Research Policy

The legless dual support system and the new dawn

RICHARD SMITH

The "dual support system" is one of those pieces of jargon (rather like the "knock for knock agreement") that rolls easily off the tongue but is nothing more than a phrase to many people. The system hinges on the way in which university research is supported by both the universities themselves and external sources of funding, with the research councils (until recently) being the main source. The Advisory Board for the Research Councils (ABRC) in its recent policy document, *A Strategy for the Science Base*,¹ described the dual support system as "both imperfectly understood and under considerable strain" and included in the document a report on the system that it had jointly prepared with the University Grants Committee (UGC). Ironically this document may prove to have been one of the important milestones in the destruction of the system because one of the options it discusses is removing the university funding for research and giving the money to the research councils. It has been forced to consider what would be a fundamental change in the system by the extreme rickety of the dual support system, which in many places has collapsed completely.

What is the dual support system?

The essence of the dual support system, says the Department of Education and Science, is that "the input from general funds [the block grant that the universities receive from the government through the UGC and student fees] should provide the basic 'floor' of research capability in university departments, enabling speculative ideas to be generated and developed to the stage at which specific funding can be sought."² UGC money is used theoretically to allow all academic staff to do some research and to provide for "well found" laboratories. Academics can then use their time and laboratories to develop ideas and projects to a stage where they may apply to the research councils for money to follow up the plans. The UGC is thus providing "seedcorn" money, and the research councils can then spend their money to encourage sprouts to grow and eventually perhaps to blossom. (The money may come not from the research councils but from the charities, industry, or other sources; the system is thus strictly only "dual" if the second leg of support is recognised to be not just the research councils but also these other agencies. Clinical departments, for instance, obtain only 18% of their external funding from research councils, whereas physics departments obtain over 70%.¹)

Theoretical advantages of the dual support system

The Merrison report of 1982 on the support of university scientific research set out the advantages of the dual support

"The disinterested pursuit of knowledge is not a Thatcherite value."

Professor Michael Dummett, Wykeham professor of logic, Oxford.²¹

system.³ Support from university funds enables academic staff to keep in touch with the frontiers of their subject. This helps with their teaching and with "the atmosphere of the university"; allows new researchers to become established; provides a continuity of research relatively free from the vicissitudes of external support; and enables a wide spread of innovative investigations to be carried out. The advantages of external support are that it allows selective choice after independent review of what to support; provides central facilities and encourages cooperation; provides access to international facilities; and gives direct encouragement in topics thought to be of particular national importance.

Pressure for change

In its purest form the dual support system is undirected or unmanaged. Academics do their own thing, and inevitably many of their projects do not lead to anything either useful or saleable. Knowledge is pursued for its own sake, and some people, including the Prime Minister, worry that the pursuit may be distinctly lackadaisical. Another criticism is that academics, who in their daily work must set great store by evidence and critical evaluation, have been slow to evaluate their own activities. The external sources of funds can choose between the projects proposed to them by academics, but this allows only limited directing of the system, particularly as most of the government money has gone into universities through the UGC grant.

Academics have enjoyed "academic freedom" and been motivated not by managers but rather by academic competition—for promotion, further research grants, publication, and distinction. This is not a system designed to appeal to the present government, which is suspicious of professionals and privilege and wants "value for money." The Prime Minister in particular is said to be hostile to academic freedom and the academic life generally: she remembers from her own days at Oxford too many dull lectures from academics who had grown fat while contributing little to the general good of the country. Many academics, she is convinced, are second rate.

Terence Kealey has argued what might well be Mrs Thatcher's case in a spirited article in the *Spectator*:

"Because there is a free market in American academic talent, successful scientists can be attracted to the institutions which offer them the highest salaries. In Britain, all scientists are paid the same salary, which is determined solely by age and length of service. . . . In America, academics who fail to satisfy their employer are dismissed. This liberates resources for successful scientists. . . . However lazy, incompetent, or hopeless they may turn out to be, and many are awful, they [tenured British academics] will stay on until they collect their index linked pension. So it is that our successful scientists are deprived of the means of doing their job properly

because of the upkeep of the hundreds, if not thousands, of mediocre and indolent academics to whom the British university system is committed.”⁴

Academic medicine has been attacked before in less political and more particular terms. Lord Platt, in a still well remembered Harveian Oration delivered in 1967, listed what he thought had been the most important medical developments of the previous decades and then said that academic departments, which had grown fast over the same time, had not been responsible for any of them.⁵ He suggested that “the phenomenal success of modern medical treatment seems to have depended almost wholly on non-clinical, often non-medical, scientists frequently working in . . . the pharmaceutical industry.”

“One feature that distinguishes a university from a school is the sense a student receives of being involved with the teacher in pursuit of a truth which is not all fixed and final. This can only be imparted if the teacher is himself involved in research, and as a result is able to convey something of the excitement of working at the frontier, the thrill of discovery . . . a good education must above all things be directed towards the strengthening of the faculty of imagination. . . . We need accountants to quantify. But it could be that it is in that space to criticise and dream, to research and imagine that the universities make their biggest contribution to the social, political, and, yes, the economic flourishing of society.”

RICHARD HARRIES, Bishop of Oxford and formerly dean of King's College, London²⁰

He went on to say that “no one who has been involved in the disbursement of funds for clinical research can come away without misgivings about whether time, talent and money are sometimes squandered on the measurement of the trivial, the irrelevant, and the obvious . . . a friend of mine . . . has distinguished between ‘ideas’ research on the one hand and ‘occupational therapy for the university staff on the other.’”

In what might be called war by anecdote and eponymous lecture Professor K W Donald responded to Lord Platt in his Henry Barnes lecture, giving a long list of the achievements of academic departments of medicine.⁶ The truth is that these highly selective lists of achievements and non-achievements are not a good way to measure the contribution of academic departments. We need better methods. But whatever the contribution of academic medical departments they are dying not of indolence but rather of trying to do too much.⁷ Their staff are increasingly having to devote themselves to service

work and teaching, and the “free market” beloved of Kealey and Lord Platt is taking up the time of many potential researchers by summoning them to the riches of private practice.

The government is on the side of those unsympathetic to academics and is keen to change the dual support system. But similar pressures for change in the way that research is organised are being exerted throughout the world.⁸ Those who pay for research are increasingly concerned to “manage” the system and get value for money, and around the world courses are now being offered on scientific management (at a tremendous price). These new managers are concerned to weed out what is unproductive, to encourage “strategic” research, to “exploit” the results of research, and to coordinate the whole exercise. In other words, they want to manage—and in Britain the dual support system stands in their way.

Although these might be the motivations behind the erosion of the dual support system, the mechanism has had to be financial—because the government, although it provides the money for both, has little direct control over either the UGC or the research councils. They are supposedly independent.

The imploding of the dual support system

The cuts in university funding combined with the increasing costs of high quality research have thus put the skids under the dual support system. But in all likelihood the notions of all academics doing research and of all laboratories being well founded have been a fiction for some time. The very mention of well founded laboratories caused a hollow laugh in most of the medical researchers whom I met. Indeed, the explosion in the numbers of academics since the '60s may mean that the notions have always been a fiction. Certainly many small academic departments in medical schools, with their heavy service and teaching commitments, have done little if any research. It is a rare academic department in a medical school where academics spend two fifths of their time doing research (the notional amount of time that academics are supposed to spend on research) and the laboratories are well founded. And where this is the case the money is coming not purely from the university but rather from the Medical Research Council or even more probably from the medical charities.

Responding to the collapsing system

The universities have responded to the collapsing dual support system by asking the government for more money, which is quite clearly a fruitless exercise; looking for funds elsewhere (particularly to industry); re-examining how much they charge outside sources of funds as overheads on research grants, an exercise that assumes ever greater importance as more of the money comes from outside; and, most importantly, introducing selectivity. In 1986, for the first time, the grant that universities received from the UGC was related to research gradings given to their departments. The universities are also being encouraged (indeed, forced is the word) to introduce internal selectivity.

How much to charge for overheads might seem a matter of detail, but it is of crucial importance to the universities as they seek more external sources of funding. The catch 22 for the universities is that they need to attract these grants in order to survive but if they do not charge enough in overheads then they may lose money on the piece of research. The fact that the research councils and the charities have had to pay for facilities that the universities are supposed to provide has been a point of friction, and the Advisory Board for the Research Councils/UGC working party on the dual support system spent some time looking at how much universities should charge as “overheads” in order to service a research grant from a research council, a charity, a government department, or industry. The standard figure for overheads is 40% of the direct costs, but this figure was produced empirically in 1971 in a study of contract research: it was found that central non-departmental costs increased by 40% of the increase in departmental resources when the

department attracted outside funds. The 40% figure thus excludes the costs of equipment and buildings and departmental costs like consumables and technicians. A working party of the Committee of Vice Chancellors and Principals has recalculated the real overheads and decided that the commercial indirect costs may be 150-200% of the direct costs. If universities are to continue to attract more of their funding from sources like industry then these real overheads may have to be charged, but industry may not be keen to pay them. Indeed, the present reality is that some government departments commissioning research refuse to pay even 40% overheads—they will pay only 20%.

One development that might be important would be for universities to charge not fixed overheads but rather the overheads that the market would support. In some cases this might be way above the fixed amount and in other cases below. If universities adopted this flexible policy then they would be moving even further down the road to commercialisation, which is probably what they will have to do to survive.

Perestroika

The UGC's selection exercise may soon be overtaken because of the Advisory Board for the Research Council's proposal for a radical new system in which, in effect, some universities (type R) would do high quality research across the range of subjects, others (type X) would do a little in a few subjects, and many (type T) would do no high quality research at all but would be primarily teaching organisations.¹ (The board's definitions of the three types of institutions are shown in the box.) This would be a system very

Definitions of the three types of universities proposed by the Advisory Board to the Research Councils¹

Type R: Institutions offering undergraduate and post-graduate teaching and substantial research activity across the range of fields.

Type T: Institutions highly competent in undergraduate and MSc teaching with staff engaged in the scholarship and research necessary to support and develop that teaching, but without provision of advanced research facilities.

Type X: Institutions providing teaching across a broad range of fields and engaged in substantial world class research in particular fields where they are already pre-eminent or could achieve eminence in collaboration with other institutions.

much like the one that already exists in the United States. The board thinks that there might be 15 type R institutions and rather more type X (at the moment there are over 60 university institutions in Britain). It tries to reassure those many universities that can see themselves becoming type T institutions that they need not always be so, but I suspect that it will not be believed.

This radical restructuring has been in the wings for some time and is the logical extension of the UGC's selection exercise. The report of the advisory board follows on from the Oxburgh report on earth sciences in the universities,⁷ which also proposed a three tier system, and "doing an Oxburgh" is now a well recognised phrase in academia.¹⁰ The Oxburgh report goes further than the report from the Advisory Board for the Research Councils by proposing mechanisms for reaching the new system and a timetable. It also outlines the grounds on which departments will be graded, and departments will be invited to make bids for a particular tier. Departments will thus have a clearer idea on where they stand. Even more remarkable, less than six months after they were published the proposals are becoming reality. Earth science departments were invited to make their bid for a particular tier by January 1988, and

the UGC tells me that the process is happening to the timetable recommended by the report.

Most of the people whom I spoke to thought that concentration was happening by evolution anyway, and the Royal Society has pointed out that of the money for science and engineering research from the UGC and the Science and Engineering Research Council more than half already goes to the top 12 universities and only 10% goes to the bottom 15.¹¹ Most of the researchers whom I spoke to did not want the pace forced, but the Advisory Board for the Research Councils is concerned the evolution is too slow: "present policies" may not "achieve quickly enough the degree of concentration of effort which is needed to maintain the international competitiveness of our university research." The board's report contains no evidence, however, that concentration is essential to be competitive or that the concentration that is already occurring is going too slowly. Nor does the report describe a method for reaching the three tier system, a timetable, or an explanation of what measurements might be made to grade departments and universities.

The board's argument for having some super universities that do all kinds of research revolves around the importance of interdisciplinary research. Following the same logic, the board also proposes creating interdisciplinary research centres that will have "an overall thrust towards application," "close links with industry," and "more positive management." In another document the board has suggested some of the subjects that might be worthy of research centres: they include toxicology, food science, molecular science, and clinical immunology.¹² The board does "recognise the dangers that too much emphasis on a 'top-down' identification of programme priorities will stifle originality."¹¹ But, as it seems to me is so often the case in science policy, people who in their research work give supreme importance to evidence are willing on these matters to act on what is virtually a hunch. For the editor of *Nature* takes a different view: "the steady drumbeat of the message that economic imperatives demand applied research should be steadfastly named for what it is—an empty and shortsighted message."¹³

Reactions to perestroika

Both the Royal Society and the Committee of Vice Chancellors and Principals have come out against the proposals of the Advisory Board to the Research Councils.^{11 14} Both accept that concentration is necessary but think that it should be done on a departmental or faculty rather than a university basis. They also agree that while concentration may make sense for big science it is not necessary for research in, say, mathematics or the humanities.

Most of the medical researchers whom I spoke to thought that the further concentration of research funds and activity was inevitable, and Professor Bob Kendell, dean of Edinburgh University Medical School, quoting a survey of papers published by British medical schools, thought that it was already the case that some medical schools did little or no internationally competitive research.¹⁵ He also thinks that only two centres in Britain are equipped for internationally competitive research in his own subject of psychiatry,¹⁶ a sentiment with which some other psychiatrists, although not all,¹⁷ agreed.

One of the main objections to this proposed restructuring is that it would become a self fulfilling prophecy: once a department or university was judged third rate it would be on a down escalator that would never again come up; and eventually even the best would go down. A research professor of the Royal Society has spelt out what these judgments would mean: "loss of incentive in two thirds of the universities—why bother to think new thoughts; fall off of calibre of research workers in two thirds of the universities—why go to an institute which is labelled 'not to be funded properly'; lack of incentive for the young to join the Z universities; heavy concentration of power in a few; and dissatisfaction of arts and sciences in universities."¹⁵

Many researchers whom I spoke to were most worried by the separation of research and teaching. They believe that teaching will inevitably suffer if the teachers are not themselves doing high quality research. The advisory board has, however, anticipated

their objection and quotes the earth sciences report: "experience in North America suggests that the departments with the best reputation for undergraduate training may not be those with the largest and most prestigious research schools."¹⁹ The Medical Research Council takes the opposite view: "the best medical practice is taught to students in an atmosphere where research is also conducted—where current practice is continually questioned and where the improvement of methods of medical care is seen to be an essential aim."¹⁹ Again the evidence from both sides is what scientists usually dismiss as anecdotal.

The attitude of the Medical Research Council, given to me by Barton Dodd, an assistant secretary, was that it did not see why the changes had to be made in such a rush. Why couldn't the UGC's selection exercise be allowed to evolve? It would be much less painful and might also reduce the danger of destroying effective research teams.

What would be left of the dual support system?

In its policy document the advisory board considers how the new institutions it envisages should be funded.¹ Should all the UGC's research money or just a proportion be taken away from the UGC and administered through the research councils? The document plays with the idea that it should all be taken away—leading to a system "somewhat akin to the US approach"—but rejects it. The advantages would be that resources could be targeted directly at the research teams that the research councils considered the best, but the disadvantage would be that no money would be left for what the board called in an earlier report the "initial and innovative investigations . . . from which future growth points will emerge."¹ It may also be to place too much confidence in the research councils' abilities to spot what is good.

The board thus recommends that the money that currently goes for the notional 40% overheads be taken away from the universities and given to the research councils. This would mean about £50m, and the snag is that the hard pressed universities might find it hard to shed so much. The board also says that the restructuring will need extra funds to pay for moving staff, encouraging some to take early retirement, and appointing new staff, and for new buildings and facilities.

Conclusion

The dual support system is on its last legs, and the main response to this collapse has been the call from the Advisory Board for the Research Councils for a speeding up of the concentrating of research resources that is already happening. The main objections to forced concentration are that universities and departments labelled third class will stay that way forever and that teaching in these institutions will be eroded.

The government has not yet given its reaction to this suggested policy, and, although it fits with government thinking, the extra money that will be needed may prove a stumbling block. Another problem may be the advisory board's failure to describe how the transition would be made. The document as well rather forgets other sources of funding, which in medical research are of great importance. But however the government responds, the dual support system is passing into history and some of your children may find themselves going to type T (third class) universities.

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MATERIA NON MEDICA

Fighting fit

Ours is a warrior cat. Small, black, loving, but fierce; the scourge of local fireside pussies.

Until last month he had visited the vet only twice, once to be neutered, and once for parvovirus vaccination. He detests the car. His screams at regular five second intervals raise eyebrows among passers by.

A year ago half of one of his eyes became opaque. Living in a medical household and leading an apparently normal life, he was the object of friendly interest and discussion about differential diagnosis but no more. Visiting the vet for what seemed to be a now healed trauma was unthinkable.

Last month the whole eye became opaque overnight. To the vet we must go and we went, Jock furiously protesting as before. A learned discussion took place. It seemed Jock was an Interesting Case and must be seen at the Royal Veterinary Hospital, no less. An appointment was made, instructions about overnight fasting given. Efforts were made to woo the cat back to his usual routine, huffily abandoned after the car trip.

It cuts you down to size when your cat leaves you. Jock didn't quite leave—he came back for meals, but insisted on eating them outside the back door and resolutely refused to make friends again even with his much loved dog.

Outpatients day dawned. We prayed that Jock would come for his breakfast and not let us down with the hospital. He came and was incarcerated in his basket. . . . Wot, no breakfast? Fury gave place to puzzlement and then horror as we all got into the car. The dog's presence may have helped a bit. The cat was marginally quieter this time but it was a longer journey and we thought perhaps he had lost his voice.

Arrived at outpatients we were booked in and settled in the waiting room. Ominous silence. A nurse brisked in. "Jock?" We indicated the basket. "Follow me," and off we trooped.

Students in white coats and stethoscopes gathered round as we arrived in the consulting room. A hush. Then the great man came in.

Jock's history was taken. A nurse whisked him away. The cavalcade followed to the examination room. As we waited, gazing past museum specimens of animal pathology through the window, a horse was wheeled by on a stretcher, a surreal touch in an already unusual day.

The consultant returned and kindly explained the diagnosis, a dislocated lens. He did not advise surgery at Jock's age—just turned 14—but we were to bring him back if he developed glaucoma. Smiles and, yes, purrs ended the interview. On the drive back we began to wonder how on earth you know when a cat's got glaucoma.

Cat's breakfast was served when we arrived home. Life gradually resumed normality. But it was a fortnight before Jock would enter the house.

No one has told him he's a poor little half blind cat so he continues his usual active, indeed frenetic, way of life, fighting, eating, and sleeping. When we hear caterwauling and rush down the garden to rescue him from beastly fireside pussies bent on revenge he turns and freezes us with a look: "You keep out of this." A few days ago he came in and regurgitated a whole goldfish.

Recently the lens seems to have moved again and some light must be entering the eye. Perhaps our cat has become an enthusiastic outpatient at last and has been sneaking off to an alternative veterinary medicine clinic.

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