured and “technocrats with no refinement.” It must be emphasized that these comments were made, not by hostile outsiders but by people who worked in the same institutions as many of those they wrote off in this way. The incomprehension of, and antagonism against, those with different perspectives and values seem depressingly reminiscent of members of rival fundamentalist religious sects. Nor is this finding confined to my own research. In reporting an entirely independent study, based on the University of Melbourne, Kay Harman (1990) writes “misconceptions, stereotyping of outsiders, misunderstandings and contested views were common within and between the cultural coteries of the disciplines and their sub-specialty areas, so making shared activity and dialogue between different groups difficult, if not impossible, at times.”

Such attitudes are I believe closely linked with another phenomenon: the ladder of power and status in academia. There is a longstanding tendency to accord high regard to knowledge domains which are hard, abstract and amenable to mathematical modelling, and to play down those which are soft, qualitative and applied. The degree of academic class-consciousness is heightened in a society like Britain’s which is itself heavily class-ridden, but it can also be discerned in other academic systems. There seems to be a crude set of equations underpinning the ladder of esteem, ranging from mathematics and physics at the top, through chemistry and biology to economics and thence to historical and literary studies, finally descending through sociology and engineering to the lower rungs of subject areas such as education, nursing and social work. Purity, it seems, in conjunction with a high level of theorizing, represents the pinnacle of intellectual activity. Because abstraction is difficult, it is associated with the achievement of high standards, and offers a benchmark for academic excellence, to which other forms of inquiry approximate in varying degrees.

Unlike some of the issues earlier identified as standing in the way of a closer-knit academic community, these two—the prevalence of partisanship and the influence of disciplinary pecking orders—are amenable to correction by educative measures. That is to say, they may be counteracted by encouraging scholars to recognize the immaturity of, and lack of intellectual basis for, the attitudes behind them. In the case of the caste system, that battle may already be halfway won. One by-product of the Thatcher years in Britain was to introduce a rival calculus of merit based on utility, under which money, student numbers and the status associated with both began to flow in the direction of subjects, such as business studies and engineering, which had previously earned a poor rating. In the subsequent process of readjustment from the excesses of the enterprise culture, the chance at least exists to demonstrate that such status systems are seldom based on intrinsic merit, and merely operate as a crude means of allocating privilege without bothering to adjudicate worth. There is no reason why one subject field should lay claim to automatic preferential treatment over another, as the recent debates about scientific research funding have begun to show (the large amounts of money going into high energy physics, at the expense of other less prestigious scientific specialisms, are increasingly resented).

Finding the common ground

To eliminate the grounds for academic snobbery is itself to weaken the basis for disciplinary insularity. In a relatively classless society, the tendency to envy or despise those of higher or lower status, and in any case to dislike and distrust those outside one’s own clique, is conveniently reduced. There are already some academic groupings which have managed to achieve, in socio-political terms, a sense of collective unity. The physicists—despite the high degree of cognitive fragmentation mentioned earlier—are an example in the natural sciences, as are the historians in the humanities. What has now to be sought for is an extension of this principle of internal coherence into the wider domain of the disciplines at large. That may sound like a tall order, but it is I would suggest something that could be achieved by a systematic, well-orchestrated and step-by-step campaign.

One possible strategy is to find ways of promoting and publicizing what might be called disciplinary multilingualism. People who can operate effectively in the context of two or more different intellectual settings have more than two strings to their bow, since they may also find opportunities to work in the borderlands between the two. There are likely to be more such people as specialization diminishes up to bachelors degree level. Another strategy is to encourage inter- and intra-disciplinary mobility. This already exists to a quite surprising degree: my interviews in various subject fields brought to light several interesting instances, including a chemist who had migrated to biology, an anthropologist in a history department, a plant pathologist who had made a new career in studying fish vision and a literature specialist who had switched from sixteenth-century poetry to modern drama. What may be particularly useful here is the intellectual counterpart of easier travel between countries: something perhaps along the lines of short-term secondment opportunities at least to visit, and perhaps even on occasion to work in, departments in other subject areas than one’s own. The resulting academic interchange could be reinforced and underpinned by

the equivalent of travel literature, describing aspects of life in particular intellectual domains as seen by an outside observer.

Whether or not there is considered to be a strong enough case for a conscious campaign along some such lines as these, Kay Harman's study, to which reference was made earlier, reminds us that:

more enlightened understanding of the bases of cultural differences between disciplines could lead to more effective dialogue and greater respect between individuals and groups for the different ways people approach problems and the different intellectual styles they adopt . . . plans to reconstruct higher education that are based on cross-cultural collaboration or interdisciplinary linkages will have little chance of success if the bases of the differences are not well understood.

(Harman, 1990)

This discussion has dwelt, to a large extent, on the difficulties in the way of creating a more harmonious and coherent scholarly community, and the divisions which serve to fragment the inhabitants of academe. But it would seem appropriate to conclude with the observation that things may in any case not be as bad as they can appear in our more gloomy moments. To quote Kay Harman once again:

While on the surface academics appeared divided and fragmented, underneath lay a stubborn core of unity. Detected from an emerging babel of conflicting voices, divergent interests and divided loyalties, were aspects of a common culture which encapsulated a deeply entrenched, "unwritten" occupational ethos.

(Harman, 1990)

She goes on to spell out some of the familiar features of that occupational ethos, echoing Burton Clark's earlier analysis of the academic profession (Clark, 1987a, 1987b).

Those who wish for a detailed account of her findings may refer to the original text. Here are a few samples, merely to give a flavor of the shared principles she enumerates:

Knowledge should know no bounds—all aspects of the recognised branches of learning should be open to inquiry and the ideas of younger members should be just as valued as those of their elders.

The branches of learning should be formally equal, or at least legitimate forms of knowledge, i.e., they should speak with the same authority because of their specialized knowledge base.

There should be a free exchange of ideas in a context where uncertainty and contradiction are tolerated. Intellectual conflict should remain separate from personal or social conflict.

As in all implicit or explicit codes of conduct, salient principles are more honored in the breach than the observance. But for all the salient differences, it is clear that there are also many important similarities between those who occupy and defend their different scholarly arenas. There is indeed a subterranean sense of communality which is there to be unearthed. The cause of unity is far from being a lost one.

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