say, 'But you said that in 1985, and in 1988, and now in 1993 you are saying it all over again. Surely the matter has been settled in all this time!'

Finally, something must be said about a real disservice of peer-reviewed journals to scholarship. I refer to the notion of productivity as considered by the academic committees which decide who will be hired, promoted, granted tenure. The members all review the candidates' list of publications. I do not believe that many of them read what the candidates have actually written. Depending on the list of titles in a curriculum vitae is an excuse for not interviewing a candidate, for not making judgments, for a senior person to avoid standing accountable and saying, 'Yes, I have hired Dr A for that reason and have rejected Dr B for this reason.' I would suggest that the proliferation of papers published, the publish-or-perish syndrome, essentially is a weasel way for senior people to avoid the responsibility with which their position empowers them.

Just as few people want to be university presidents, few really want to sit on hiring committees. I know, because I have sat on many. But if faculty members do agree to serve, then they should eschew mechanical dicta that more papers mean more merit. The practice of counting and weighing publications is not a problem of scientific publishing but an evasion of responsibility – and if it is to be combatted, it should be considered as such.

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The market-place and the community

ARTHUR SCHAFER

There is a conflict between the notion of a community of scholars and the market-place environment in which scientists actually work. We must reinforce the former to escape the ills of the latter

In the major subplot of *King Lear*, Edmund, the bastard son of Gloucester, makes a speech which marks him as one of the most unattractive characters in all of Shakespeare's works. Yet, from one perspective at least, what he says is not very different from many of the things in which we now believe. To Shakespeare, Edmund was clearly a villain; today he may seem much like an average North American in attitudes and values. Not that average North Americans are likely to conspire to have their father's eyes gouged out and their half-brother murdered. But most North Americans, I suspect, would sympathize with Edmund when he says, 'Look, I was conceived in a lustful moment by my father out of wedlock, but I am as clever as my brother Edgar – in fact, a lot cleverer. Why should my fate, my career, end up as nothing because I am illegitimate and a second son? My brother Edgar is less capable, less ambitious than I am.' 'His scholarly productivity,' Edgar might add, 'is less than mine. Why then should he inherit everything, be someone, whilst I get nothing and am nothing?'

Shakespeare was writing at a critical juncture in history when the values of the community and a person's status were defined by relationship to land. Land was not a commodity to be traded or a resource to be exploited. Lear's terrible error was not just misjudgment of human nature; the evil consequences that befell him and others came because he divested himself of land. More important still, Lear failed to appreciate the significance of his daughter Cordelia's defiant insistence that she loved him 'according to my *bond*' (my emphasis). Edmund, I think, was saying, in contrast, that human labour and

intelligence are commodities that can be bought and sold: it is entrepreneurship rather than 'bonds' that should matter. He was saying, 'I want to be able to sell my skills and my ambition and my enterprise and the products of all these in the market-place, but I am not going to be allowed to do this because of the feudal system which makes "birth" its central criterion of distribution.'

Nearly two hundred years later, his cry was picked up in the French Revolution. One of its dominant slogans was *La carrière ouverte aux talents* – careers open to talent and not just birth. Before leaving this quick romp through history, I might just dodge back in time to the seventeenth-century English philosopher Thomas Hobbes, who said that happiness (though he used the word 'felicity') consists in the satisfaction of one desire after another without cease. If that definition is transposed to the world of modern scholarship, happiness must be the publication of one article after another, without cease. The spirit of both Shakespeare's Edmund and Hobbes, I would suggest, is at the root of many of the questions of ethics and scholarly publication.

There have always been markets in society, but in our society, as described by Karl Polanyi in *The Great Transformation*, the market has become central and dominant. In earlier times the market was of gradually increasing importance, but still peripheral. At the core of the economy was morality: notions of a just distribution of right and wrong. In our culture the market is right in the centre. Markets are not just a fact of the economic system in which we live. We are market men and women; we have market marriages, we do market science, we have market-place politics. The doctor-patient relationship is infused with market-place values, as is too often that of professional and client, politician and voter, employer and employee, parent and child, cleric and parishioner.

The values of the market-place have eroded the bonds of community to the point that, when we utter the words 'scholarly community' or 'scientific community,' the word 'community' must be understood in a much thinner sense than was once the case. There is of course still some important content to the notion of an academic *community*. But it would be naïve not to recognize the profound changes that have occurred, even within my own time (that is, in the last twenty-five years), in the academic trenches. The erosion of communal bonds in academe has paralleled that evidenced in the business world (chronicled in seemingly endless media reports of financial scandal), in athletics, politics, and most other spheres of activity.

I was living in England when Ben Johnson won the Olympic gold medal in 1988, and I must admit that, like so many of my fellow Canadians, I had tears of joy in my eyes as I watched those few moments of glory for Canada. The

joy disappeared quickly enough when Jamaica's Ben Johnson was exposed as a cheat. Much has already been written about this sordid affair (and its recent, equally shabby sequel), but I would add two minor observations to the list.

First observation: The difference in time between Johnson, 'the fastest man in the world,' and the runner who finished fourth, and whose name hardly anyone remembers, was only a small fraction of a second. The 'forgotten man' would – with his fourth-place time – have won the gold medal at most of the previous Olympics in history, just as the women who currently finish at the top in the Olympic marathon event run faster times than most of the men who won this event in previous decades. But it was only Ben Johnson who stood to gain – or, ultimately, lose – the millions of dollars in endorsement fees from Diadora jeans and other commercial sponsors. Winning makes a difference. Winning is the difference.

Second observation: At a conference of Canadian sports scientists held after the 1988 Olympics, several of my scientific colleagues gave papers reporting the results of their research into new and more effective ways of improving the athletic performance of our athletes. One method which seems to produce the desired result requires the ingestion of massive does of caffeine. 'Caffeine doping' does not count as cheating because high caffeine levels, however damaging to the health of the athlete, are still legally permissible in amateur athletic competitions.

Everyone is looking for an 'edge,' a crucial advantage in the competitive struggle of 'us' against 'them,' with wealth and fame as the reward for success (at least in the 'big events'), while the rest must settle for poverty and obscurity. Not everyone cheats, but everyone eagerly searches for an 'edge,' a competitive advantage.

In sport, there is ample evidence that the media tend to focus on sensational achievement and sensational cheating, to the neglect of more mundane but possibly more significant instances of bending the rules. The same is true, I would argue, with respect to ethics in scholarly publishing. Cases like that of Gordon Freeman attract considerable amounts of attention and generate serious concern – and rightly so. Unfortunately, the controversy generated by cases of serious scholarly abuse tends to overshadow the less dramatic but rather more widespread instances of dubious scholarly ethics. This is regrettable, and in what follows I make a small attempt to address a couple of abuses that fall into the category of mundane, garden-variety rule-bending and that are, or should be, troubling us.

Excessive diligence is not required to discover ways in which members of the scholarly community attempt to get an edge in the competition with their

colleagues for publication, promotion, and status. It is not uncommon, for example, in the peer-review evaluation process for research grants, to find instances of scholars who deliver uncharitably harsh verdicts on the proposals of their colleagues. Research ethics clearly require of any person who accepts the responsibility of serving as a referee of grant applications that he or she judge all applications in a disinterested and dispassionate manner. But all of us know of cases in which a negative assessment appears to have been influenced by the reviewer's knowledge (conscious, unconscious, or semi-conscious) that generosity towards one's competitors for scarce research money may prejudice the reviewer's own research program. When the politics of research becomes a zero-sum game, such that one researcher's gain is another researcher's loss, the temptation towards bias becomes harder to counteract.

Conversely, some reviewers may be favourably disposed towards a colleague's grant application because of past favours from this particular individual or because of a hope for or expectation of future favours.

We do live in a 'lean, mean, and competitive' world, and the rivalries, hostilities, and petty jealousies, together with friendships which border on cronyism, all play a part in subverting the required impartiality of scholarly judgment. As the funds for support of research shrink, and as government policy pressures scientists away from curiosity-based research towards mission-oriented research of value to the market-place (commerce and industry), we may expect to see increasingly cutthroat competition for such grant moneys as are still available.

In this kind of environment, why should we be surprised that there is a certain amount (unquantifiable, but not non-negligible) of unscholarly rule-bending, not to mention outright cheating and fraud? Truly, none of us is immune to the social ethos of individual competitiveness and scholarly careerism – struggling up the path towards, first, a position doing research, then tenure, then promotion, and ultimately, for the fortunate few, recognition and eminence. The pressure to succeed, to win the gold medal, metaphorically speaking, and thereby to win also the Diadora jeans endorsement or its academic equivalent, is unlikely to disappear in the foreseeable future. At the risk of multiplying metaphors beyond necessity: Everyone is standing on tiptoe in an effort to see better; but when everyone stands on tiptoe, no one sees better (though many then suffer from sore feet).

It is worth reiterating that there is still value in the concept of community, within and without the academy. One cannot escape the market-place environment: it is simply too pervasive, and has penetrated into the strings and

fibres of our being. Yet it behooves us to think, at least some of the time, not as isolated individuals competing furiously for career prizes, but in wider social terms as members of a community of scholars, tied to our colleagues by a shared commitment to the pursuit of truth and by the bonds of loyalty that develop out of this shared commitment. Unless we can recreate and restore the notion of a community of scholars, held together by bonds which are not simply bonds of the market-place, we will lose whatever is of value in the enterprise we all love. Unless we can change and modify the system within which we as scholars work, each of us, as individuals, is likely to be picked off, psychologically, succumbing either to the blandishments or the punishments on offer.

One must not be naïve, of course. One must recognize that each of us is motivated, in part, by career considerations, by a desire for a secure job, for research funds, for promotion. Yet, at the same time as one recognizes this, one must not yield to the temptation to become cynical. In more than a quarter of a century of working in a university and lecturing at other universities in Canada and abroad, I have scarcely met a scholar who did not have some love of scholarship. Overwhelmingly, our colleagues were moved to become researchers by intellectual curiosity, and a desire to share that research with others through publication.

Our motives are mixed. Yes, that must be admitted. But, if we choose, we can reinforce the best motives and weaken those that are inconsistent with our best ideals. We can shrug off the ties of the market-place and reinvent the bonds of community that alone can give life to the expression 'community of scholars.'

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