



The Research University: an undergraduate challenge

Dr Bernard Shapiro

Principal and Vice-Chancellor,
McGill University

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The emergence of the modern western university, beginning roughly with the second millennium A.D. and associated with Bologna, Paris, Montpellier, Oxford and a few other cities can, indeed, be seen as a millenarian phenomenon, for although it has not "led to the rule of saints", it has contributed much to the improvement of the human condition. Perhaps more surprisingly, these institutions have been very durable both with respect to their academic and social functions and, even more surprisingly, in their methods of instruction. The lecture and the seminar of the medieval university are still very much with us.

Although always threatened by institutional incoherence, universities continue to embody many roles, both academic and social. Although the relative emphasis varies from university to university, these roles include education, professional training, credentialing, social integration, networking, the creation and assessment of knowledge, the selection of academic elites, the transfer of knowledge and social integration. There are, of course, many kinds of universities. Some, for example, are more rooted in the more other-worldly monastic tradition while others find their inspiration in the more secular and utilitarian emphasis of the scholastic imagination. Although all universities are devoted in some substantial way to increasing understanding, research universities – a class of which both my university and the University of Melbourne see themselves as members – place special emphasis on their role not only in heightening the understanding of their students through teaching but, just as importantly, both on advancing understanding more generally by the generation of new knowledge and, increasingly in recent years as the social contract between universities and the wider society changes, on the social transfer of this knowledge to the wider community. Moreover, within these research universities, the relationship between research and teaching is believed to be synergistic, each of these central enterprises of teaching and research is believed to benefit from the presence of the other not only within the same organization but also embodied in each faculty member.

In principle, a research university should have structures and values that are different from – not better than but different from – those of universities that are oriented toward a teaching mission. Thus, research universities will usually have a larger proportion of graduate students. Moreover, the management of a research university should be characterized by a "research style", that is a generally open system under constant review so that there is an embodiment of research values in all aspects of the university's operations. In research-intensive universities diversification is, therefore, not only important in itself but also serves as a way of finding new and more permeable interfaces between traditional disciplines so as to create ever more effective networks of people and of knowledge.

Finally, research universities, like all social institutions, have a crucial public function both in (i) the development of intellectually and morally autonomous individuals – their

graduates from both the graduate and undergraduate programs - each preparing for their future as citizens, as workers and as individuals and in (ii) the transfer and application of knowledge now seen as becoming the single most (although not the only) important source for national economic development.

In the present context, there is probably a relationship between the knowledge-based economy, university education and the growing globalization of the economy. The knowledge-based economy represents the widespread and systematic use of rare resources to create new knowledge or exploit existing knowledge so as to either improve products or develop new ones. Such an economy relies on knowledge so that investment in human capital constitutes a strategic tool for a society concerned with economic growth and the well being of its citizens. This kind of economy "runs" on new ideas and innovation and within such an economy the university - in most other eras a relatively marginal institution - has become, by contrast, a socially central institution as a producer of both knowledge and, hopefully, knowledgeable consumers. In this economy universities are seen to be - and often are - the route to significant employment, influence, prestige and income and, therefore, potentially at least, to social mobility.

All of this is, of course, not uniformly seen as a "good thing". On the one hand the university, especially the research university, is the source of much of the innovation on which the knowledge society depends. On the other hand, however, in its important role as social critic, the University is also the source of ideas and misgivings that arise from the difficulties we all face in the erosion of many of our institutions and understandings of what it is to be truly human in a context of apparently ceaseless and relentless change.

On a more mundane level it has not, of course, gone unnoticed that this increasingly close association between research-led universities and the economy is, or at least can be, a double-edged sword. On the one hand, these research universities have become increasingly central, almost defining institutions of the societies in which they are embedded. On the other hand, this new-found importance threatens to undermine the very autonomy upon which the success of these institutions - now seen by some as too important to be left to their own devices - has been built.

Autonomy is not, however, the only challenge. Universities have always had patrons, whether bishops, princes, government departments or private philanthropists. Much more dramatic than changes in this area are the rapid and fundamental changes in the knowledge base itself, which threaten not so much institutional as intellectual incoherence arising from the collapse of clarity about values, about the nature of knowledge and about the tests by which we establish knowledge. Within this context, but on a narrower conceptual scale, it is becoming clearer that the shift in the knowledge base has at least two characteristics: first, there is the increasing extent to which the most interesting research questions are situated at the interface between the traditional academic disciplines (e.g., post-genomic proteomics, nano-technologies, medical anthropology, bio-technology, computational modeling) rather than within them; second, the balance between systemic and reductionist approaches to research is shifting toward the systemic approach that considers large, complex "organisms" (e.g., the brain, the city, the environment, the climate, health, e-commerce) as the appropriate focus for investigation. To some extent this shift is being driven not simply by the changing knowledge base but also by social and economic demand from outside the university community. Whatever the generic source or sources of these changes, however, they lead to an increasing need for inter-disciplinarity with respect to not only the academic disciplines but also to our professional programs, all of which will require an investment in new skills.

There continues, however, to prevail in certain quarters an overly narrow conception of the knowledge based economy creating the impression that the only work opportunities

in the new economy are to be found in science and engineering. This is far from the full picture. There is a very wide spectrum of qualifications common today evening the most "advanced" enterprises. Indeed, in my own country Statistics Canada data suggest that the social sciences and humanities together constitute – apart from computer science – the largest grouping of knowledge professions and the one that has experienced the greatest increase in employment – at least in my country.

In any case, the fascinating but complex networks both imagined and, indeed, demanded by all of these developments will not be easy to construct inside our universities. The power of the traditional disciplines, academic and professional, make this difficult and there is not, in most research universities, sufficient encouragement for interdisciplinary careers. Moreover, such networks probably require both more ambition and more risk taking – to say nothing of the new people skills needed as a foundation upon which the many ongoing and needed interactions at the person-to-person level can be constructed. The question is whether the research universities can be bold enough to shift their patterns of work and investment.

An additional level of complexity is introduced by the globalization of research. Although there is, within research universities, a very long tradition of supra-institutional and supra-national research networking the continuing development in the information technologies have not only made such networking more easily imaginable but also made membership in an active, international network a virtual condition for being on the knowledge/research frontier.

Finally, it is increasingly the case that the networking required in the years ahead will not be one simply between research-led universities. Two developments are relevant here. First, in an economy in which knowledge is an increasingly important factor of production, sophisticated knowledge workers – some of them researchers – are more and more likely to find careers in knowledge-rich enterprises outside of the university – in both government, NGOs and the private sector. Second, it has become more evident that governments will be either unwilling and/or unable to fund both the "access" and the "quality" agendas in higher education.

The global demand for post-second education is expected to quadruple, albeit differentially by region, in the next generation and it seems unlikely that the present arrangements – not to mention a growth of this magnitude – can be supported by the taxpayer alone. Research universities are, however reasonably well placed to deal with this particular challenge, likely to remain very expensive enterprises. As a result it is likely that there will be some form of private sector participation in the support of these universities in the years ahead. What is not clear is what form this participation will or should take. Possibilities include higher tuition fees and/or increased philanthropic support and/or more sponsorship of contacts and/or more sponsorship of research whether or not jointly undertaken.

The danger – especially with regard to commercial and business partners – is clear. As Steven Sample has pointed out:

... that the values and goals of a university are fundamentally different from those of a profit-seeking business and the more the university begins to act like a profit seeking business the bigger the risk that the relationship between the student and the professor becomes compromised.

The challenge lies, of course, in how to develop and incorporate new approaches within the academic tradition and, thus, to proceed in this area without undermining the universities' special and distinctive role in our society.

Although the discussion of research universities frequently focuses on the professoriate, the graduate students and, of course, both direct and indirect funding of research by both public and private agencies - both of which can be associated with real perils to the openness of the scholarly process - I wish to focus on the challenges facing research universities with respect to their undergraduate programs.

There are very few research universities with more graduate than undergraduate students. Thus, the importance of the undergraduate programs is clear. The challenges are also clear. There is the difficulty for researchers appropriately situated at the far frontier of knowledge in their areas in bringing their expertise to the classroom in a form both understandable and intriguing to the undergraduates, i.e., those at the beginning of their exploration of this discipline. Further, there is the largely unmet challenge of bringing the university's research program - and not just its researchers - into contact with the "lived experience" of the undergraduate student in terms of their own participation in research. Finally, in the knowledge economy general or liberal education should be increasingly salient if universities are to motivate students and meet these students' legitimate expectations of a university experience that has added-value for decades and not just for the immediate future. As critic after critic has pointed out, it is more important for universities to cultivate in their undergraduate students a method and an attitude of active learning and problem solving as opposed to simply the transmission of increasingly specialized knowledge. In the simplest sense, as Tzvetan Todorov has suggested with respect to the humanistic study of history:

Knowledge of the past satisfies, first of all, a basic need to understand and organize the world. We surely know

that we are formed from this past; to make it intelligible is also to begin to know ourselves.

and

To understand the thought of yesterday allows us to change the thought of today, which in turn influences future acts.

In many of our research-led universities, however, undergraduate programs are increasingly both the preserve of part-time and junior faculty and, what is almost worse, specialized preparation not so much for the three Cs - that is cognition, citizenship and character - as for admission to the programs leading to the Ph.D. In such circumstances undergraduate students become a kind of "cannon fodder" for the graduate programs, surely a betrayal of the implicit social contract under which universities are - however implicitly - both supported and funded. After all what makes schools, colleges and universities so special is that their product is a changed human being and our objective, therefore, must be to be driven more by this goal - that of a changed human being - than by market forces no matter how powerful.

It is true that at the present time the idea of a transcendental purpose of universities seems odd. As Guy Neave has pointed out:

...the current rhetoric is utilitarian in the extreme where not unashamedly mercantile ...

Moreover, it is not simply a question of individuals, for the common society in which we all must live, must have a nurturing and not just an alienating function. We ignore only at our great peril the common, shared, historically developed background which in actual life all of us use in order to make that life understandable. In the final analysis most of our capacities, both emotional and cerebral, are social capacities. They fit us to do things along with each other.

It is not, therefore, surprising that the great historical myths, those central narratives that have characterized all known cultures are, in essence, social myths and social narratives whose function has been to give our lives - if only in response to the constant anxiety that constant change always brings with it - some kind of transcendental meaning.

These narratives, however, these understandings that give meaning to our lives are themselves threatened by advancing knowledge. Thinking dramatically, Copernicus told us that we were no longer the center of the universe and subsequent developments in astronomy have reduced the planet Earth to a speck in a universe so large that we cannot even think about it. Darwin and subsequent developments in genetics have told us that we humans were just a part of a vast evolutionary scheme, sharing the greater part of our genetic makeup with all living things.

What, in fact, is so special about us - about being human? Facing such a radical question requires that the social narrative be rewritten and if we can no longer think that there is any meaning in life, we can, nevertheless, try to lead a meaningful life.

This is, of course, morally challenging for we must somehow rewrite the rules by which we live together. This is not, however, entirely a new problem. Literature is full of examples - the Faust legend and Mary Shelley's "Frankenstein" are particularly well-known - of how to make sense of a new world given new circumstances and how to keep new powers and new human capabilities from falling into the wrong hands.

In liberal democracies a new level of complexity is added, for the very notion of moral tyranny is rejected in our accepting the view that although individuals will have alternative views on basic things, basic values, it will, nevertheless, somehow be possible to construct a discourse that enables us to live together. It is assumed, therefore, that even in the area of public policy where despite deep differences between people the government decides for everyone, a productive social negotiation is possible out of which a morally defensible outcome can emerge.

Recent developments in genetics have compounded the difficulty for in creating in us a radically new capacity to impact the genetic profiles for new generations there has emerged a dramatic blurring of the distinction between the natural and the man-made with respect to human beings themselves. Brand new ethical concerns emerge. Do as yet unborn people have any status in our moral calculations and - if so - what is their status? What are their rights?

As the source of so much of the new knowledge and new understandings that undermine the social narratives that give meaning to our lives, what is the obligation of the research university? What are the ethical obligations of the faculty to their students? What do we all owe, in this respect, to the wider society within which the research university is situated?

In this context I do want to insist that the challenge of these questions - certainly with respect to the wider society of participating citizens - is most salient at the research universities, for it is the faculty at these institutions that control, in fact, the new information. It is, therefore, us, these faculty who must - to a degree previously unimagined - enter into conversation with those outside their special disciplines, conversations intended not only to educate and inform but also to assist others in understanding more clearly the source of their anxiety and discomfort as they face the dramatically changing world around them. It is not enough for scholars to speak with each other, however reinforcing such conversations might be. If the social function of the research university is to be fulfilled communication at meaningful levels of discourse with our fellow citizens is not an option. It is a requirement, for it is only in this way that the highly charged anxiety natural to radically new situations can be productively discharged

in the construction of a new social narrative by which we can all find a way to live, however tentatively, together. Interestingly in this regard, surveys suggest that the citizens who are the most anxious, those that wish most eagerly to enter into such discussions are also those characterized by the highest level of intelligence and the most advanced educations.

There is, however, a challenge much closer to home at the research university itself where, at least in North America, there appears to be to an increasing extent (i) a separation of graduate and undergraduate education and (ii) an abandonment by the faculty of what I believe is our obligation - to deal with our students explicitly and continuously with the ethical dimensions of our research and, of course, its possible consequences.

The separation of graduate and undergraduate education takes two forms. First, graduate students do not, in general, take the same courses as undergraduates. Second, the most accomplished and most active university researchers strain mightily - if they are to teach at all - to teach as few undergraduates as possible. Both of these phenomena result in separating those working at the research frontier from those working in the classroom. Both result in a context within which the capacity of future citizens to understand and, therefore, to deal with the changes which new knowledge brings are almost deliberately undermined. Both trends should, therefore, be reversed. More courses should be offered that bring graduate and undergraduate students together; research university faculty should be at least as active at the undergraduate as at the graduate level. Research universities are not, after all, research institutes and if research universities are to have a future -remembering that their past is no more than 100 years old - such a future can only arise from a productive realization of both its teaching and its research programs.

Teaching, however, cannot be imagined as the simple transfer of knowledge from instructor to pupil, however valuable and often necessary that might be in its own right. If this is all there were to it faculty would have succeeded in deliberately undermining the capacity of both the students and themselves to deal with the moral and ethical contexts of this knowledge and its consequences. Given the importance I have attached to the constant reconstruction of our social narrative it is, I believe, incumbent on each of us as faculty to assist and encourage students to ask the moral and the ethical questions associated with the knowledge we are imparting. I am not suggesting an obligatory course or two in moral philosophy, however valuable that might be on other grounds. What I am suggesting is that in each teacher/student encounter, as well as in each student/student encounter, the moral and ethical dilemma should be present or - from time to time -presented for consideration. I insist that there is a central role for universities in helping its students not only to ask moral questions but also to make moral judgments. Focusing only on cognition leaves us, in some sense, as entirely materialist in our concerns. We must, therefore, continuously look for ways - you must continuously look for ways in which to move beyond the learning agenda, beyond the social agenda, to the value agenda.

Someone is once reported to have commented - I believe that it was Ortega Y Gasset, but I have not been able to identify the source that:

What is happening to us is that we do not know what is
happening to us, and that is exactly what is happening
to us.

This nicely captures, I believe, the anxiety quite naturally produced as individuals and groups of individuals try to cope with the rapid changes so characteristic of modern life. In this modern life there are, of course, many challenges facing the research university but none is, I believe, more significant for the long-run value of such institutions as

coming to grips with their obligations to undergraduate education and specifically with its ethical and moral dimension. After all, as Stanley Arnowitz has put it:

What are the ends and means of knowledge, canonization and curriculum, learning and pedagogy? Are we "for sale" and destined to be reduced to a series of advanced and intermediate training schools?

I certainly hope not but the future will be to those who are, at least relatively speaking, fast on their feet. As many have previously observed, however, price changes in the international markets are matched only by the slowness of change in institutional arrangements. This is a road that we can no longer continue to go down.

Somehow, I have confidence that the new generation of our graduates, perhaps rather especially those that are present this evening will be up to the challenge. Your presence here this evening lends a wonderful and bracing excitement to the occasion. It is almost for me as it was for Henry Fifth before his assembled troops at Harfleur:

I see you stand like greyhounds in the slips,
Straining upon the start. The game's afoot;
Follow your spirit; and, upon this charge,
Cry – God for Harry! England and the University of Melbourne!!