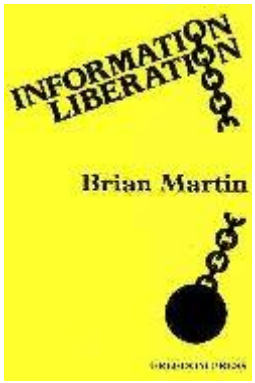
The Politics of Research



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Abstract: The work of professional researchers is strongly influenced by funding, disciplines, hierarchy and competition. As a result, it is mainly useful to corporations, governments, professions and researchers themselves. Strategies to challenge this pattern include critical teaching and research, popularisation and community participation in research.

Economists have devoted huge amounts of effort into developing models of capitalist economies. There are enormous computer models of economies used to assess the impact of a change in tariffs or investment. Large amounts of data on employment, interest rates and the like are collected and analysed. Econometricians--economists who look at abstract models of economies--have developed entire bodies of mathematical analysis.

Most economists give very little attention to anything that challenges their fundamental assumptions. John Blatt, a leading applied mathematician, examined some of the assumptions underlying neoclassical economic models--such as the assumption that an economy will tend toward equilibrium--and found that they did not hold up.1 His work should have led to a reexamination of the foundations of neoclassical economics. Instead, it was ignored.

Gandhian economics, based on local self-reliance and simplicity in living, is based on completely different assumptions to standard economic theory.2 Gandhian economics is studied in India and Sri Lanka but virtually unknown in most other countries.

In summary, it could be said that economic knowledge is oriented to certain powerful groups, notably corporations, governments and economists themselves. Other disciplines are not much different, in that they too are oriented to powerful groups-though often different ones.

The word "knowledge" suggests certainty, authoritativeness, even usefulness. It is a good thing to be knowledgeable. Yet much knowledge is quite limited, specific, parochial. Chemists working for pharmaceutical companies seek knowledge about how to make tablets dissolve faster. Military engineers develop better armour for tanks. Psychologists investigate connections between brain structure and the behaviour of rats.

Knowledge isn't necessarily everlasting, nor is it necessarily of general value. Rather than thinking of knowledge as great truths engraved on tablets in the sky, it's more useful to think of knowledge as ideas that are generally agreed by specific communities. Scientific knowledge, for example, is what the bulk of relevant specialists agree on at any particular time. Knowledge can change, for example ideas about mechanisms of evolution or the development of continents. Knowledge can be biased in various ways, for example by providing a restricted picture of economic behaviour.

There are all sorts of knowledges: an auto mechanic's knowledge of motors, a parent's knowledge of a child, a person's knowledge of the position of their own body, a small community's knowledge of interpersonal relationships, a mass audience's knowledge of statements in the mass media, and many others. Here my focus is on the sorts of knowledge that have greatest credibility in most First World societies, namely knowledge certified by scientists, engineers, medical researchers, lawyers and other such experts.

In this chapter I begin by outlining some of the ways that interest groups affect the creation and use of knowledge, such as through funding, disciplines, hierarchy and competition. Then I examine some strategies for moving towards a more participatory and egalitarian connection between power and knowledge.

The shaping of knowledge

An old saying is that "The one who pays the piper calls the tune." This applies to knowledge as much as to anything else. If a pharmaceutical company sponsors research into drugs to reduce tension or control hyperactivity, then that is what the researchers are likely to find if they are successful. Funding alone doesn't guarantee results, of course, but if something is found it is likely to be of more value to the funder than others. The drug researchers might, in the course of their investigations, happen upon a substance that does something different, such as preventing kidney stones. But they are unlikely to do much research on unpatentable substances or methods, since there's no profit in that. They certainly won't find a way to reduce tension that doesn't involve drugs at all, such as by relaxation, bio-feedback or small group dynamics, since they are looking only at drugs.

Funding, then, doesn't force results but it provides a strong steering process. Only certain types of knowledge are likely to result because the researchers are paid to look only for certain types of things.

Funding for the majority of formal research in the world today is provided by governments and corporations. The amount of funding from trade unions, churches, environmental groups or

women's groups is tiny by comparison. That means that most research follows governmental or corporate agendas.3

Military research is a big proportion. Here the aim is to develop more powerful weapons, more precise guidance systems, more penetrating methods of surveillance, and more astute ways of moulding soldiers to be effective fighters. For the researchers, the tasks can be very specific, such as designing a bullet that is more lethal--or sometimes less lethal, for crowd control purposes. Many talented scientists have devoted their best efforts to making weaponry more deadly.

In most government and corporate labs, practical relevance to the goals of the organisation is highly important. In these labs, the direct influence of groups with different agendas is minimal. Environmental groups do not expect chemical corporations to do research into biological control as an alternative to pesticides, and do not bother to lobby for such a change. Groups with little money to fund research turn instead to universities.

Overall, university research is less targeted to specific outcomes than most government and corporate research. This is especially true of fields like philosophy and mathematics. But before getting carried away by the wonders of "pure research" in universities, a bit of context is needed.

Universities were originally set up to train ministers and lawyers who were part of the privileged classes. Over the centuries, different groups have pushed to have universities serve their own purposes. Business leaders want graduates who will be committed and hard-working employees. Leaders of the legal, medical and other professions want training to reproduce the profession. Governments want training for prospective civil servants. Parents want opportunities for their children. Social movements look for scholarly support for their agendas. The university is a focal point for these and other pressures and agendas.4

No single group has been able to control universities for its own purposes. If, for example, corporate leaders decided to run universities themselves, it would cost a lot of money. They would come under attack from other groups with conflicting agendas, such as parents and professional elites. The consequence has been that most universities are funded wholly or partly by governments but retain a considerable degree of autonomy compared to corporate or government research labs. The belief in "academic freedom" for scholars to pursue teaching and research provides a convenient way for universities to appear to serve the general interest while still catering for those with more power and money.

The training of members of professions remains a key task for universities. The majority of students and staff in most universities are in specific applied areas, such as medicine, law, accountancy and engineering. Research in these fields tends to be oriented to the priorities of the wider profession. Medical researchers are far more likely to investigate surgical treatments of haemorrhoids than prevention of haemorrhoids by change of diet. There is scope for research in a variety of directions, but there are several pressures towards a service orientation, including outside funding (for example by medical supply companies), controls by certification bodies (needed to vouch that a degree is suitable preparation for becoming a doctor), possible jobs outside the university, and the expectations of colleagues.

A few fields are not so tightly tied to outside groups, notably the natural sciences, social sciences and humanities. This includes disciplines such as physics, biology, sociology and history. Even

in these areas there is the possibility of outside funding that influences research agendas. It might seem that biologists and historians are in a good position to undertake research that serves groups without money to directly pay for research. A few of them do, but not many. There are other factors to consider. Not least is the self-interest of academics themselves.

Most universities are divided up into units according to what are called disciplines, from architecture to zoology. The names and sizes of units vary from place to place. Some universities have a single mathematics department, others have pure mathematics, applied mathematics, and statistics. Occasionally new disciplines emerge and break off, such as computer science. The important point, though, is that members of each discipline jealously guard their own little patch of knowledge. They attempt to control teaching of students in their discipline, appointments in the field and the type of research that is published in the field's central journals.

Disciplines are based around a framework for understanding the subject matter of the field. Students are trained in the standard way of thinking. If researchers work in a university setting, they are influenced by colleagues. If they want to publish scholarly papers, they have to get past referees, who are usually established members of the field, most of whom expect research to follow the standard patterns. Referees and editors expect authors to be familiar with standard ideas and publications in the field, which requires a considerable investment of effort to comprehend. All this prevents outsiders from waltzing in to make a contribution to the discipline. To use another metaphor, disciplinary expectations operate like strong tariff barriers against moving very far from one's own training and previous research output.

So far, then, I've discussed two major factors that influence the production of knowledge: funding and disciplines. Sometimes these reinforce each other. For example, a civil engineer working for a government roads authority will be primarily oriented to the practicalities of road design and construction, but may maintain a link to the engineering profession through journals and conferences, perhaps even writing papers for conference proceedings.

On the other hand, sometimes funding and disciplinary influences pull in different directions. Many practical problems cannot be dealt with effectively within one discipline. For example, the development of an effective military strike force requires skills from manufacturing, economics, psychology, organisational dynamics and other areas. Discipline-based universities are not much use for pulling these areas together; think-tanks, with teams of many different specialists and generalists working together, are more likely to be helpful. Little bits of the larger problem can be farmed out to specialist researchers.

	Plenty of funding	**Little funding**
Disciplines	chemical engineering, computer science, accountancy, law	philosophy, history, creative writing
Interdisciplinary fields	policy making, military planning, corporate strategies	peace studies, women's studies, political economy

There is quite a bit of disagreement about what constitutes a discipline. In fact, there ongoing tension and conflict in universities over boundaries between disciplines. Usually it is those who deal with theory--pure mathematicians, theoretical physicists, econometricians--who lay claim to the core of the discipline. Others are simply "applying" the knowledge. The theory-application or pure-applied tension results from the two dimensions of influence in the above table, funding and disciplines. Power for disciplines comes from control over ideas, hence the status and influence of theory. Most money comes directly or indirectly from the potential for applications, but this makes researchers more dependent on outside groups. This creates the curious situation in universities in which theoreticians have the greatest status but applied work reaps the greatest material rewards.

The areas that are most commonly left out in the cold are interdisciplinary fields for which there is little funding. By the logic of disciplines, these fields are simply ignored. Only when there is a popular movement do universities sometimes find that there is an area of study worthy of attention. For example, the rise of the environmental movement in the 1960s led many universities to set up environmental studies programmes. But because these programmes didn't fit neatly into disciplinary boxes, they were vulnerable to cutbacks and amalgamations as the years wore on.

If disciplines are thought of as fiefdoms based on monopolies over separate bodies of knowledge, this helps to explain a number of features of academia.5 If the members of the discipline claim that they alone are qualified and knowledgeable to make decisions about the discipline, then it is helpful if it is difficult for outsiders to understand what is going on. Jargon fits in here. The specialised language and concepts of the discipline are convenient for those in the know. They also are convenient for ensuring that outsiders can't quickly see through to the essence of the issues.

Research is the process of testing existing knowledge and developing new knowledge. Research is generally rarefied and accessible only to specialists. Hence, it bolsters disciplines, since disciplines are essentially based on claims built around bodies of knowledge.

By contrast, teaching is a process of helping others to under- stand bodies of knowledge. Teaching is necessary to reproduce the discipline by training new recruits, but if it makes the core of the discipline seem too easy or obvious, then it can undermine the credibility or mystique of the discipline. It should be no surprise, then, that in most universities research has far more status than teaching. Teaching is problematic for a discipline- necessary, but potentially threatening.

More definitely threatening is popularisation, namely making ideas of the discipline readily accessible to a wide audience. Popularisation undermines the mystique of the field, helping outsiders to gain insight into central areas. Many academics look down on popularisers even when such individuals are accomplished scholars. Ironically, some popularisers serve their disciplines by building public support. But just as theory is venerated in universities although most funding comes for applications, so esoteric research contributions are lauded whereas those who are popular with students and the wider public are greeted with suspicion. The latter are a threat because they have a power base not controlled by the discipline itself.

One more factor is vital in this complex situation: hierarchy. Not everyone doing research is equal. At the top are directors of research institutes, university managers and editors of

prestigious journals. Research hierarchies seldom are straight up and down like in the military, but involve a complex array of positions. A researcher can be influential through supervising many research students, heading a department, sitting on a research grants committee, being an official in a professional association, or editing a journal. The figures who combine many of these roles are powerful in the discipline.

Hierarchy helps to orient research to sources of funding and to disciplinary priorities. The more powerful researchers often have personal or professional links with powerful figures in funding organisations. Junior researchers who might be tempted to stray from conventional research topics are brought into line by the competition for positions, funding and status. To get a job, to get research grants, to get promotions, it is highly advantageous to follow the beaten track, innovating enough to distinguish oneself from others but not so much as to threaten the existing system of knowledge. Most prominent popularisers are senior figures who have already established their scholarly reputations and have secure jobs. Younger scholars keep their heads down.

Education for hire?

From the point of view of the classical ideals of higher education, which can be summarised by the phrase "the pursuit of truth," modem higher education has many failings.

- Knowledge is treated as a commodity, passively accepted and absorbed by student consumers.
- Classroom experience is organised around the premise that learning results only from being taught by experts.
- Knowledge is divided into narrow disciplinary boxes.
- Original, unorthodox thoughts by students, and nonconventional choices of subjects and learning methods, are strongly discouraged.
- Competition prevails over cooperation.
- Knowledge and learning are divorced from social problems or channelled into professional approaches.
- Credentials, the supposed symbols of learning, are sought more than learning itself.
- Performance in research takes precedence over commitment to teaching.
- Most research is narrow, uninspired and mediocre, useful only to other experts or vested interests.
- Scholarly openness and cooperation take second place to the academic rat race and power struggle which involves toadying, backstabbing, aggrandisernent of resources and suppression of dissidents.
- Original or unconventional thoughts by staff, or action on social issues, are penalised, while narrow conformist thought and action are rewarded.

The existing system of knowledge production is quite complex, but understanding its main features explains a lot.6 It can be summarised as follows. Funding in particular areas and for particular applications is of fundamental importance in government and corporate research laboratories. Within the university sector, funding is important but so are disciplines. Knowledge production and teaching are divided up according to disciplines and research specialties. Some disciplines are closely tied to particular professions, but disciplinary elites have a great deal of power. Finally, hierarchy within research communities keeps most junior researchers in line. The essence of the academic system is remarkably stable in spite of periodic upheavals. Although funding, disciplines and hierarchy help to orient most research to groups with more money and power, the system is not totally controlled. Researchers sometimes align themselves with goals and groups outside the mainstream.

Intellectuals on their own are not major wielders of power. They mostly operate to serve other powerful groups, especially governments, corporations and professions, by providing useful knowledge and by providing legitimacy for policies and practices.7 For example, engineers do their job to help improve roads, factories, electricity systems and computer networks, and thus serve transport departments, industrial enterprises, electricity authorities and computer companies. By being the experts in designing such systems, they provide legitimation for the process, in which nonexperts have little say unless they are key figures in the relevant organisation.

Social activists often express great frustration and annoyance with academics who are in such a good position to help the cause but do so little. A tenured academic has job security, a good salary, flexible working hours and a great deal of control over areas to research--not to mention, in many cases, specialist knowledge and considerable skills in writing and speaking. Such a person could be a tremendous asset to a hard-pressed activist group dependent on volunteers and without the capacity to carry out in-depth investigations. While quite a few academics sympathise with environmental, peace, feminist, antiracist and other social movements, very few become heavily involved. Hence the frustration.

Activists do not get so annoyed at nonsupportive researchers in corporations and governments, since the constraints on them are greater and much more obvious. In universities, there are fewer formal constraints. But the pressures for proper academic behaviour are quite powerful: funding, job opportunities, training in the discipline, peer pressures. The chains are more subtle and more easily broken, but they do exist.

Corruptions of expert knowledge

Knowledge isn't power just by itself, but it can be a means for obtaining power, wealth and status. Because of this, individuals and groups try to convince others that they have exclusive access to the truth-in other words, that they are the authorities in particular areas of knowledge. In order to part with this knowledge, they ask for fees, jobs, careers and status. Because there can be money and status from being a recognised expert, there is a temptation for experts to sell themselves to the highest bidder. Many experts are willing to serve those who are powerful, who are not necessarily those who need expert knowledge the most.

Once a group of experts has established itself as having exclusive control over a body of knowledge, it is to their advantage to exclude nonexperts. This occurs in many ways. A long and expensive training is commonly demanded before a newcomer can be accepted as an expert. In

the case of medicine, law, engineering and some other professions, formal certification is required in order to practice in the field. The new recruit is expected to use the appropriate jargon. Editors expect a certain approach and type of writing for contributions to expert journals.

Most experts are full-time professionals. Those who might like to make an occasional contribution are not made welcome. Finally, many experts are arrogant, displaying contempt or hostility to amateur interlopers.

Full-time professional experts are not inherently nasty. Rather, the power they gain from having control over the field leads them to develop attitudes, beliefs, training systems and procedures that maintain the control and keep out nonexperts.

Occasionally outsiders try to enter the expert domain. Alternative health practitioners make recommendations on preventing and treating disease. Home buyers handle legal details themselves rather than hiring a lawyer. Citizen groups oppose planning decisions recommended by engineers. In cases such as this, the challengers can come under attack. Doctors try to get government support to outlaw medical advice by anyone without a medical degree. Lawyers try to restrict legal practice to their own members. Engineers attack the credibility of citizen interveners.

Sometimes the challengers know as much--have as much "expertise"--as the official experts. The conflict is between the expert establishment, namely the group of experts with official recognition and more power, versus expert outsiders.8

Even more serious is when an expert who is part of the establishment becomes a dissident, questioning the standard way of doing things. A doctor who questions the value of chemotherapy or an accountant who exposes corporate corruption is liable to come under attack, being harassed, ostracised, reprimanded, demoted and dismissed. Instead of responding to the person by discussing the issues and attempting to refute their views, the dissident becomes the target. This can only happen when the establishment has power that can be exercised against dissidents.

An alternative vision

The existing system for producing knowledge is based on funding, from those who can afford it, for full-time professionals to carry out research that is communicated to peers in specialist journals. This system powerfully shapes visions of alternatives. Most of those who want to change the system want some of the research to be oriented towards problems that concern them. They are concerned about bias in research results, not about questioning underlying biases in the research system.

An alternative model of research is community participation and control. Community participation means that anyone potentially could join in research projects: no credentials would be required. Community control means that funding and account- ability would be in the community's hands.

Model:	Elite	Community
funding	governments, corporations	community
participation	professional researchers	volunteers
organisation	hierarchy	egalitarian
knowledge	disciplines	problem-oriented

Some academics argue that they should be given full academic freedom, without constraints from government and corporate funders. But this is really just a claim for funding without accountability. The community model does not eliminate controls over knowledge production. The question is the nature of the controls and who can participate in research.

The community model is such a complete challenge to the elite model that it is hard to see how it might operate. It is basically a vision of an alternative, not a prescription for changing things right now. There are a few suggestive pointers.

- Trials have shown that high school students can, after a few months of training, do publishable medical research.9
- Groups of citizen researchers in Japan have carried out innovative studies of pollution, for example tracking down the source of Minamata disease sooner than high-powered professional research teams.10
- Numerous citizen groups carry out "community research," involving community members in studies of health, social services, and various other topics.

Science is one of the most highly professionalised aspects of modem society. While there are quite a few talented amateur botanists and astronomers, there are hardly any amateur physicists or mechanical engineers. Therefore it is especially difficult to see what an alternative would look like without the system as it exists. There might well be massive investment in a community-run research system, and many of the same people might spend much of their time doing research.

To begin to imagine the community model of research, it is necessary to imagine a different economic structure. One example is a system where the basic necessities of life are available to everyone in the community as a matter of right: food, clothing, shelter, transport. Those who wanted to would be able to work in areas of their choosing, subject to availability of facilities and opportunities. Some might choose to spend most of their time in a single area, such as building houses or rearing children. Others might choose to be active a variety of areas, such as growing food, producing appliances and painting. This picture is sketchy, to be sure, but is one possible way to organise society that is compatible with what is known about human psychology and skills.

What is today called research could be undertaken in a variety of situations. Those working in a particular area, such as producing plastics, teaching history or designing transport systems, could undertake investigations as part of doing their work better. They might do the investigations themselves or invite others to undertake them. Others might feel like undertaking research independently of work situations, either on their own or in groups.

There could be just as much research in a society organised this way as in current societies. Curiosity is a common human trait, especially in children. Given the opportunity, many more people might become involved in some sort of research. Large-scale projects would be possible by communities agreeing to make funds available. There would be big differences, though, in the power associated with expert knowledge. Rather than a small elite making the crucial decisions about research and most research being oriented to powerful groups, in this hypothetical society the power associated with expert knowledge would be greatly reduced. Entry into research activities would be much easier. Community members would be more involved in making decisions about what research should be undertaken, what facilities should be funded, etc.

My point is not to advocate this particular picture of community research. It is just one of many visions.11 Rather, my aim is to suggest that the corruptions of power associated with expert establishments should be recognised and taken into account when designing a research system. No doubt it will take a fair bit of experimentation--research!--to determine what sort of system can most effectively produce knowledge that serves the common interest.

What can be done?

There are lots of possible ways to challenge the orientation of knowledge to powerful groups, and many people are making challenges in their own way. There's no single best strategy, because what a person can do depends on their own situation. So it's worth looking at a range of possibilities.

Critical teaching

Teaching is inherently a threat to academic control over bodies of knowledge, since the aim is explaining ideas to wider audiences. If teaching is kept pretty much to the straight and narrow, covering orthodox ideas, then it's not a threat. Getting students to think for themselves and to question conventional wisdom in a fundamental way potentially undermines intellectual privilege.12

The usual limitation of critical teaching is that it remains critical at the level of ideas. There are some powerful critiques of orthodox theory available, but they just sit on the shelves or in students' essays unless someone does something about them. The priority of most students is to obtain degrees. If given encouragement, they might write a hard-hitting essay, but sending a letter to a local newspaper is another story.

There are, though, some enterprising teachers and even entire departments that promote learning by getting students actively engaged in community issues, for example tackling pollution problems or providing legal help to minority groups.

Critical research

Although the bulk of research carried out is directly or indirectly oriented to the interests of dominant groups (including the researchers themselves), some researchers explicitly aim their work in other directions. This includes engineers who develop appropriate technology for disadvantaged people and psychologists who seek ways for people to resist manipulation by advertisements.

lot of "critical research" that is published in academic journals is never read by anyone except academics. It is too abstract and difficult to read for anyone else. More helpful is critical research that engages with people, providing a product or idea that can be grasped and used.

Critical teaching and research merge when students are involved in projects that essentially involve doing research as a means of learning. So-called "action research" can fit this picture. Researchers, including students, undertake projects that help communities to help themselves, such as working with homeless people to develop strategies against policies creating homelessness.

Popularisation

When knowledge is kept within professional circles it is mainly of service to those who have the money or power to get professionals to do their bidding. Making the knowledge understand- able to a wider community undermines the professional monopoly. No wonder that popularisers. are looked down upon by experts in their fields.

There are different types of popularisation. Some popularisers, such as Isaac Asimov, Martin Gardner and Carl Sagan, mainly speak of the wonders of science. Their popular works mainly serve to get more people to support scientific work by the professionals. They seldom make criticisms of powerful patrons of science. (Sagan's prominent role in promoting the theory of nuclear winter and arguing for nuclear disarmament may be a partial exception.) Other popularisers, such as Rachel Carson, David Suzuki and John Kenneth Galbraith, have taken a more critical role: they encourage people to be critical of influential trends in their fields.

Only a small number of individuals can ever become as widely known as Sagan and Suzuki. But others can undertake the task of critical popularisation in their own way. For example political scientist Michael Parenti has written many books providing a straightforward, hard-hitting critique of the US political and economic system. These books have had far more impact than sophisticated critiques published in left-wing journals mainly read by a few left-wing intellectuals.

Independent scholarship

Rather than taking the road through universities-namely, formal study and acquisition of credentials-it is possible to learn and do research outside the academic system. So-called "independent scholars" are people who have learned or researched on their own, in some cases becoming prominent as a result. Examples include Betty Friedan, Buckminster Fuller, Hazel Henderson, Eric Hoffer, Alvin Toffler and Barbara Tuchman.13

Independent scholars are not so shaped by formal training, peer expectations, and organisational penalties for going against the grain. On the other hand, independence in many cases means getting little money from one's intellectual efforts, or else becoming dependent on a new patron, such as the publisher of a commissioned book.

Research and social movements

Feminists, environmentalists and other social activists vary enormously in the way they use research. I've met some environmental campaigners who never read a single political analysis.

They act entirely on the basis of their own experience of how the political system operates. Some research is important to them, such as detailed analyses of threatened species in local forests or the comparative social impacts of transport policies, if it directly relates to current campaigns.

A few campaigners read deeply into theory on relevant topics such as patriarchy, capitalism, industrialism and the dynamics of social movements. Some of them have told me that the writings in these fields are insightful but seldom relevant to the actual campaigns on which they are engaged.

Imagine for a moment that social movements could spend billions of dollars funding research relevant to their interests and needs. This would lead to a considerable change in research priorities. Whereas coal companies fund research into more efficient ways of extracting and burning coal, environmental groups might fund research into measures for energy efficiency and how to promote them. Whereas militaries fund research into more powerful and accurate weapons, peace groups might fund research into conflict resolution or nonviolent struggle.

But would this mean that most researchers would still be professionals working in universities or specialist research organisations? Would it mean that decisions about research funding and priorities would still be made by just a few people in the social movements and among the researchers? If so, problems similar to the present system might arise, namely orientation of research to the interests of those with most power.

The challenge is (1) to involve a broad cross-section of people in decision making about research priorities and (2) to allow all interested people to be engaged in research themselves, at some level. To meet this challenge, social movements need to put research on their agendas.[14]

Footnotes:

1. John M. Blatt, *Dynamic Economic Systems: A Post-Keynesian Approach* (Armonk, NY: M. E. Sharpe. 1983).
2. See, for example, Amritananda Das, *Foundations of Gandhian Economics* (Bombay: Allied Publishers, 1979).
3. David Dickson, *The New Politics of Science* (New York: Pantheon, 1984); Janice Newson and Howard Buchbinder, *The University Means Business: Universities, Corporations and Academic Work* (Toronto: Garamond Press, 1988); James Ridgeway, *The Closed Corporation: American Universities in Crisis* (New York: Random House, 1968); Thorstein Veblen, *The Higher Learning in America: A Memorandum on the Conduct of Universities by Business Men* (New York: B. W. Huebsch, 1918).
4. Margaret Scotford Archer, *Social Origins of Educational Systems* (London: Sage,1979).
5. For critiques of some disciplines, see for example Stanislav Andreski, *Social Sciences as Sorcery* (New York: St. Martin's Press, 1973); Trevor Pateman (ed.), *Counter Course: A Handbook for Course Criticism* (Harmondsworth: Penguin, (1972).
6. Some good treatments--all of US higher education--are J. Victor Baldridge, *Power and Conflict in the University: Research in the Sociology ofComplex Organizations* (New York: Wiley, 1971); Theodore Caplow and Reece J. McGee, *The Academic Marketplace* (New York: Basic Books, 1958); Lionel S. Lewis, *Scaling the ivon Tower: Merit and its Limits in Academic Careers* (Baltimore: Johns Hopkins University Press, 1975); Arthur

S. Wilke (ed.), *The Hidden Professoriate: Credentialism, Professionalism, and the Tenure Crisis* (Westport, CT: Greenwood Press, 1979).

7. Charles Derber, William A. Schwartz and Yale Magrass, *Power in the Highest Degree: Professionals and the Rise o a New Mandarin Order* (New York: Oxford University Press, 1990).
8. Brian Martin (ed.), *Confronting the Experts* (Albany: State University of New York: Press, 1996).
9. The programme run by Gary Huber is described in "Bucking the system," *Newsweek*, 10 January 1972, p. 26.
10. Jun Ui, "The interdisciplinary study of environmental problems," *Kogai-The Newsletter from Polluted Japan*, Vol. 5, No. 2, Spring 1977, pp. 12-24.
11. See also Peter Abbs and Graham Carey, *Proposal for a New College* (London: Heinemann Educational Books, 1977); Bill Draves, *The Free University: A Model for Lifelong Learning* (Chicago: Association Press, 1980); Jonathan Kozol, *Free Schools* (Boston: Houghton Mifflin, 1972); Michael P. Smith, *The Libertarians and Education* (London: Allen and Unwin, 1983).
12. Ira Shor, *Critical Teaching and Everyday Life* (Montreal: Black Rose Books, (1980).
13. Ronald Gross, *The Independent Scholar's Handbook* (Berkeley, CA: Ten Speed Press, 1993).
14. On education and social movements, see Colin Ball and Mog Ball, *Educationfor a Change: Community Action and the School* (Harmondsworth: Penguin, 1973); Tom Lovett, Chris Clarke and Avila Kilmurray, *Adult Education and Community Action: Adult Education and Popular Social Movements* (London: Croorn Helm, 1983); Michael Newman, *Defining the Enemy: Adult Education in Social Action* (Sydney: Stewart Victor, 1994).