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Reorganizing Academia

Delegating Authority While Increasing Accountability in Universities

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The UK Research Assessment Exercise

A Case of Regulatory Capture?

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1. Introduction

The UK has experienced all six of the major changes to the organization and direction of the public sciences outlined by Whitley in his introductory chapter. In some respects, these changes have been more prominent and influential than elsewhere, especially with regard to establishing a mechanism for regular, systematic, nationwide assessment of university research. Other countries have adopted various approaches to evaluating academic research (Geuna and Martin 2001; Whitley *et al*. 2007) but none have become as central and influential as the UK Research Assessment Exercise (RAE). The evolution of the mechanism for achieving this and the associated effects on authority relations in UK university research form the subject of this chapter.

The UK was one of the first countries both to institutionalize university research assessment over twenty years ago and to link it to financial allocations. Consequently, the effects on authority relations there are likely to be more profound than in many other states. In what follows, we look first at the historical background to the introduction of the RAE, and then examine the evolution of the RAE as carried out on successive occasions. Section 4 analyses its impact on authority relations, in particular those relating to the

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Funding Councils and the government, to users, to disciplinary elites, to universities and university departments, and to individual researchers. The final section summarizes the conclusions emerging from this analysis.

2. Historical background

The UK Higher Education System in the 1960s and 1970s

In the 1960s and 1970s, UK higher education (HE) remained the preserve of a relatively small group, although student participation had risen following the Robbins expansion from 5 per cent of the student-age population in 1960/1 to 15 per cent in 1986/7 at the time of the first RAE (see Mayhew *et al.* 2004: 66, fig. 1).[1] The country possessed a fairly small number of universities (about fifty), all assumed to be broadly equal in standing ('the equity principle'). Universities at that stage were granted considerable freedom, with relatively 'light touch' steering from the University Grants Committee (UGC), which itself operated with a fair degree of autonomy from the Department of Education and Science (DES)[2] (Dearlove 1998*a*, 1998*b*). Internally, they relied on a largely collegial system of governance with a significant level of direct democracy (for example, deans were often elected, the post being rotated among senior faculty). While one must be careful not to exaggerate, many academics had appreciable autonomy with regard to what research they did and how they did it (Clark 1995; Dearlove 1998*a*, 1998*b*). British university departments tended to be less hierarchical than, say German or Japanese ones and less managerially controlled than US ones (Trow 1993). University governance in the UK was also characterized by substantial trust between academics, administrators, and policy-makers. In many respects, research in UK universities resembled the state-delegated discretionary type of public science system discussed by Whitley in his introductory chapter.

Like most countries apart from the US, the UK operated a 'dual-support system' for universities, in which the UGC was responsible for the institutional core funding of teaching and research (and in particular for ensuring 'the well found laboratory'), while Research Councils (RCs) supported the additional costs of specific research projects. Decisions on funding allocations by the UGC were supposedly determined by unit size, but in practice

[1] Since then, the figure has again almost trebled, standing at 43% at the time of the most recent RAE.

[2] Originally, the UGC had come directly under the HM Treasury, only moving when the Dept of Education and Science was created in the 1960s.

they were also strongly influenced by lobbying, with certain universities (in particular, Oxford and Cambridge) being relatively generously funded. Indeed, 'the equity principle' was probably more rhetoric than an accurate representation of the resource distribution outcomes, and the system as a whole was, and remains, highly stratified in terms of resources and social and intellectual prestige.

The final point to stress is that that in the UK most publicly funded research is carried out in universities rather than free-standing laboratories or institutes. Prior to the 1980s, there was a larger non-university research sector (consisting of government laboratories and RC institutes), but following the reforms of the Thatcher government (when many of these were privatized, merged, or closed), this sector became much less important, and is far smaller than in many European countries such as France, Germany, Italy, and Spain. Consequently, the effects of the RAE apply to a large proportion of publicly funded research in the UK.

Changes in the Late 1970s and Early 1980s[3]

Various forces began to bring about change in the late 1970s.[4] The first was the growing costs of research at a time of increasing pressures on public expenditure. Britain had been suffering from major economic difficulties since the mid-1970s. When Mrs Thatcher came to power in 1979, she was determined to reduce public spending, and substantial funding cuts were imposed on universities (Phillimore 1989: 258). The UGC decided that, in order to protect the best universities and departments, the cuts should be allocated very unequally, with some universities being subject to reductions of over 30 per cent. This generated a storm of controversy, not least because the basis of UGC's selectivity was unclear. While it was apparent from funding projections that a policy of selectivity was necessary,[5] what was less obvious was how to determine where to focus the limited funds.

[3] See also the analysis of this period in Ch. 8.

[4] There had been an earlier attempt to link research system more closely to the needs of the state. The Rothschild Report (1971) had advocated that more applied research be funded on a 'customer-contractor' basis, with government departments acting as a proxy customer for the state. A substantial part of the budgets of the Agricultural, Natural Environment, and Medical Research Councils was therefore transferred to the respective ministries (although in the case of the MRC, this decision was subsequently reversed). However, the largest research council (the Science Research Council) was unaffected and university research also largely 'escaped' from the effects of the Rothschild changes.

[5] Indeed, the Science Research Council (the largest of the five Research Councils) had been pursuing a policy of selectivity and concentration since 1970 (see SRC, 1970), although the impact of this appears to have been decidedly limited—see Farina and Gibbons (1979, 1981).

A second major driving force consisted of political demands for greater accountability and better 'value for money'. Much attention was devoted to the '3 Es': economy, efficiency, and effectiveness.[6] This rhetoric was associated with a shift to a more managerialist approach to the public sector and to the development of what became known as 'new public management' (Hood 1991), with its emphasis on efficiency, transparency, accountability, quality assurance, and competition. This, in turn, required that publicly funded institutions develop clear objectives, effective decision-making structures, transparent assessment of performance, and a system of allocating resources based on past performance (Henkel 1999: 107).

Universities, with their heavy dependence on public funding, could not expect to stand aside from these growing pressures. In 1985, the Jarratt Report heavily criticized universities for being inadequately managed and for exhibiting little accountability. Particular criticism focused on an over-reliance on university committees, which made for slow decision-making as well as being vulnerable to sectional interests. The report argued that universities needed to develop more efficient internal management, in particular improved strategic planning, more monitoring to achieve greater efficiency and cost-effectiveness, and clearer resource allocation procedures (Jarratt 1985; Jones 1986). This was to be achieved through a more hierarchical form of management, with Vice Chancellors becoming Chief Executives, and with more top–down decision-making by senior managers (Dearlove 1998*b*: 115).

In short, Jarratt advocated a shift to what Trow described as 'hard management', with more hierarchy and less trust (Trow 1994). Universities were now expected to act more like businesses, exposed to the disciplines of the 'market' and with explicit strategies. These changes were to be 'encouraged' by the move to a more competitive system of funding. While RC funding was already subject to a relatively intense form of competition, the other stream of the dual-support system, the research funds provided by the UGC, also needed to be subject to competitive forces (Curran 2000; Bence and Oppenheim 2005: 141–2).

The Emergence of the First Research Selectivity Exercise

In 1985, two months after the Jarratt report appeared, the government published a Green Paper on the future of higher education (DES 1985). This stressed the need for the HE sector to become more prudent and

[6] In 1983 the Audit Commission was created, concerned with ensuring quality, effectiveness, performance, and value for money (Shore and Wright, 1999: 562).

selective in its use of public funds. Mindful of the furore created by the somewhat arbitrary approach it had adopted in 1981 in its attempts at more selective funding, the UGC (rather hurriedly) introduced the Research Selectivity Exercise as a more formal mechanism to provide accountability and selectivity.

The first Research Selectivity Exercise (RSE), as it was initially termed, was carried out in 1986. It was based on a relatively simple methodology. Each university department or 'unit of assessment'[7] was asked to complete a questionnaire on research income, research planning, and priorities. It also requested units to identify their five best publications from the previous five years. The responses were considered by UGC subject sub-committees, along with a number of assessors,[8] for each of the UGC's thirty-six 'cost centres'. From the information submitted, the subject committees classified units on the basis of a simple four-category ranking.

The effects of this exercise's results on UGC research funding were initially rather limited. However, the RSE undoubtedly came as something of a shock to the university system (Phillimore 1989). While some in the more established universities paid relatively little attention (hoping, no doubt, that the RSE would 'go away'), others took it much more seriously. Even at this stage, it was clear that the introduction of performance-related funding meant an appreciable increase in the authority of the evaluating/funding agency, UGC. Moreover, within many universities, administrators now became more concerned with the level and quality of staff research and publications, and encouraged the development of more explicit strategies for departments. At least formally, the authority of university management *vis-à-vis* its researchers increased.

3. Evolution of the RAE

1989

As the RSE's wider implications began to sink in, there was much criticism of the assessment procedures. In particular, the request for the five best

[7] The terminology here is confusing. UGC (and subsequently UFC and HEFCE) used the term 'unit of assessment' for the *subjects* under which universities could make their various submissions, while universities used the term to describe the *groups* being submitted (often departments but sometimes a combination of several departments or a part of a department).

[8] One criticism was that the assessors' identities were never made public (Bence and Oppenheim 2005: 144).

publications from a unit was seen as being unfair to small departments.[9] These criticisms were to stimulate various improvements in the 1989 exercise, a process repeated after each subsequent RAE. Over time, the RAE became ever more sophisticated but also increasingly costly and burdensome.

In 1987, the Advisory Board for the Research Council (ABRC) produced a report putting forward a radical proposal to separate universities into R, T, and X categories, with research resources being concentrated on R institutions and selected departments in X institutions. Fierce opposition from universities quickly led to the proposal being rejected, but the eventual compromise was to 'beef up' the RSE as a mechanism for providing greater selectivity in UGC funding. In 1988, the academic-dominated UGC was replaced by a smaller executive body, the Universities Funding Council (UFC), which included representatives from the private sector. This marked a fundamental shift in role from acting as a 'buffer' between government and universities to operating as a 'coupling' agency responsible for delivering government policy (Phillimore 1989: 258).

A second Research Selectivity Exercise was carried out in 1989, this time with a more sophisticated methodology. Units were asked to supply publication data including bibliographic details of up to two publications[10] for each full-time member of faculty, a change that resulted in a major increase in the workload for the assessors. They were also asked to provide data on research studentships, research grants, and contracts, and total numbers of publications in relation to the number of full-time staff (UGC 1988).[11]

Recognizing the increased scale of the assessment task, UFC established approximately seventy panels to evaluate each subject (or 'unit of assessment').[12] Panellists were reportedly chosen to ensure adequate coverage in terms of 'the range of specialised expertise needed to cover the spread of

[9] If the numbers of publications from a department with a certain level of quality are assumed to fall on a normal distribution curve, a large department is more likely to have its five best publications appearing in the right-hand 'tail' of the curve than a smaller department.

[10] However, there was no precise definition of a 'publication'. It was no surprise, therefore, that the 'publication data was found to be unreliable, and where it was reliable, it said nothing about the quality of the output' (UFC 1989: para. 23). However, already by 1989 lists of 'leading' journals (generally drawn up by elite bodies) that would be looked upon favourably by subject panels were beginning to circulate (e.g. in economics, see Lee and Harley 1998: 24).

[11] However, 'no facility for systematic verification of the accuracy of the submissions was built into the exercise, and there was some evidence of deliberate "misreporting"' (Bence and Oppenheim 2005: 145). Only in the 1992 RAE was a formal audit procedure introduced to check the accuracy of submissions.

[12] Unfortunately, the full list of panels was not sorted out before the RSE (Bence and Oppenheim 2005: 144).

research in the subject area to be assessed'; 'the spread of institutions being assessed'; 'age and current active involvement in research'; and 'evidence of wide knowledge of the conduct of research in the relevant subject area' (UFC 1989: 15). The panels also sought confidential advice from external experts. An attempt was made to standardize ratings across subjects by asking panels to judge groups on the basis of 'attainable levels of excellence', but in the event there were large variations between the average ratings awarded by different panels, which led to widespread suspicion that some panels had been 'tougher' than others (Johnes and Taylor 1992: 72–6).

The outcome was that units were ranked on a scale of 1 to 5, based on the proportion of their publications judged to be of national or international excellence. This time, the UFC decided there would be a larger, more explicit link between rankings and research funding; of the 33 per cent of UFC funds devoted to funding research, nearly half was allocated on the basis of the 1989 ratings, with the remainder being determined mainly by student numbers (see table 1 in Johnes and Taylor 1992: 69). This substantial increase in the proportion of UFC funding distributed on the basis of the assessment, along with the introduction of a common rating scale and the greater emphasis on publications, represented a significant shift in authority from universities to the UFC, although universities retained control over the internal allocation of funds. Moreover, the change from submitting five publications for the entire unit/department to two publications for each member of staff meant that increasing pressure began to be exerted by university managers on all faculty to produce quality publications.

1992

Prior to the next RAE, a government White Paper (DES 1991: 18) re-emphasized that 'funding for research should be allocated selectively to encourage institutions to concentrate on their strengths'. Another important change came with the 1992 Further and Higher Education Act (DES 1992). This abolished 'the binary divide' between universities and polytechnics, elevating the latter (which previously received public funding to conduct teaching but not research) to the status of universities. The resulting inclusion of these 'new universities' (or '1992 universities') in the 1992 RAE added to the competition for limited funds, although only to a small extent since the new universities received just 9 per cent of the total on the basis of their 1992 RAE ratings (Bence and Oppenheim 2005: 146).

By now, the RAE approach had begun to 'settle down'; although 'tweaked' in subsequent RAEs, the approach remained broadly the same from here onwards. In 1992, units were given the opportunity to include only 'research active' staff (those units with 'a long tail' of weaker researchers had reportedly been penalized with a lower rating in earlier exercises). Despite this, some universities decided to include everyone to show that they were committed to being a research-led institution or to avoid an adverse affect on staff morale. However, a new rule meant units could only include staff in post on the RAE 'census date', which resulted in units 'losing' the publications of staff who had departed before then. Units were also asked for information on the research environment and future plans, and for quantitative data on all publications classified under specified headings.

By this stage, over 90 per cent of research funds (QR) were distributed by the Funding Councils (FCs[13]) on the basis of RAE ratings, with no funds being awarded to units given the lowest grade. However, as in all the RAEs, the exact relationship of QR funding to RAE results was only announced by HEFCE *after* the ratings were announced. Universities were thus forced to take part in each RAE without knowing what the financial consequences would be: 'they were being asked to participate in a game with a blindfold on, because they had not been told the rules which would govern the distribution of money at the outcome stage' (Johnston 1993: 174). They could only guess whether including more staff as 'research active', and hence increasing the unit's 'volume factor', might compensate for a lower grade (or vice versa).[14] Given this intrinsic uncertainty, universities often concentrated exclusively on achieving the highest possible grade for each unit, irrespective of whether this ultimately resulted in the greatest level of QR funding.

In terms of the impact of the 1992 RAE on authority relations, giving universities the right to decide which faculty were submitted as 'research active' provided university managers with another means to exert influence over faculty work patterns. Likewise, the continuing increase in the

[13] UFC by then had been replaced by separate HEFCs for England (HEFCE), Wales, Scotland, and Northern Ireland. In what follows, these are collectively referred to as the Funding Councils (FCs) or HEFC.

[14] Even after the link between RAE grades and funding was made public, the calculations involved in retrospectively determining the optimum strategy were far from simple! However, Johnston (1993) showed that omitting the 'tail' of up to a quarter or third of the weakest staff in order to achieve a rating one point higher was an economically rational strategy.

percentage of research funds distributed by Funding Councils on the basis of the RAE results represented a further shift in authority towards the FCs.

1996

In the 1996 RAE, units were requested to submit up to four publications per member of 'research active' staff, further increasing the importance of publications. They could also include 'indications of peer esteem' (such as journal editorships and invited conference presentations). The submissions were assessed by some sixty subject panels. The chairs of these were appointed by the FCs, with the other panellists being selected from nominees put forward by 1,300 learned societies, professional bodies, and subject associations. This provided disciplinary elites with an opportunity to exercise considerable authority over what forms of research were judged to be excellent.

The 1996 RAE saw an extension from five to seven grades, with a splitting of the '3' grade into 3A and 3B, and the introduction of a new 5* grade. However, a shortage of FC funds (there was a 5 per cent reduction in real terms in 1996–7) meant the FCs had to introduce much larger differentials in funding, with no funds at all for the lowest two grades (i.e. 1 and 2). This further strengthened the authority of the Funding Councils with respect to universities.

2001

By now, there was mounting evidence of universities actively managing RAE submissions, with many excluding staff with few publications as 'research-inactive'. Although such exclusions reduced a unit's 'volume factor', they could significantly increase the probability of a higher RAE rating (Bence and Oppenheim 2005: 147). There was also growing concern about a 'transfer market' in the period before the RAE census date (ibid.) and complaints that previous RAEs had suffered from inconsistent ratings across the panels, that interdisciplinary research had been treated unfairly, and that the personal circumstances of staff (e.g. career breaks) were not taken into account. These and other problems resulted in further changes in RAE procedures in 2001, as well as a promise to provide more detailed feedback.

Assessment panels were broadened in an attempt to bring in research 'users' in industry and elsewhere, and further shift the balance of authority with respect to decisions on university funding away from academics.

However, this met with only limited success—few non-academics were willing to put in the effort required of RAE panel members. The FCs also appointed international experts, in particular to check and confirm the top grades proposed by panels. Panels were now expected to treat each publication on its merits (i.e. irrespective of the medium of publication such as the journal and its status), imposing a huge reading burden on panellists. Faced with the virtual impossibility of reading all the submitted publications, some panels decided to take a short-cut and assume that work already subjected to rigorous peer review (e.g. that published in 'top' journals) should be given more weight (Bence and Oppenheim 2005: 150–1).

Previously low-rated departments (1 or 2) were now less likely to bother submitting to the RAE as there was no money for such grades (or indeed for 3B after 2001).[15] Over time, the proportion of staff in 5-rated departments rose from 23 per cent in 1992 to 31 per cent (in 5 and 5* departments) in 1996 and to 55 per cent in 2001. The positive interpretation of this was that there was a major improvement in research quality during this period. However, the rise also reflected the fact that universities had learnt to play the RAE 'game' more effectively (e.g. who and what to submit, and how best to present their submissions). In addition, over time panels tended to become more lenient (i.e. there was an element of 'grade inflation') as they realized that panels that had been tough in previous RAEs (such as economics and geography) ending up financially penalizing their fields in comparisons with others.[16]

After the 2001 results were announced, HEFCE realized that funding the new (and much improved) ratings on the existing basis would cost an additional £200 million. However, the HEFCE budget for 2002–3 had already been set in the government's Comprehensive Spending Review. Therefore, HEFCE was only able to maintain unit funding for 5* departments; that for all lower ratings was cut. This meant HEFCE ended up with much steeper differentials between 3A, 4, 5, and 5* departments than the Scottish and Welsh FCs. For example, in Scotland and Wales, a department

[15] In 1992, 67% of the units submitted had been rated 1, 2, or 3, but this had fallen to 17% by 2001—see table 2 in Bence and Oppenheim (2005: 149).

[16] A trenchant critique of the assumption that the improvement in RAE grades reflected improved research quality came from the Pro-Vice-Chancellor of Warwick University: 'What that 55% represents [the proportion of researchers in 5 or 5* departments] . . . is a morass of fiddling, finagling and horse trading. Nobody who works in a university in the UK in 2002 seriously believes that research is improving.' Likewise, certain learned societies openly admitted that 'some or all of this improved RAE score is undoubtedly due to increased familiarity with RAE exercises and the ability of university departments to play the RAE game' (see House of Commons Science and Technology Committee 2002: para. 23).

rated 5* received 3.2 times as much as one rated 3A, while in England the differential was 8.7 (House of Commons 2002: para. 68, table 6). Indeed, HEFCE subsequently decided that even this degree of concentration of funding on the best performers was not enough, and those departments gaining a 5* rating in both 1996 and 2001 were retrospectively awarded a new rating of 6* with additional funds.

2008

There was a growing sense after 2001 that the RAE had become much too cumbersome. A review was carried out by Roberts (2003), who proposed a much simpler assessment system for less research-intensive institutions. However, fierce opposition from these led to this idea being rejected. A few years later came a proposal by the Chancellor of Exchequer that the peer-review-based RAE should be replaced with a 'cheaper' approach based on metrics. This, too, met with fierce resistance. Eventually, a compromise was reached, whereby the 2008 RAE would remain based on peer review, but with a more metrics-based 'Research Excellence Framework' being phased in for many sciences after that.

The main change in the 2008 RAE was a switch from a single rating on a seven-point scale to a 'profile' for the research of each department, based in large part on what proportion of its publications were judged to be of national or international quality, but also taking account of other data included in the submissions (such as esteem indicators). Each publication was rated on a scale of 1* to 4*. The results announced at the end of 2008 showed that the great majority of the units submitted ended up with an average 'score' of between 2.0 and 3.0. As a result of this 'flatter' distribution than in previous RAEs, research funding will now be spread slightly more widely, with some middle-ranking universities experiencing the largest increases in 2009/10 (e.g. Nottingham, Queen Mary, Loughborough, Brunel, Cranfield) (Attwood and Corbyn 2009; Corbyn 2009).

4. Impact on Authority Relations

Next, we consider the RAE's impact on authority relations governing research priorities and judgements. For ease of discussion, the analysis has been separated into various subsections (government bodies, users, disciplinary elites, universities, and individuals), although many issues cross-cut these categories.

The Funding Councils, the Research Councils, and the Government

Reflecting its broader composition including representatives from the private sector, HEFCE (and, to a lesser extent, its predecessor, UFC) has been more interventionist with regard to universities than the original UGC, and less independent of the state.[17] Since Margaret Thatcher's premiership, the UK government has required accountability and selectivity with respect to the disbursal and expenditure of all public monies, so UFC and later HEFCE have had little option but to deliver. It is ironic, given the claimed intention of the Thatcher Government to reduce the role of the state, that the effect of the RAE has been to increase the authority of government with respect to universities. In particular, the continuing government emphasis on ever greater concentration of research resources has increased the degree of stratification in the HE sector, leaving universities to compete ever more fiercely for government funding in a 'game' in which the state and its agencies (in particular the Funding Councils) set the rules and determine the financial outcome.

The RAE has also strengthened the authority of the Funding Councils, providing them with several sources of power. First, although they consult widely with universities and others, they are ultimately responsible for the choice of the RAE approach and how this should be changed from one RAE to the next. In particular, they determine the subject panels. Since 1989, these sixty to seventy panels have been fairly stable, tending to reinforce traditional disciplinary boundaries. Following each RAE, there have been complaints that some field has been harshly treated, accompanied by calls for a new panel to be established. After consultation, the FCs then decide how the panel structure should be modified.[18] The FCs also select panel members, drawing from a long list of suggestions. Most importantly, they determine how RAE results are to be translated into funds. Over time, the FCs, and in particular HEFCE, have chosen to increase greatly the differential between 'excellent' research and the rest.[19] For all these reasons, the RAE has greatly strengthened the

[17] However, UGC was very opaque in the way it operated, as well as being subject to much lobbying; in short, there were no 'good old days' for some academics!

[18] e.g. after extensive lobbying by environmental scientists, who claimed that their subject had been harshly treated by the Earth Sciences panel, the field eventually got its own panel (Warner 1998).

[19] In addition, the FCs determine the differential unit of resource between fields (e.g. between lab-based and non-lab-based research).

authority of the FCs with respect to universities compared with the pre-1986 regime operated by the UGC.[20]

With regard to the Research Councils (RCs), the first point to note is that during the time the RAE has been in operation, the volume of university research funds received from RCs has grown considerably faster than that from FCs. For example, between 1988/9 and 1999/2000, there was little change in the latter while the former grew by 60 per cent in real terms (see e.g. chart 3.1 in HM Treasury 2002: 31). This has strengthened the authority of RCs over university research. In addition, as the competitive pressures associated with the RAE have increased, so RC funds have become ever more important in supporting the production of publications, the primary indicator of quality in the RAE. In principle, funding decisions on individual research projects by RCs are meant to be independent of the RAE rating of the department of authors of proposals. In practice, it is unclear how great that independence actually is, for three main reasons.

First, authors of a proposal from a highly rated department are likely to be better resourced and therefore (other things being equal) better able to produce a strong proposal. Second, peer reviewers or RC committee members are unlikely to completely ignore whether the proposal comes from a department with a strong or weak RAE rating. Third, analysis of RAE results and RC funding shows a very close correlation (of 0.98); indeed, it was this close correlation that led to the government proposal in 2006 that the RAE be replaced by a metric-based approach focusing on departmental research income (Sastry and Bekhradnia 2006).

Users

In one respect, however, the effort by government to use the RAE as part of its wider policies towards science and technology has been notably unsuccessful. This concerns the attempt by government to get Funding Councils to include 'users'[21] in assessing research, so that research contributions to the economy are reflected in RAE ratings along with 'academic' contributions. Introduced in the 2001 RAE, the effort to include users in assessment panels proved largely ineffective. This failure highlights a fundamental contradiction at the heart of UK government science policy in recent years. Since the 1993

[20] However, it should be noted that UGC preferences did influence academic strategies before the RAE, as in the reorientation of biological research towards medically related problems and the promotion of molecular biology at Manchester (Wilson 2008).

[21] The term 'users' in the UK is broader than just industry or firms, including NGOs and even government departments.

White Paper on *Realising our Potential* (OST 1993), publicly funded researchers have been expected to identify potential 'users' and to work with them in trying to ensure that the results of their research are effectively exploited. Addressing the needs of such users tends to involve research that does not fall neatly into a single disciplinary 'pigeonhole', but which is multi-, inter-, or transdisciplinary in nature (Gibbons *et al*. 1994). Yet the RAE is more geared up to assessing (or, more cynically, is 'biased' towards) mono-disciplinary mainstream research (Alsop 1999). In short, the UK has an essentially discipline-based assessment system for a world in which government policies are trying to encourage more user-focused and often interdisciplinary research. Those who have gone down the user-influenced route frequently conclude that they have ended up being penalized in the RAE process. In the two most recent RAEs, there has been much HEFC rhetoric about treating basic and applied research in an even-handed way, but in practice the heavy reliance on peer review and the composition of RAE panels means that discipline-focused research invariably tends to be regarded as higher quality.

Disciplinary Elites

The RAE has been based almost entirely on peer review. Peer review is traditionally the preserve of disciplinary elites. Recall that peer review was originally introduced (by organizations such as the Royal Society) for determining which papers to accept in learned journals. In due course, peer review was adopted by universities in decisions on recruitment and promotion. It was then extended to use in decisions on research funding, first by US foundations and later (after 1945) by government research funding bodies. However, in all of these, the unit of analysis is normally the individual researcher or a small group applying for a grant. The RAE was perhaps the first occasion where peer review was extended to assess entire university departments on a systematic nationwide basis.[22] Yet surprisingly little critical consideration seems to have been given to whether this radical extension in the nature and scope of the assessment task is one for which peer review is well suited.[23] Given the generally intellectually conservative

[22] Prior to the RAE, peer review had sometimes been used to assess an entire research institute, but usually on an individual basis (as opposed to assessing and rating *all* institutes in that field). The nearest equivalent precursor to the RAE was perhaps the US National Research Council (NRC) ratings of graduate schools in US universities, but these were based on little more than an opinion poll of academics.

[23] One of the few discussions of this can be found in Martin and Skea (1992), who found that the limitations of peer review become far more significant as the unit of analysis shifts from the individual to the department.

nature of peer-review judgements, their use in such a strong evaluation system (Whitley 2007) seems likely to limit further intellectual innovation, as Braben (2004) has argued.

From the start, the UGC turned to disciplinary elites to provide the bulk of the RAE panellists (the panels are essentially mono-disciplinary in composition). Learned societies, subject associations, and professional bodies have all nominated panel members but the decisions are ultimately taken by the FCs.[24] Although the names of the organizations nominating panellists have been made public, along with broad selection criteria, it has never been clear why particular individuals were chosen. This has proved a bone of contention, since comparison of panel membership and RAE results has shown that departments with a member on a panel tended to do significantly better than those without (e.g. Doyle *et al*. 1996). With their strong representation on RAE panels, epistemic elites have been able to exert further influence on research in their discipline, in particular on the criteria used for judging 'excellence'.

Given the increased importance of publications, disciplinary elites as represented among journal editors (especially of 'top' journals) have become more influential in determining who (and what type of research) gets published.[25] Although disciplinary elites already exercised significant control over the conditions of academic production (e.g. through the funding of research projects via RCs), the RAE has further strengthened their authority.

As noted above, the membership of RAE panels has drawn heavily from disciplinary elites, often those who established their reputation through their contributions to mainstream disciplinary research. This, together with the fact that most 'top journals' tend to focus on research in the disciplinary mainstream, means that the RAE has reinforced the emphasis on conventional mainstream research, discouraging new developments and interdisciplinary research. There is some evidence that the RAE may also have skewed recruitment in departments. In economics, for example, Harley and Lee (1997) showed that the RAE had reinforced the trend towards the hiring of mainstream economists. In a later paper (Lee and Harley 1998), they argued that, if these recruitment trends continued, non-mainstream economics was in danger of being eliminated from many UK economics

[24] For a detailed description of how panel members were chosen in one field (economics) in successive RAEs, see Lee and Harley (1998: 30–3).

[25] Near each RAE deadline, they also become crucial in deciding which articles are published before that date.

departments, a prediction apparently borne out by subsequent developments.[26]

In their case study of economics, Lee and Harley produced evidence of how the Royal Economic Society, worried about losing its power over the reputational control system in the field, acted promptly in 1989 and later RAEs 'to capture the process by which assessors were appointed to the economics panel', ensuring that predominantly mainstream economists were appointed (ibid. 42). This study provides a convincing illustration of the process of 'regulatory capture' (Lee 2007: 323) of the RAE by the disciplinary elite, who imposed their views on criteria for assessing 'quality' in economics and on which journals are most important, and hence managed to skew resources towards the disciplinary mainstream. Although we lack direct evidence on other fields, there are good reasons for assuming that a similar process of regulatory capture by epistemic elites has gone on in other RAE panels.

However, in considering the effects of the RAE, we need to recognize that there have been wide variations across fields. Some disciplines seem to have been quite well suited to the RAE (e.g. laboratory-based sciences or economics: see Power 1999: 136; Becher and Trowler 2001: 198), disciplines in which quality was already closely linked to a hierarchy of journals, and where there was standardization of technical entry requirements, a propensity to engage in incremental research (i.e. 'normal science' linked to an established paradigm), a strong refereeing culture, and often a weaker relationship between research and teaching (ibid.). In such fields, the mainstream elite already exercised considerable control over the 'reputational system' (Whitley 1986, 1991, 2000).

In contrast, for many humanities and social sciences (where research and teaching form more of a unified whole, where research results are published in a wide range of journals and books, and where research may yield a variety of outputs other than academic publications), the cultural and structural consequences of RAE were more traumatic (Harley 2002). In such fields, RAE brought heightened emphasis on research 'output', on journal publications, and on bringing in research income to produce more outputs (see below). Likewise, for professionally related disciplines such as

[26] Lee (2007) later found that two-thirds of UK economics departments had no or only one heterodox economists on their faculty, while three-quarters included only mainstream economics on their teaching curriculum (and for departments that had submitted to the RAE the figure was 88%).

engineering, law, accountancy, and nursing, reconciling their work with the demands of the RAE often proved difficult (Robinson *et al*. 2002: 497).

In short, the RAE has reinforced the centrality of peer review and with it the authority of those responsible for peer-review judgements. In many fields, epistemic elites have seemingly taken advantage of the opportunity afforded by the RAE to strengthen their authority as arbiters of 'excellence' and of the reputation of individuals and departments.

Universities and University Departments[27]

Over time, RAE results have been used to justify the progressive withdrawal of funds from lower-rated departments (with ratings of 1, 2, and 3B). At same time, the differential unit of resource between 3A, 4, 5, and 5* departments has sharply increased (particularly in England). The net effect has been to greatly strengthen the concentration of resources on top departments—i.e. increasing the stratification of departments and, with it, universities. This increased stratification has consequences not only for the 'vertical' authority relations between universities and the FCs or the state more generally, but also for the 'horizontal' relations between departments within universities, with highly rated departments having a stronger position with regard to the competition for posts and funding as well as greater ability to resist central control. As a result, their authority concerning the definition of research goals and the direction of research is greater than that of weaker departments (see Chapter 9).

However, the greatest impact of the RAE at the university level has been on university management. From the mid-1980s, UK universities have come under pressure to become better managed and more 'efficient', to develop clearer strategies, and to exhibit a greater willingness and ability to shift resources from declining fields to growing ones. The RAE has provided an opportunity to take a significant step forward in this process. In particular, it has given university administrators a means of comparing the 'quality' of departments, and of legitimating the development of research strategies with differential funding between fields (Meulen, 2007). It also facilitated the reorganization of academic units around new intellectual strategies, as in the case of the biological sciences at Manchester University (Wilson 2008; Wilson and Lancelot 2008).

[27] This subsection should be read in conjunction with Ch. 8.

Once it became clear that the RAE was here to stay, senior management in many universities began to assume responsibility for overseeing the preparation of RAE submissions by departments. Over time, university officials tended to become more interventionist, deciding which departments were to be combined (or split) to form the 'units of assessment' (often a key issue in the 'new universities' with less developed or more dispersed research capacities), which staff should be included as 'research active' and which should be left out or 'hidden', and what incentives to offer faculty for RAE contributions. Elaborate machinery (perhaps in the form of a central university team led by a Pro-Vice-Chancellor, supported by faculty 'directors of research' or departmental 'research coordinators') was developed to oversee preparations for the next RAE. A 'mini-RAE' was often carried out in advance. In the face of all this, staff were increasingly pressured to conform to the dictates of their department or university (for example, to pursue shorter term or more 'mainstream' research), leaving them feeling that their autonomy was being diminished (Broadhead and Howard 1998).

By the mid-1990s,[28] RAE results were also being used increasingly as an input to university strategy, helping to decide which fields and departments to build up, and which departments to merge or close (McNay 1997*b*: 196; Henkel 1999: 111). In some institutions, departments assumed a stronger and more active role in university management (Morris 2002). Department heads were explicitly tasked with improving RAE performance. Some adopted a more interventionist approach to managing faculty, advising them which research topics to pursue, whom to collaborate with, and in which journals to publish. They might also decide which 'stars' (with outstanding publication records) the university should attempt to recruit, and which current staff should be retained at all costs, even if it meant entering into private 'deals' over resources or offering time off from teaching to concentrate on research (Wilson and Lancelot 2008).

Since 1986, recruitment and promotion have become much more explicit components of institutional strategy, with recruitment and promotion of individuals increasingly taking account of RAE contributions (actual or potential). Early retirement or sideways moves into administrative or 'teaching-only' posts have become more common as formal options for less active RAE contributors (e.g. Bence and Oppenheim 2005: 151). As the importance of the RAE has grown, so the degree of centralization of personnel decisions has tended to escalate.

[28] A survey by McNay (1997*a*, 1997*b*) suggests that, prior to 1996, many universities were still rather reluctant to sacrifice weaker departments, but that has since changed.

Despite all the attention paid to the RAE, it is important to emphasize that, in larger research-intensive universities, the scale of RAE funding is generally relatively small compared with other research income (e.g. less than 10 per cent of the total). Nevertheless, the RAE results have considerable 'symbolic power', signalling to funding and other external bodies as well as the wider academic community where the 'best' departments are, and hence the relative standing of the institution in the status hierarchy. The RAE has been one of the factors contributing to the great prominence now accorded to 'league tables' and to the relative position of universities and of the departments within them (Henkel 1999: 110–11). Hence, the emphasis in many universities on getting the best possible RAE ratings, even if, with a reduced 'volume factor', this results in less research income from HEFCE.

Overall, the RAE has reinforced the shift from collegial governance towards 'managerialism' in most universities, with more centralized control and monitoring, greater use of targets and rewards, more bureaucratic procedures, and a more hierarchical structure. In short, it has strengthened the authority of the institution (McNay 1997*a*; Dearlove 1998*a*, 1998*b*) and its control over academic labour (Harley and Lee 1997; Wilson 2008). However, the degree of impact on culture and organization has varied across HEIs (probably being greatest in 'new universities', see Yokoyama 2006) and fields (generally being greater in social sciences and humanities).

Individual Researchers

Prior to 1986, many faculty (at pre-1992 universities, at least) enjoyed significant freedom in deciding whether to do research, how much (in relation to other academic roles such as teaching, administration, professional practice, public service, and 'scholarship'), in what form, on what topic, whether to raise external funding, and how to disseminate the results (Dearlove 1998*a*: 71). Some division of labour would often evolve within departments, with certain individuals doing more teaching or administration depending on their respective strengths and inclinations (something for which their more research-focused colleagues were appreciative), but all this was arrived at through largely informal, tacit, and 'unmanaged' processes sustained by shared norms (Dearlove 1998*a*: 72; Henkel 1999: 120).

Now, located at the 'bottom of the pile' in these revised authority relations, individuals are more constrained in pursuing their own research agendas and subject to growing pressures to 'perform'. They have experienced notable changes in several respects. First, the growing significance of the RAE means that they face more constraints on the type of research

they chose to pursue. Evidence from previous RAEs suggests they will be better placed if they focus on: basic rather than applied research (Harley 2002; Bence and Oppenheim 2005: 145); shorter term rather longer term research (Henkel 1999: 119; McNay 2003: 52); incremental rather than more ambitious or open-ended 'pioneering' research (Braben 2004: 80–5); mainstream rather than 'alternative' research or research in a highly specialized sub-field (Harley and Lee 1997: 1437; Barnard 1998: 476; Henkel 1999: 109);[29] mono-disciplinary rather than inter- or multidisciplinary research (McNay 2003: 52); 'academic' rather than 'professional' research (for instance, in medicine, management, law, planning; e.g. Nadin 1997: 95; Campbell *et al*. 1999; McNay 2003: 51–2); research that yields journal articles rather than books (Johnes 1995: 10; Becher and Trowler 2001: 105–6; Paisey and Paisey 2005: 422); and research where the results can be published in 'top' journals rather than more specialist (and generally lower status) ones (Henkel 1999: 118).

Secondly, individual academics have been subject to growing publication pressures. The absolute priority is to produce for good publications over the RAE cycle. In certain fields, there may be additional pressures to concentrate on an 'A list' of top journals (Harley and Lee 1997) or on high-status book publishers. Academics may additionally succumb to a tendency to 'premature publication' before the research is fully ready, particularly as the RAE deadline looms (e.g. Gläser and Laudel 2007; Harley and Lee 1997: 1437). Those seeking a permanent academic position[30] or promotion are especially vulnerable to such pressures. Those with poor publishing records may suffer reduced levels of self-worth and status, with the weakest likely to be coerced into 'teaching only' or administrative posts or encouraged to take early retirement.

Thirdly, because RAE incentives are perceived to be much stronger than those for teaching,[31] many departments have witnessed a widening split

[29] Becher and Trowler (2001: 105–11) differentiate between 'urban' research fields characterized by a high 'density' of researchers addressing a small number of research problems, and 'rural' research fields where there are relatively few researchers pursuing a large number of problems. Their study suggests that accountability pressures from the RAE may encourage a shift from the latter to the former.

[30] In the UK, in some fields researchers may obtain their first faculty position shortly after completing their doctorate, while in other fields they may work as a postdoctoral fellow for a number of years before moving to a permanent university post. However, in all fields, the effect of the RAE has been greatly to increase the emphasis on publications in the appointment process. This is another illustration of the effect of the RAE on the career system and the labour market for academics.

[31] Although a Teaching Quality Assessment (TQA) system was introduced in 1993, the results were not used by FCs in allocating resources to teaching. Academics faced with decisions at the margin as to whether to allocate additional time to improve their research or their teaching would hence tend to focus on the former. The TQA system was heavily criticized for various

between teaching and research, with deleterious effects on the former (Jenkins 1995: McNay 1997*b*; HEFCE 1997). The RAE may have caused individual faculty to modify the balance between research and teaching (Broadhead and Howard 1998). Many universities and departments now struggle to get faculty to give due attention to teaching or administration. The emphasis on the RAE means that individuals (especially 'leading researchers') tend to devote less time to lecture preparation or to meetings with students (ibid.). Indeed, some 'RAE stars' may be able to negotiate 'research-only' contracts, enabling them to concentrate exclusively on research while strengthening the institution's chances in the competitive research 'market'. At the same time, there is less volunteering by faculty for communal tasks such as serving on university committees, and more formal negotiation is frequently needed with individuals to persuade them to undertake such tasks. Likewise, the RAE has reduced the willingness of faculty to engage in other academic activities such as reviewing, editing, translating, contributing to reference works, writing popular books, engaging in clinical medicine or community service, providing policy advice, and so on (Nadin 1997: 95).

A fourth change observable is a shift in the balance between individualism and collegiality (and between competition and cooperation), with a decrease in organizational loyalty. The growing split between research and teaching has contributed to this decline in collegiality, in particular the offering of 'research only' contracts to leading researchers while colleagues with poor RAE records are required to pick up the increased teaching load. Individuals may view increasing their published output and research profile as a way to maximize their value on the academic 'market', making them more attractive to outside offers. In this respect, the RAE has influenced the horizontal authority relations of researchers with others within their university or in their national community, with their authority increasingly depending on the RAE grades of their departments and on their contribution to those grades.

Fifthly, they may face inducements to engage in 'game-playing', allowing the obsession with research ratings to dominate over the generation of novel research. The heightened sense of competition engendered by the RAE has encouraged widespread 'game-playing'—i.e. efforts designed to

reasons, including '(1) administrative/cost burden; (2) grade inflation/gamesmanship/organisational learning; (3) elitist bias within the system; (4) system impact of quality review; (5) reliability of the system; and (6) philosophical objections to the system' (Laughton 2003: 309), and it was eventually dropped. Similar criticisms can be levelled at the RAE.

make the department 'look good' while not necessarily improving the research quality. Examples of this include creating 'teaching only' categories of staff to make it appear that a higher proportion of faculty are 'research active', setting up 'paper' units of assessment specifically for RAE purposes (Henkel 1999: 112), and hiring academic 'stars' on a temporary basis during the RAE census date. The efforts involved in such game-playing may not only detract from research, they may also weaken the motivation of academics.

Lastly, many academics have felt it necessary to make sacrifices to their private life. The RAE has been a factor encouraging overwork and adding to levels of stress. It has disadvantaged those (predominantly women) who have take time off for family or other reasons, resulting in a 'gap' in their published output (Barnard 1998: 476). Those who are disabled or sick or forced by circumstances to work part-time may struggle to produce four good publications in the RAE cycle. Moreover, their departmental colleagues are now often less willing to 'carry' them than in pre-RAE times.

Overall, British academics are under increasing pressure to 'produce', the RAE having tended to weaken their control over their work (Wilson 1991; Halsey 1992) and rendered them more susceptible to institutional managerial control (Harley 2002).[32] They have experienced a shift from a system in which academic identity centred around a relatively loose and informal competition for reputation as judged by peer review to a much more managerial system where meeting the expectations of senior university managers (and indeed departmental colleagues) with respect to the RAE has become ever more important (Harley 2002). Failure to publish may now be seen not just as an individual failing but as having 'let down' the department and university. In short, RAE has, along with a number of other factors, brought about significant change in relationship between the individual, the department, the university, and the discipline relative to situation before 1986 (Henkel 1999). The system as a whole can reasonably be seen as having being transformed from a state-delegated discretionary one to much more of a state-delegated competitive one in the terms discussed by Whitley in his introductory chapter.

[32] Such a perceived loss of power and control may also contribute to a growing sense of frustration and disaffection (cf. Perryman 2007: 173).

5. Conclusions

Governments now require accountability mechanisms for almost all areas of public spending. Those operating a dual-support system for university research (i.e. most apart from the USA) therefore seek a mechanism to provide accountability with respect to institutional research funding. In the UK, the political pressures for accountability and for selectivity and concentration have arguably been greater than elsewhere, an apparent legacy of the 1980s Thatcher government. Consequently, the UK has constructed a more rigorous and intrusive assessment mechanism in the form of the RAE. In so doing, it has brought about substantial changes in authority relations—both vertical and horizontal—between individuals, disciplinary elites, departments, universities, funding councils, and government to a greater extent than in most other countries (Henkel 1999: 120).

The effects are particularly apparent with respect to vertical authority relations. As we have seen, the RAE has increased the authority of government and the FCs over universities, concentrating research resources and increasing the degree of stratification in HE. Likewise, within universities the RAE has steadily shifted the balance from departments to central university managers as the financial rewards for achieving top grades have grown (or, more accurately, as the penalties for failing to obtain the top grades have escalated).[33] Universities, under pressure since the Jarratt report to become more 'efficient', have seized upon the RAE to justify both monitoring the research performance of departments more systematically and distributing resources across departments in a more unequal manner than formerly. The RAE has often been used by senior university managers to impose a more centralized, hierarchical form of management on departments, and in some cases by departmental heads to do the same within departments.

The RAE has also altered the authority relations between epistemic elites and individual researchers. Those elites were quick to spot the possibilities of regulatory capture with respect to the RAE. With the assistance of universities, they ensured that their favoured evaluation mechanism of (discipline-based) peer review remained at the heart of the assessment exercise

[33] The RAE is clearly not the sole influence bringing about these changes. Other government policies such as the shifts from institutional funding to project-based funding, from 'response mode' projects to directed research programmes, and from researcher-driven projects to user-engagement projects, have all contributed.

(Henkel 1999: 105), and then supplied many of the peers needed to operate the RAE. Peer review, which prior to the RAE was already a significant element in the system for allocating reputational rewards in established disciplines, has, through the RAE, become more prominent and much more closely linked to resource allocation, reinforcing the authority of epistemic elites.

In addition, the RAE has also had a significant effect upon horizontal authority relations—for example, between universities, or between departments within a university, or between individual researchers. In particular, faced with a growing concentration of research resources and the increasing degree of stratification in the HE sector, universities have been forced to compete ever more fiercely with one another. Such inter-institutional competition to some extent runs counter to the growing need for collaboration in order to carry out world-leading research, or indeed to meet the government expectation of a larger university role with regard to 'third mission' activities. Likewise, within universities, departments may sense that they are in increasing competition with one another, since universities often distribute FC research funds on the basis of the relative RAE rankings of constituent departments.[34] This, too, may run counter to the need for cross-departmental collaboration, for example to conduct research in newly emerging interdisciplinary areas. Lastly, within departments individuals may well sense that they are in greater competition with one another, especially now that their individual publications are assessed and ranked. Again, this may act as a constraint on collaborative work, as well as encouraging 'game-playing' and reducing the willingness to volunteer for teaching or other 'public good' activities.

As the RAE has evolved over time, so the effects on authority relations have become more profound. With the impending shift from the peer-review-based RAE to the metrics-based Research Excellence Framework (REF), those changes in authority relations seem set to grow ever stronger. The continuing need, even after the switch to the REF, to submit in predefined fields (each with their own panel, agreed set of metrics, and 'weighting' system for different metrics or assessment approaches) may reinforce the boundaries between existing disciplines, impeding the development of new research fields. While it is difficult to prove, there are grounds for believing that the RAE has tended to make the boundaries

[34] Departments may also be in direct competition with one another for central university funds to hire RAE 'stars' and hence boost their ranking in the next RAE.

between disciplines more 'rigid', hindering the emergence of new fields[35] and hence slowing the overall growth of knowledge. With the REF assessment system more reliant on metrics and less on informed peer review, such a conservative force is likely to become greater and more damaging in its long-term effects on university research (cf. Braben 2004).

In this chapter, we have seen how the current approach to research assessment in UK universities is reductionistic and primitive, and almost certainly counterproductive in terms of generating a wide variety of intellectual innovations in the longer term. What is required is a move towards a more refined conceptualization of 'accountability', one that goes some way towards rebuilding trust and strengthening autonomy. As Ackroyd and Ackroyd (1999) argue, the effective governance of universities may actually require *less* external control, not more, and with it an inevitable degree of 'creative tension' between the constituent components of the organization. All this will necessitate a wider range of indicators (including qualitative ones) and assessment approaches, which in turn requires more dialogue between assessors and those being assessed (Shore and Wright 1999: 571).

Where does the UK go from here? The government has now decided that the RAE is to be replaced over coming years by the Research Evaluation Framework. Yet this represents a move in precisely the opposite direction to the one suggested here, with greater reliance on metrics, and less on peer review. What are the likely consequences? Undoubtedly, there will be new or expanded opportunities for disciplinary elites to exert greater influence on what papers are published in which leading journals and (if citations included among the performance metrics) on referencing conventions and behaviour. The longer term epistemic consequences of this are unclear but they are likely to be considerable. The switch to the metrics-based REF may well reinforce pressures not to stray too far from 'mainstream' disciplinary research. Indeed, one might venture to predict that it will not be too long before UK academics will be bitterly criticizing the adverse consequences of the REF and its metrics, and reminiscing fondly about 'the good old days' of the RAE and peer review!

[35] The case of environmental sciences was mentioned earlier as an example of a newer research field that had to struggle before it finally succeeded in obtaining its own RAE panel. One wonders whether fields like computer sciences would have emerged as easily during the 1970s if the RAE had been in operation then.

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