ISAIAH BERLIN LECTURE

Useful Knowledge

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> I have tried but altogether failed to grasp what is meant by describing these two great fields of human enquiry [the Sciences and the Humanities] as cultures.
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> (Isaiah Berlin, 'The divorce between the sciences and humanities', 1974)

SHE WOULD BE A FOOL who tried to demonstrate the uselessness of everything she knew. And for an occasion on which I have been invited to appraise something of the contemporary condition of the field of learning with which I am familiar, which is social anthropology, I fervently trust I shall not make a fool of myself. I do, however, want to put in a plea for plain speaking. There might be something to be gained from acknowledging uselessness—even if it is not on the agenda of today's world of knowledge producers and knowledge managers.

We run at once into the oxymoron. She would be a fool who tried to demonstrate the uselessness of what she knew, for there is nothing that cannot be useful if by that we mean putting knowledge to human ends. I do not propose to revel in the revelation that apparently useless knowledge is useful after all, or conversely, in how useless our little schemes turn out to be when we try to be relevant to all and everything. Rather, the question that these categories prompt is how we make or judge things to be the one or the other. As values, they are of course unequally weighted.

I wish to borrow from the positive inflection given the useful to give something of a positive cast to the useless.[1]

Otherwise I would be a fool indeed to suggest that social anthropology might be doing useless things. Colleagues would count that as betrayal as well as stupidity—these days the sense of a discipline's worth often includes its application in other fields.[2] They might also think I was reinforcing the stereotypes that many hold.

For it is true that when non-anthropologists hear about the scope and ambitions of the discipline (its aims and objectives) they think it must be relevant to everything—but then, when they look at what anthropologists do, they are often confused. Present-day social anthropology seems to come out neither with grand statements about the human condition nor with findings about behaviour that can be pressed, as so many rules of thumb, into service. Instead it just seems to make complicated things more complicated. To take an example: a recent paper in *Anthropology and Medicine* excoriates anthropology for trying and failing to be useful to medicine,[3] not least because of its practitioners' concerns with internal problems—anthropologists do not even agree on a definition of culture! 'Anthropologists need to produce evidence that their ideas can improve outcomes' (Hemmings 2005). There are problems enough in medicine, but while anthropology may have helped articulate them it has 'not provided any realistic solutions' (ibid.: 100).[4] Anthropology's preoccupations may thus read as somehow not of this world. In fact a complaint of much

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[1] Much contemporary practice assumes there is a sense in which one cannot not 'want' to be useful, any more than one cannot not allow oneself to be held accountable for one's actions. The two are related to long-standing notions of self-improvement. However enduring an inclination this has proved to be, appropriate *sites* for self-improvement have of course undergone very specific changes. Monica Konrad draws my attention to Alan Rauch's book of the same title, *Useful Knowledge*, subtitled *The Victorian Morality, and the March of Intellect* (Durham, NC, 2001), which opens with an account of the nineteenth-century Society for the Diffusion of Useful Knowledge. A recent historical overview (Prewitt 2005) of political science argues that the premise that the empirical tools of social science could improve public policy design was a phenomenon of the later decades of the twentieth century.

[2] The anthropological chapter in a special edition of the AAPSS [American Academy of Political and Social Science] *Annals* (Pearson and Sherman 2005) on 'The use and usefulness of the social sciences', addresses the anthropology of public policy (Wedel, Shore, Feldman and Lathrop 2005). My references are culled from Fayer 2005.

[3] One of its uses, for instance, would be to close the gap between patients' beliefs and doctors' knowledge (Hemmings 2005: 92). 'Leaving gaps to be filled with sociotechnical truths' is one of the subjects of Miyazaki and Riles (2005: 326), an anthropological critique of what Schön (2002 [1983]) called technical rationality in knowledge use.

[4] 'Progressive elements in medicine need all available evidence to prevent further biological reductionism, but anthropology has lacked focus and usefulness' (Hemmings 2005: 100).

social science is that it makes problems rather than solves them.[5] To my ears, this shows consonance with its subject matter: 'societies' themselves are problem-creating mechanisms, or, rather, every problem solved in social life generates new ones. Hardly a useful insight, though.

But rather than deny it, let us run with the idea that there is a core to social anthropology that appears useless. In so far as it is an academic discipline, this means I am in effect talking about the uselessness of (a type of) knowledge.

Some problems

Over 60 per cent of the UK's services exports are in knowledge-based services (Pryce 2005). Yet one might not be prompted to raise the question about the usefulness of knowledge in the first place, if there were not some small indications that all is not well in the knowledge economy.

Here, from many, are three expressions of anxiety. In an evidence-based era of policy making, knowledge transfer is taken as an axiomatic accompaniment to research,[6] an assumption articulated in an extreme form in the view that knowledge that cannot be communicated is useless knowledge.[7] A productivity deficit is implied. Remedy: to be productive knowledge must be seen to have its 'users', that is, to be consumed by others than those who produced it (or by producers in a different capacity). Then from BBC Radio 4 comes a lament about the decreasing numbers of school-leavers taking A-level physics. They are simply not being

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[5] I am thinking of an occasion when this complaint was made to Dr Elena Rockhill, University of Cambridge (pers. comm.). Maasen and Lieven (forthcoming, MS p. 16) put this in the much broader context of the 'knowledge society'. The premise that knowledge would lead to a safe and sustainable society has proved unjustified; rather the knowledge society has become a risk society. For 'scientific knowledge and expertise are increasingly thought to contribute to *pro*ducing rather than *re*ducing risk' (original emphasis). Tsoukas (1997) similarly lifted the veil on transparency.

[6] In the context of science and innovation, 'the Research Councils have a duty to encourage knowledge transfer from the research they support, as part of their contribution to wealth creation and the quality of life of the UK' (DTI 2001: 48). For an anthropological comment on the way models for business and education run together in the value put on creativity and innovation, see Leach (2004).

[7] Encountered in emphatic form in a policy document [genre: funding proposal; source: I do not wish to identify it here] of an organisation devoted to the dissemination of scientific knowledge: 'Knowledge is only useful if others can have access to it'. Note that access is not just a question of visibility (Wilsdon and Willis 2004) but of usefulness. (I follow the vernacular usage in the term 'knowledge' here, although in many cases 'information' would be more pertinent.)

attracted into science. Remedy: natural science must be made more rele-
vant to their lives.[8] The *Times Higher Education Supplement* has other
concerns for university education, as it watches the alarming rise of stu-
dent plagiarism—in its words, a 'heart of darkness' threatening to over-
whelm universities.[9] Remedy: software to catch the duplication of texts,
monitoring take-home course work, and so forth.

  A moment's thought and one sees the connections. If people learn
they should only do what they understand, uselessness is instantly created
for everything they do not understand. No surprise then that students
find other subjects, such as media or environmental studies, more relevant
to their lives than science, since they have been taught that they must do
things that make sense in terms of their own experience. And plagiarism
is not just a matter of getting a degree at any price; it is equally a
symptom of a training regime that values immediately attainable goals,
the delivery of products and knowledge as the acquisition of items of
information.

  Each of the remedies thus reinscribes the problem. Productivity is
measured by effects outside the sphere of knowledge creation, so such
(productive) use will not itself increase the means of knowledge genera-
tion in the first place.[10] Relevance is an admonition that backfires—peo-
ple will make up their own minds what is 'relevant' for them.[11] And,

[8] 19 Aug. 2004, BBC Radio 4. The phenomenon is a European one—a realisation that the pop-
ulation is 'missing' hundreds of thousands of natural scientists (Nowotny 2005).

[9] From a *THES (Times Higher Education Supplement)* opinion piece, summer 2004, revis-
ited the following summer, e.g. Brecher 2005. It is Leahy (2005: 16) (with a rather different
set of remedies, questioning the value put on originality) who refers to 'the enormous
increase in plagiarism facilitated by the web' as a 'heart of darkness' that 'threatens to overwhelm
universities'.

[10] This is a contentious point. Nowotny (2003) argues that as more pressure groups are brought
to bear on the problem-formulation and design of large-scale projects, the resulting feedback
loop means that 'engineers now realise you get a better technical solution if you bring in these
views'. On the other side, and even leaving the production of knowledge out of it, are critics of
those who would make too much of engaging the public in agenda-setting exercises. In casting a
sceptical eye at the claims of Wilsdon and Willis (2004) that public engagement with science
must go 'upstream' through being involved with research policy, Blakemore (2005: 9) asks: 'are
we really suggesting that the public should take the place of the research panels that judge appli-
cations and try to set broad strategic goals, in the context of their knowledge of the needs of and
capacities of the scientific community?' Note how *knowledge transfer* (e.g. for the benefit of the
business community, HMSO 2004; Lambert 2003), shades into *policy-sharing* through public
engagement.

[11] Just as people will use technology designed for some specific purpose to their own ends, a
notable example being the unorthodox family arrangements enabled by assisted conception tech-
niques initially developed to help 'traditional' families.

finally, the more secure you try to make the system of access, the more you reproduce the idea of outputs just waiting for people to get their hands on them.

One does not have to be a social anthropologist to have worked out the connection between these anxieties. But one way of delineating the present condition of the discipline is to ask what an anthropologist's perspective might be.

The form my appraisal of the discipline takes, then, is not a survey or scoping exercise, or even a flexing of its muscles by describing some segment in great detail; rather, I want to show you social anthropology in action,[12] that is, in response to these issues. I shall in fact run close to the wind of suggesting how useful social anthropology can be. But that is not the end I have envisaged. Instead I wish to demonstrate some of the processes by which it assembles its knowledge, and thereby expand our view of it a little.

Now if the end is some enlarged vision or conceptual capacity—I mean in the organisation of ideas, not cognitively—then so might be the means. Expanding the mind by expanding the mind was a means educationalists once called learning for its own sake. However, the past tense conveys the point that this particular presumption is one to which there is no return. Or, at least, there is no obvious or simple return for the British academic to the way the sentiment was once nourished under an institutional and funding regime that placed learning and research at arm's length from political and commercial interests.[13] So I need to find a contemporary idiom in which to give some specificity to the form that such an enlarged vision or capacity might take, and through which to convey what might be distinctive about the tools anthropology offers. An aspect of contemporary social practice we take for granted as a means of

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[12] *Anthropology in Action* is the short title of the UK-based *Journal for Applied Anthropology in Policy and Practice*.

[13] In a very broad brush way I refer here (for example) to the previous 'independence' of the university system from government interests, where basic research was to be shielded from the operations of power precisely in order for it to be effective (McSherry 2001: 53). Its mid-twentieth-century promotion was a very specific moment in the co-evolution of government and higher education policy in both the UK and US. The moment is of course wrapped up in a much longer series of positions on the relationship between education and national prosperity (on the UK: Ryan 1998). The point is perhaps that, like the boundary concepts McSherry so successfully introduces in elucidating intellectual property debates in the university system, either independence from or alliance with commerce might seem to support the same goal of making investment in education relevant to national wealth.

expansion is interdisciplinarity. Will this give me an idiomatic purchase on the present-day?

Social anthropology likes to think of itself as responsive. It is perhaps unusual among the social sciences in the degree to which it engages with the agendas and knowledge practices of its subjects of study quite as much as with the programmes of national or international agencies. In the recent past there has been considerable debate about how relativist its knowledge purports to be—today the emphasis would be instead on its relational character. What was always evident in anthropology's fieldwork mode, learning about social relations by acting out relationships with people, has recently become applicable to its position vis-à-vis other disciplines.

One reason for engaging with interdisciplinarity is because of the way it (interdisciplinarity) latches onto relational effects. Like any other academic practitioner, in conversation with non-anthropologists the social anthropologist seeks connections in order to show how the discipline impinges on other bodies of knowledge. However, that relational faculty frequently becomes overdetermined by the notion of communication.[14] This is particularly striking in interdisciplinary contexts where it is presumed that the point of demonstrating a connection is to put one discipline's knowledge at the disposal of another. Communication is the aim, and, if it can be communicated, knowledge is transformed into information that can be passed on. And hereby we slide into the instrumentalism noted at the outset: 'Knowledge is useless *if* it cannot be communicated.' Note, too, the relational nature of this chastisement (as it is intended), namely that it apparently requires a 'user' from outside, however outside is defined, to convert the useless into the useful. Producing knowledge to consume oneself does not count!

A potent observation is still in my ears, namely that questions about society and relevance in the current regime of prescriptive interdisciplinarity actually domesticate and limit the ambitions of social science.[15] So perhaps there is indeed something in those three expressions of anxiety to work at. I propose to organise my remarks about social anthropology in response to them, and in such a way as to give an important role to 'uselessness'. And I shall take it as axiomatic that a precondition of anthropology's flourishing today lies in part in its contribution to the parliament

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[14] And communication becomes over-determined by the notion of consumer demand (Nowotny 2005; Ezrahi 2004).
[15] Tom Osborne, University of Bristol (pers. comm.).

of disciplines (Segal and Yanagisako 2005).[16] Interdisciplinarity will do nicely as a contemporary idiom. I include in my 'field of learning', then, social anthropology's character as an academic discipline.[17]

An evidence-based era: reductions and expansions

The first anxiety was about how to communicate.

There is no need to expatiate on one of the drivers of the knowledge economy, the value placed on evidence-based decision-making.[18] I do not rehearse the advocacy. What is interesting is one of the preconditions and its outcome: if a precondition of its usefulness is that knowledge can be communicated, an expected outcome is that it will lead to action.[19] This lies behind much of anthropology's continuing and vigorous engagement with development issues. Development anthropology has the potential to offer information that will be applicable, evaluate perceived goals, respond to the demands of the present, all with a view to informing decisions about action. This is true whether its dominant mode is instrumental or critical.[20] What continues to draw the aspirations of so many excellent anthropologists into this field is the fact that the needs of the

[16] Yanagisako (2005: 96) advocates a 'flexible disciplinarity', offering in the place of the normative four-field approach characteristic of US anthropology the kind of trading zones described by Galison (1997) for physics.

[17] Disciplines start from a premise of (intellectual) autonomy vis-á-vis others. For a round defence of the autonomy of academic research being carried out in an interdisciplinary cluster (media research), see Schlesinger 2001.

[18] Making the implicit explicit, since modern bureaucracies could always be defined as exercising control on the basis of knowledge (Reed 2005). On the emergence of evidence-based policy and practice, see the references in Clarke 2005. In her introduction to a volume on the co-production of science and the social order, Jasanoff (2004: 3) points to the way knowledge-making is incorporated into practices of state-making and vice versa ('States, we may say, are made of knowledge, just as knowledge is constituted by the state').

[19] 'Whether through direct participation or through organized questioning, the public has both a right and a duty to ask experts and their governmental sponsors whether appropriate knowledge is being deployed in the service of desired ends' (Jasanoff 2003:159, quoted in Maasen and Lieven forthcoming). Ives, Torrey and Gordon (2002: 101) are blunt: they quote writers who simply assert that knowledge is 'the capacity to act', or 'a high value form of information that is ready to apply to decisions and actions'.

[20] My thanks to Amy Pollard, University of Cambridge, for this distinction. It echoes Jean-Klein and Riles's (2005) contrast of two anthropological registers of analytical engagement, co-construction (empathy with one's subjects' goals) and deconstruction (critique of them). In the light of subsequent observations, note that what could also be understood as a distinction between a management based and research based approach is found within development anthropology as well as between it and mainstream 'academic' anthropology.

people they are working with are as pressing as the needs of local administrations or NGOs.

Of course, the quality of the evidence being offered matters. Anthropologists are hardly alone in arguing that to best meet immediate and short-term practical goals, it may be wise to rely on information gained independently of the ends now in sight.[21] Such information will have been gained for other ends altogether. Indeed, anthropologists engaged in development work these days—and this probably goes also for the newly invigorated fields of medical anthropology (the inter-changes in the journal *Anthropology and Medicine* notwithstanding) or of policy (e.g. Fairhead and Leach 2003) — may find themselves drawing on a corpus of data put together with quite other objectives in mind. Those other objectives, such as an otherwise 'useless' internal debate with col-leagues, may have had no application in view. The point is that such objectives belong to the impetus for data collection and need not affect how use is subsequently made of it.

However, there are many interdisciplinary encounters where the situ-ation is otherwise, where the objectives remain significant in so far as the manner of data collection (the 'methodology') *is* part of the data. Here one might think, for example, of recent experiments in bringing together anthropology and law, or its neighbour ethics, as well as older alignments, such as those with psychology or economics.

What is the contrast here? As soon as one separates out these poles, one will no doubt find instances of each in the other. Nonetheless, very roughly, the contrast could be summed up thus. Where what is of value is the data regardless of the process of collecting, anthropology behaves a little like natural science or technology, pressing its findings into the serv-ice of problem-solving.[22] What counts as information is determined by its

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[21] Government comment on the Lambert Review (2003) notes that while the Government is 'determined to ensure that more publicly-funded research is undertaken that is relevant to the needs of business, the economy and public services', public support should not directly subsidise industry's near-market research (HMSO 2004: 25, 27). It has to be spelled out: if once what was true of the university and state (acknowledging the desirability of separation) was also true of the university and commerce, neither these days is tenable (see above, n. 13).

[22] As popularly understood. 'The history of science can be presented as progressively detailed and systematic inquiry, normally directed towards increasingly sophisticated and powerful means for solving problems. . . . Indeed, the societal function of science has always been thought of primarily in terms of the practical human needs that it might serve. . . . Nowadays, this func-tion is operationalized . . . [via] science policy' (Ziman 2000: 14–15, original emphasis removed). Here, however, I do not just mean the instrumentalism to which he refers, but also the epistemic 'problems' thrown up by enquiry and research (created, for example, by the distance between observer and observed).

contribution. And in interdisciplinary encounters, successful communication is presupposed, even implicit, in the view that data from diverse sources can converge on a single problem (that is, not just create diverse problems). Where, however, the mode of assemblage is part and parcel of the data, social anthropology begins to resemble the arts and humanities. Encounters turn on interpretation and translation, seemingly on how far any particular idea or model can cross disciplinary boundaries. What counts as information is what is seen to be explicitly communicable. Communication itself can come to occupy the position of an outcome: hence, in Konrad's (2005*b*) phrase, the imperative to connect.

Now if in either of these cases the orientation is to others ('users', 'collaborators'), the chances are of course that individual viewpoints are taken up as representative of disciplines—and that the outward-looking relation of communication, implicit or explicit, precludes or obscures relations internal to disciplinary development. Recall the complaint that anthropologists cannot even agree on a definition of culture.[23] Indeed in the problem-solving scenario, one might wish to hide some of that definitional fervour, and wish (say) to draw on a model of household relations without going into intersecting delineations of kinship structures. Or, in the interpretive scenario, one might wish to draw on ideas of authorship without also trailing a cosmology of creativity and reproduction. That is, regardless of the competences of the other party, one knowingly releases particles or fractions of what one knows, sufficient to what it takes to 'carry' a particular concept.[24] There is nothing new in observing that communication necessarily entails reduction. An object of knowledge must be crafted into an object of information (Ezrahi 2004), and the crafting involves shearing it of some of the relational coordinates, cutting the network of reference points so apparent to the originator.

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[23] An academic might respond that keeping that debate alive keeps the discipline alive, and that the definitional work is an essential part of the exercise itself. In the 1980s, for example, questions about the redefinition and reformulation of 'culture' ('What is culture?') (Moore and Sanders 2006*b*: 14) were embraced within a wider question, 'What is anthropology?' Here Moore and Sanders (2006*a*: xiii) comment on the 'recursive and enduring nature of key questions', suggesting that anthropological theorising has always been driven by that even broader question ('What is anthropology?').

[24] Experienced by the giver, not the receiver, as truncated. I am stimulated here by Monica Konrad's ongoing elucidation of the diplomacy involved in releasing concepts, and how one might exercise vigilance in sustaining their value.

No surprise, then, that pre-existing relations (from within a discipline) are occluded in the way new relations (across disciplines) are sought out[25] —based perhaps on the idea that what has to be shown is how something has 'travelled' between domains.[26] In the humanities and social sciences, at least, one hears phrases such as 'intellectual traffic' or of an interest in 'how ideas are transformed as they change context' or questions about what prevents 'knowledge from moving across zones'.[27] It seems that travel, migration and movement offer tenacious images. And travellers cannot have too many encumbrances. But there is also a kind of structural reductionism here. It seems that a habitual sense of creating relations 'across' some gap or other acquires its own rationale, so that it becomes desirable to *make* it happen ('the imperative to connect'). In anticipation, the idea or object of knowledge in question takes on the character of a singular entity to be joined with another in an act of communcation. For the implication is that what is being communicated is some entity already known by its own character and form, precisely because the quest to bring it into relationship with another renders it discrete. This parallels the hegemonic Euro-American formula for the way the social world works—the effort to create society by linking persons together when persons are imagined as pre-existing individual entities.

Communication formulated in terms such as these may well find it needs to generate some 'useless' practices along the way. I give a general example, and then a point to which many anthropologists stick.

As a general observation on the behaviour of disciplines, the occluding of internal relations in the embracing of new external relations creates one problem. To construct evidence, there must be some precision to the way in which facts are specified and concepts are delineated. Take eco-

[25] One of the issues in apprehending interdisciplinarity is scale—for interdisciplinarity repeats at the 'level' of disciplines (areas of knowledge, subdisciplines, schools of thought) what is intrinsic to language use and to Enlightenment knowledge practices alike.
[26] Response to the particular question about how 'knowledge' is envisaged as 'travelling' from one 'community' to another, requires considerable indirection; see the attempt in M. Strathern 2004*b*. That exercise explored indigenous metaphors of journeying. The ease with which categories of discourse supposedly 'travel' may be taken as a diagnostic of globalisation (Tsing 2005: e.g. 263). Tsing calls her book *Friction* precisely to sidestep the flowing discourse that imagines ideas, things, money, people moving without friction across some global landscape. A radical attempt to unpack the image of 'travel' for the reproduction of knowledge brought to the point of articulation as 'concepts' is given by Konrad (2005*b*).
[27] The phrases are also taken from a draft policy document [genre: plans for a new Research Council initiative; source: I do not wish to identify it here] for the promotion of the arts and humanities. A colleague from English Literature wonders if I have read Mieke Bal's book called *Travelling Concepts in the Humanities: a Rough Guide* (Toronto, 2002).

nomic models that deal with prices or semantic models that are concerned with the way images work in relation to one another: it is the fixing of objects by their coordinates that gives them concreteness and precision.[28] The case of an enthusiastic Swiss focus group is instructive. To enrich the findings of environmental scientists, a so-called focus group of 'lay persons' was brought in to share their political and practical concerns (Maranta *et al*. 2003; cf. Edwards 2001).[29] What happened was not at all on the scientists' agenda. The scientists found *themselves* being quizzed about *their* [the scientists'] politics. This was of course a quite rational move of coordination if the lay persons were to understand what the scientists needed to know.

Coordinates are in effect the relations that constitute an object of knowledge, whether internal or external (the terms are relative), so they may either point to 'inside' divisions or else place that object in relation to others 'outside' it and thus to factors that may or may not immediately appear to have any connection. So disposable income may be expressed as a function (measurement) of house prices; or the concept of 'nature' is pinned down as the antonym of culture, or of society, artifice or invention, each coordinate 'fixing' it in a different way. A virtue of this relationism is that one can specify the conditions under which certain values or meanings appear. Models are not models if they do not have working parts, that is, are not composed of series of relations such that alteration of one part will alter other parts or alter the whole, and models will only work if each component is thus articulated with precision in reference to others. In primary terms, that is what description is: we understand x in terms of y. In order to arrive at his model of 'outformations', for example, Ezrahi (2004) first distinguishes between wisdom, knowledge and information.[30] Rather than isolating his coinage as a thing with its own inherent properties, he locates it within an already occupied field. The manoeuvre is elementary to scholarship.[31] But it might look as though,

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[28] My thanks to Rebecca Empson, University of Cambridge (pers. comm.), for elaborating on this rather simple-minded formula.

[29] Taken from M. Strathern 2004*a*, and Maranta *et al.*'s (2003) discussion of the epistemic competences of 'lay persons' as conceptual persons (ILP, the Imagined Lay Person).

[30] I am grateful to Helga Nowotny (and see Nowotny 2005) for drawing this to my attention.

[31] A favourite citation of mine: in talking about the way in which the act of comparison (bringing items into relationship) is a clarifying exercise, Locke argued that 'in comparing two men, in reference to one common parent, it is very easy to frame the idea of brothers, without yet having the perfect idea of a man' (Locke 1690 [n.d.: 236]).

rather than getting straight to the new idea, he is bringing in matter that seems extraneous.[32]

Let us return to the axiom that knowledge must be communicated for it to be useful. It is clear that for evidence to be credited with any sort of precision considerable relational work is needed. And that communication implies finding people willing to be communicated with, possibly even *tolerant* of extraneous information. For the anthropologist would argue that evidence is not just a matter of showing the props (Law 1994) that hold an object of knowledge in place. The evidence anthropologists want to offer often consists in making objects of knowledge out of those very props themselves, out of—in their terminology—'contexts'. This has been notably argued in relation to human rights abuse (Wilson 1997, and see Hastrup 2002), and is as pervasive a fundamental tenet as you will find.

And here we come to what often makes anthropological knowledge appear useless: anthropologists hate letting go of relational coordinates. They do not like shedding the apparently extraneous bits, the shedding that others imagine essential to the speed with which ideas or objects of knowledge 'travel'. In sticking to a sense of wholeness, to the idea of something not reduced, they act as purveyors of 'contexts'.[33]

Who cares, for example, that in the Papua New Guinea Highlands horticulture gardens are fenced and pigs (the principal domestic animal) roam freely? No one does, until agricultural officers think it would be more practical to fence the pigs and let the gardens spread anywhere. (The principal root crop, sweet potato, is eaten by pigs and people alike, and pigs are always trying to get into the gardens where the tubers grow.) Fenced-in pigs do not just get disease and miss out on the nutritional value of foraging, and women are not just given more work in finding more sweet potatoes to feed them, but the arrangement goes against the very logic of enclosure.[34] Land is ordinarily enclosed, as clan territories and their associated ancestral spirits are enclosed, so that it is wealth and

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[32] Rediscovered perhaps as 'slow cooking' (Konrad 2005*b*); cf. 'slow food' (Grasseni 2005).

[33] See the critique in Jean-Klein and Riles (2005). Needless to say, 'context management' is now on the KM (knowledge management) agenda. 'When we improve our ability to share context with a larger audience, transgressing the boundaries of time, physical proximity, and cultural boundaries, and couple that with relevant content, we better position ourselves to be able to leverage the collective intellect' (Junnarkar 2002: 137).

[34] Paul Sillitoe, University of Durham (pers. comm.), pertinently adds that the agricultural officers may also be introducing a logic of 'production' in their understanding of Highlands pig-keeping that is inappropriate anyway.

produce, including pigs, and including women in marriage, that move between local areas. Gardens are fixed, pigs mobile; it simply does not make sense to have fixed pigs and mobile gardens. 'To enclose' or 'to fence-in' has coordinates of meanings, then, that the agricultural officers never dreamed of. Yet that was a crucial context in people's reactions to their efforts.

Of course this is a highly reduced account. At the same time reduction is only apparent to those who might have entertained a more detailed version but truncated it for the sake of communication.[35] Anthropologists, for their part, invariably and doggedly insist that the details always matter,[36] and they give themselves the uphill task of trying to communicate *as* objects of knowledge the very effects of coordinates or contexts themselves.[37]

There is no doubt that sometimes such contexts turn out to be reasonably 'useful', as in the case of the pigs and the enclosures. But is apparently useless knowledge to be tolerated simply as a by-product of the useful? Let me turn to another way of being useless, which has nothing to do with restoring the relations others might cut off, or with filling in the richness of data against the pressure to communicate it in bits. Nonetheless, this other way of bringing in the extraneous also adds something to the idea of context.

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[35] This is a particular example of a more general situation, that reduction and thus loss of information is inevitable in purveying information, although to the recipient reduction may be essential. So expansion in one direction entails loss in others (cf. M. Strathern 1991). Konrad (2005*b*) discusses a poignant case of mutual accusations of knowledge deletion.

[36] Eloquently conveyed, for example, by Melhuus (2002).

[37] At its widest, through their abstractions 'culture' and 'society'. Other disciplines that have experimented with 'contexts' may find themselves in a situation of infinite regress—there seems no closure to contextualising contexts—as when media studies tried to turn to 'ethnography' to contextualise its findings (Schlecker and Hirsch 2001). (It is by comparison with the kind of local geographical 'context' afforded by fieldwork that it may seem a radical move to state that 'anthropology's distinctive trademark might be found not in its commitment to "the local" but in its attentiveness to epistemological and political issues of location' (Gupta and Ferguson 1997: 39).) I must add here that in commenting on my citing media studies as an arena students could well regard as immediately 'relevant' to their lives (p. 76), Philip Schlesinger, Univerity of Stirling (pers. comm.), observes the converse process as far as instrumentality is concerned. Whether or not someone is studying media, the desire to do only what is relevant to the study can mean that 'usefulness' gets subjected to infinite regress in the other direction: narrowing down to a finer and finer degree what is admitted as relevant at all.

Making knowledge relevant to our lives: comparisons and analogies

Social anthropology has no particular option on relational exercises. However, it does deploy to rather special effect a non-reductive manner of making external relations. What other disciplines might regard as a figure of speech, anthropology incorporates as a method: I refer to the making of analogies. Analogies neither slim down knowledge into commmunicable items nor delineate the contexts for knowledge that the anthropologist is likely to claim are so essential for understanding. Instead they appear to introduce *extra* information.

The second anxiety was about relevance.

Recall the lament about the decreasing numbers of pupils taking A-level physics — plunging its university future into a crisis as far as the UK is concerned, and that the remedy is to make physics seem more relevant to students' lives. After decades of government propaganda stressing the relevance, the application and usefulness of knowledge, it is not surprising that people are indeed encouraged to think about what learning can do for them—and then to make up their own minds about what is relevant. In the remedy (make physics more relevant) lies an example of a disastrous attempt at analogy. In fact there are at least two analogies at work here. One is an analogy between the critical scrutiny of information to determine what evidence might be required to solve a problem, as we have just been considering, and what it is appropriate to teach children in school in order to prepare them for life ahead. It does not follow that the reductionism in the first case is a good reason for advocating reductionism in the second. Another seems to be the analogy between life now and life later. That life ahead is supposed to be already reflected in what children like to do now is a correlation of staggering arrogance.

So analogies can be treacherous. It is I who have pointed to them—the indigenous holders of such views would probably just think they were drawing obvious conclusions from what they know. I am sure analogies are no less treacherous in the hands of anthropologists; however, many anthropological analogies are explicitly and intentionally deployed. As Leach (2005) has made newly evident, anthropologists are always exploring new ways of creating an adequate language of description; in their hands analogy is a potent means. And as a method it has outlived others that have been tried and discarded.

If what was once called applied anthropology is being rewritten as a form of interdisciplinary anthropology, there has also been a change

in the well-established practice of comparison. The discipline's long-standing investment in the comparative method has largely turned away from accounting for differentiation and similarity in principles of social organisation. Thus Gingrich and Fox mount what they call a concerted analytical attack on the idea of comparison 'as a "hard science" methodology employed to support some universal theory or meta-narrative' (2002: 1).[38] If the discipline has turned away from such systematic comparison, what has it turned towards? I would like to make a case for recognising analogy, the elucidation of one thing by reference to another, as still very much part of the repertoire of comparative methods.

Let me describe one such comparative moment. Listening to a panel at the 2005 ASA (Association of Social Anthropologists of the Commonwealth) meetings on 'Creativity and cultural improvisation', I turned to its printed rubric and my eye fell on the terms 'transplant' and 'context'. The convenors were concerned with creativity as a social capacity. Rather than imagine that innovations, resting on perceptions of discontinuity ('here is something new'), are without precedent because of the unique genius that inspired them, they invited the panel to consider

> appropriations in the sense of practices, information or belief systems being 'transplanted' (through processes including but not limited to colonization, violence, missionization, education, media and trade) and then recontextualized by those who appropriate them. This process of decontextualisation and recontextualisation is what creates the effect or appearance of social discontinuity (Wastell and Demian 2005).[39]

Now this presentation of context (decontextualisation and recontextualisation) prompted an analogy in my mind.

The apprehension of old things in new places as a matter of movement across contexts implies that in being relocated something is now 'known' differently. It rests on the assumption that recognisably the (same) item has 'travelled' between different, and thus already distinct, points, even if taking on the character of its new location when it

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[38] They put in its place three dimensions of comparison: appreciation of the general point that human cognitive development rests on the capacity to compare entities with one another; the necessary translation across cultures that is involved in any anthropological enquiry, simply because the anthropologist's interests derive from another context; the strong sense in which a research programme is driven by an interest in regional or temporal variation, encompassing an emergent 'broad new pluralism of qualitative methods' (Gingrich and Fox 2002: 20).

[39] Developed further in Macdonald and Hirsch (2005).

arrives.[40] Is this not similar to the kinds of discontinuities Euro-
Americans find in the perspectives from which individual persons are
imagined to see the world? Individuals differentiate themselves *from* one
another by (among other things) the opinions and viewpoints they hold.
At the same time, as potential appropriators of knowledge produced *by*
others, individuals exercise the capacity to switch points of view. In fact
'users' could not be configured without some supposition of their ability
to take on other people's perspectives in making them their own. In any
event I saw an analogy between the abstract epistemological supposition
that it is existing differences among contexts that makes relocation signif-
icant, and the rather more concrete everyday notion that persons create
points of view, and absorb those of others, by virtue of their already
existing difference from one another.

   However, the term 'transplant', familiar enough from medicine,
plunged me into another world altogether, and into another source of
analogy. Transplant was used by a Papua New Guinean anthropologist
(Muke 1997)[41] to describe a practice known to his own people but also
more widely in the Western Highlands.[42] It refers to the way the men of a
patrilineal clan, in bestowing their sister or daughter on another, regard
themselves as having a piece of themselves (their sister and the sister's
children) in that second clan. The child is borne by the mother on the
father's clan land, but it is as though through the body of the mother the
child has travelled from elsewhere. And here is an apparent internal anal-
ogy. For something like transplanting is also known in horticulture in the
New Guinea Highlands region, if one thinks of the gardener's technique

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[40] Konrad (2005*a*: xiii) deploys the striking image of 'conceptual origami' for 'the unfolding of
multihedral planes whose intersections can fold back into shape to create the illusion of a
portable object, cross-transferability'. On the topological implications of displacement, and the
kind of 'network space' created by the way identities are sustained, see e.g. Mol (2002) and Law
(1994). In their vocabulary, 'networks' bring together two or more spaces that might otherwise
be far away from one another; space–time travel is best seen, they say, as inter-topological effect
(Law 1994: 650). They thus develop notions of transformation that do not depend on disconti-
nuities at all. Subsequently both Mol (2002) and Law (2004) present interesting arguments about
contexts only holding up through the active necessity to produce differences between them.

[41] The context was a court case. The judge giving his written verdict only quotes excerpts from
Muke's affidavit, and there is a reference (Muke 1997: 132) to what he also explicated more fully
elsewhere, that is, to mother and child being transplants of the woman's natal clan, so that the
child is under the influence of maternal as well as paternal kin.

[42] A. Strathern (1977: 505–6) refers to Hagen people being 'planted' or to the so-called stock of
a mother's tribe being 'transplanted' into the father's. In the present context it is also worth not-
ing that Hagen people understand teaching as 'implanting', that is, as knowledge transmitted
from one person to another by being planted within them.

of introducing sweet potato vines from one plot to another. Cuttings may be taken from old to new gardens, or the vines may come from faraway places through all kinds of contacts. Thinking of children as transplanted implies that some essential part of them first grew elsewhere or has come from elsewhere (from the mother's clan ancestors who bestow nourishment on the father's child).[43] The imagery of planting a garden is not far away.

Here I have joined together, with seeming arbitrariness, two different 'contexts' (the recontextualisation of items of knowledge to create new knowledge and the transferring of plants or children from one clan land to another). The join is simply in the term, 'transplant', used by these anthropologists. Papua New Guinean parents and gardeners, and Melanesians more generally, need have no truck of course with the Euro-American knowledge practices described here. But Euro-American practitioners might be interested in turning the Papua New Guinea example into another context for their search for knowledge.

What that rendering of 'transplant' adds is the notion of a generativity that comes from the way plants are thought to flourish precisely because of their outside origins. Plant-cuttings, Schneider (2002) observes, would not grow properly if they only stayed in the one place. '[I]deas', says Beer (1996:1, original italics), 'cannot survive long lodged within a single domain. They need the traffic of the apparently *in*appropriate audience as well as the tight group of co-workers if they are to thrive and generate further thinking.' Beer's comment introduces a collection of essays on interdisciplinarity imagined as so many encounters. We come to Rayner's restatement of a general conviction, that 'a universally interdisciplinary landscape would be an intellectual monoculture. Without thriving disciplines, the very idea of interdisciplinary discourse becomes moot' (n.d.: 69). So there is something to be added to the supposition that it is possible to produce new objects of discussion through incorporating foreign elements. If 'further thinking' is an aim, then one can 'think with' something that has itself come from elsewhere without having to be there oneself. And for health's sake, it may be very desirable to do so. Even though that is not where they reside, the growth of children

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[43] All human beings are planted in this sense. In Hagen the phrase *mbo wamb*, human beings, is broadly translated as the 'planted people'. Schneider (2002) adds an intriguing corollary for Gawigl, that every such planting is in effect a 're-planting'. For a cutting from a plant taken from one place is invariably destined to be planted elsewhere ('plant-cuttings' are 'cuttings to be replanted'). Cuttings are constantly carried from one garden to another.

who live on their father's land also registers the effects of their mother's land.

Anthropologists' commitment to cross-cultural comparison means that they are constantly juxtaposing materials from domains they construct as distinct. They carry around in their heads examples from some 'elsewhere' or other, and frequently use the images and languages of one thing to talk about another. So Melanesian ideas of exchange and personhood flourish like a transplant inside an account of British egg donors (Konrad 2005a). Or models may be drawn from Euro-American institutions such as the economy or law in order to create a language through which to describe economic or legal practices in non-Euro-American situations. Sometimes what is in effect a comparison between distinct systems or social traditions may remain implicit. Where such 'thinking through' is explicit, the non-reductive nature of comparison becomes most apparent. For the analogical method offers insights into both terms to the relation. Accordingly, it fosters the capacity to write at multiple levels, thereby conserving complexity through different genres, while allowing experimentation with what seems appropriately inappropriate.

When Maurer (2005) was attempting to describe Islamic financial enterprises, he tried out various analogies with western forms of credit cooperatives and mechanisms for producing profit without interest. Among the analogies are time-bartering and service-exchange associations in urban USA. Nothing is a complete fit, but the parallels are simultaneously illuminating on both sides. And he takes the idea one step further in arguing that they should *remain* parallel, or 'lateral', to one another. For to him the analogic already 'sets up its own series of relations and divisions . . . and presumes the ends it supposedly seeks to find'; while not resisting analytical moves that would draw analogies, he would rather 'allow such moves to lie alongside others without any synthetic or absorptive metatheoretical rubric to bring them under one sign' (ibid.: 19). This is in fact quite close to the kind of analogy that consists in 'thinking through' one set of materials with another,[44] and I note that he invokes 'Melanesian worlds' as analogous to the kind of lateralisations he theorises. If Maurer focuses on the effort to create in a book a form that will elicit or restage connections the reader might or might not already be making (ibid.: 13), I underline the invitation to be in more than

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[44] 'Thinking through things' is the title of a collection (Henare, Holbraad and Wastell, forthcoming) by a set of anthropologists dissatisfied, one might say, by the way artefacts are planted within descriptions of social life.

one place at a time, the invitation to allow 'many interests [to] be held up together' (Konrad 2005*a*: 26).[45]

And this seemingly confounds the question about relevance. For we may add the obvious point that analogies are likely to introduce more information than one thinks one needs. Why go to other worlds at all? And why indeed seek out the extraneous?

Analogies both conserve and extend. What makes this type of relation non-reductive is the fact that the origins of the two elements to an analogy or comparison are not merged. The power of thinking one thing through another lies in conservation, in keeping their ancestry apart. At the same time, the understanding of each is extended by introducing the other into its description. What is also non-reductive is that the procedure makes it evident that the grounds of comparison lie between entities, and are created by and are a function of the relationship. They do not exist prior to the relationship. One cannot predict, it therefore follows, what might be illuminating as an axis of comparison. (Nor does it follow that all comparisons or analogies are illuminating.) And here is something to say to the question about relevance: there can, in this sense, be no predetermination of 'relevance', no predetermination of 'usefulness', before the comparison has been tried.

In sum, analogy is an interesting relation that anthropologists might bring to interdisciplinary conversations. It endorses a social science position: there is nothing trivial in experimenting with the language of analysis and description, and in deliberately going beyond what is to hand. And, by analogy, we come back to a situation surely familiar to educationalists, that there is no way that one can make science or pure maths (say)—which can seem to belong to a different universe altogether—'relevant' to the child's world until the possibility has been tried out. To go further: suppose we actually take these worlds as lateral to one another. To explore universes with no apparent connection between them, asking of the exercise nothing more than a suggestive parallel, has as we have seen two simultaneous and distinct effects. Each is conserved in its particularity; at the same time, either of the universes can turn into unexpected knowledge for the other, and thus find itself growing in foreign soil. Incidentally, such a method (analogy) could break the impasse of the logic that insists that the only relevant relation between things is that of

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[45] This should be distinguished from accounts, such as that offered by Tsing (2005), where heterogeneous interests ultimately fold into a single social field, so that apparently unrelated events can have effects on unknown others.

cause and effect. For that is the logic that leads to the extreme position that if there is no connection between items, then the one can be of no interest to the other. It presumes that we already know, in advance, that we can make no connection.

Plagiarism: borrowing and transacting

The third anxiety was about cheating.

The *Times Higher Education Supplement* article about increasing plagiarism, mentioned at the beginning, itself linked the practice specifically to the erosion of 'knowledge for its own sake'. It makes no sense to cheat when you want to improve your grasp of things; the situation is very different when the goal is the grade at the end. In this view, plagiarism is an outcome of too much emphasis being put on scores, rankings, demonstrations of achievement, all linked to a view of knowledge as a matter of items to accumulate and organise for immediate purposes. In other words, as in making assessments of relevance, knowledge appears as material to be 'managed'. What the cutting and pasting plagiarist is really copying is knowledge management. Students have got there as fast as their teachers. 'If universities see themselves as "delivering" a "product", then a product is exactly what students are going to buy' (Brecher 2005: 50).[46]

There are lessons here for how we approach interdisciplinary endeavours. I shall deal with relational extension, but not this time in the observer's terms, that is, as an intellectual exercise in extending the description of one entity by incorporating within it elements of other descriptions. In the present case, rather, relational extension is a property of entities or the subjects of description themselves.

Now it is often said that interdisciplinary collaboration is difficult, that it is as frequently accompanied by anxiety as by exhilaration, and that there are endless attempts to pin down the key negotiations. It strikes me that perhaps sometimes we have been looking in the wrong place for the source of the difficulties. We look at the disciplines and at the barriers they create for one another as though the inherent problem rested in their incommensurability. *Suppose, instead, the fundamental cleavage were*

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[46] 'How', queries Brecher (2005: 50), 'can we ask, or expect, students not to cheat when we are busily paying the commercial game ourselves? . . . If the only point of getting an education is to get a "certificate of competence", and the only point of that to get a job, then why not simply pay for it?'

between management and research.[47] After all, the academic practitioner has two kinds of relationship to disciplines. First are those disciplines in which he or she has the kind of investment that involves primary training and research. Second are those disciplines in which he or she has no immediate research interest and in which, it follows, the practitioner can *only* have a management interest, that is, an interest in how to gain some benefit from them. That affects the practitioner's means—ends relationships with the two. (If the goal is not learning, then it is logical to focus on the results.)

This applies across the board. 'There is a family resemblance', Lederman (2005:55, emphasis removed) writes, 'among the kinds of disconnection that we all know exist among the four anthropological subfields and those that [exist] . . . within each of them.' The same disjunction repeats itself at different scales: fields are alike in the differences they construct. Concomitantly, perhaps the reason we have sometimes been looking in the wrong place is that we have been so focused on incommensurability, on the difficulties disciplines have as discrete entities in 'talking' to one another, that we do not see what we all know. Namely, that they are *all alike in thinking they have this problem*.[48] That is, the same 'problem' seems to arise in each case, and proliferates endlessly, whatever

[47] See also M. Strathern (2006). Paradigmatically, a *Research Model* of knowledge creation assumes that (1) information creates problems—there are always more things to investigate; (2) at its base is a premise of doubt (epistemological uncertainty); (3) the practitioner can always rectify the expertise that is built up, correct the data; (4) knowledge magnifies uncertainty, allowing selection between good and bad outcomes, assuming that much is discarded. In a *Management Model* of knowledge creation, (1) information is used to solve problems, ideally closing off the need for further investigation; (2) there is a premise of certainty—that one can sort things out; (3) one can use but cannot rectify other people's expertise; (4) the aim is to reduce uncertainty and achieve a best outcome for all. The management model is prone to constant change ('management'), e.g. in situations of self-conscious complexity and turbulent environments, managers may say they do not solve problems but manage 'messes', that is, dynamic situations of changing problems that interact with one another (Schön 2002: 16).

[48] I take this, with some liberties, from Viveiros de Castro (2003). He argues that instead of imagining (as anthropologists often do) societies or cultures as offering different conceptual solutions to universal problems, we might start with the premise that everyone's conceptual approach is the same. However, while procedures might be similar, the worlds people (imagine they) inhabit and thus the problems they see themselves as solving are radically different. By 'concept' Viveiros de Castro includes general cognitive operations, but I adapt his idea for something altogether less profound. Disciplines might find their relation to their various publics and the worlds they live in quite different—yet they converge in the way they conceptualise the issue of engagement and communication. Despite problems appearing to take numerous forms, the language problematising extra-disciplinary communication is remarkably shareable.

the domain of study. The persistent issue that comes to the fore is the difficulty of meaningful communication beyond the discipline.

The way I would phrase it is to say that each discipline comes with, so to speak, the potential for communication and thus for relations beyond itself as intrinsically part of itself. It is that relationality or 'extension' that is now, these days, being made publicly visible and the subject of open debate, and we know the outcome. A discipline's success at performing its relational capacities is at the heart of assessment, accountability to the public, value for money, and so forth (Stronach 1999; Shore and Wright 1999).[49] It is passable, in contemporary policy terms, to perform that relationality in respect of other disciplines as well as of outsiders (M. Strathern 2004b). Outside demands—shifting opportunity structures, externalities (du Gay 2000: 101)—often turn the nourishing of potential into anxiety about potency and productivity.

Let me spell this out further. Academic disciplines are intrinsically research focused, but they have spin-off possibilities beyond their own purview; they become visible to others as useful or communicable.[50] So when practitioners of different disciplines are in 'dialogue' with one another, they are not only bringing different kinds of expertise to the table—they are also all facing the same challenge of having to operationalise their external antennae, their potential for extension, on pain of not appearing potent. That is, present at the interdisciplinary table is both the discipline *and* the problem it has with communicating to others, and that same problem will take as many forms as the disciplines themselves. This is a moment when a discipline has to 'manage' its relations to others, and thus has to deal with itself in a managerial capacity. Management, inevitably, is bound to be the mode of interaction between disciplines

[49] On the recent growth and scale of evaluative systems, and the 'performance management' to which it leads, see e.g. Clarke 2005. It would seem that disciplines have submitted to the fate of bureaucracies where 'the ethos governing the conduct of the public administrator . . . [is now] evaluated in terms of the ethos governing the conduct of the entrepreneur' (du Gay 2000: 79; cf. Born 2002: 86). Just as employees are imagined as taking self-management to heart (*pace* Fournier and Munro's (2004) critical comment), administrators are encouraged to exhibit personal enthusiasm at work, to assert 'ownership' over particular policies, and even to rely on networks rather than regulations. Accountability is rewritten as 'the provision of responsive and cost-effective services to customers' (du Gay 2000: 108). Born's (2004) magisterial ethnography of the BBC captures the dimension of these changes; on cost-effective thinking in the UK see Miller 2005, and on administration as an anthropological object, Corsín Jiménez (2007).

[50] I would include here those working amalgams that one apparently finds in natural science where skills from different sources are brought together—they work as a bundle, a disciplinary hybrid, but these hybrids, like single disciplines, still have potential extensions (their 'application').

recognised as 'other' to one another. How useful they are to others, what can be got from an interchange, what can be traded, how can we enhance what we already have? These quests sit well with a management ethos.

So perhaps in the heat generated over interdisciplinarity, rather than taking differences between disciplines as our starting point, we might look to a critical distinction between research and management practices (and the accompanying ethos of each). For going between those two modes requires that switch, noted earlier, in the kind of relationship a person has 'with'/'towards' a body of knowledge. I can only guess the perspective from management, but the perspective from the research model of knowledge generation is that research has its own internal impetus, so that any demands for it to be commercially useful (say) or relevant to society appear 'external' to it. Indeed, such demands are external to the extent that these are precisely the sites of its extension, its relation with other bodies (Corsín Jiménez 2004; 2007). We might find versions of this model from diverse areas of social science, for example, sociology (Luhmann's [1990] system and environment), or economics (the concept of externalities, as evoked by Callon [1998]) but I can also offer an anthropological one.

I take from anthropology, then, a particular model for interdisciplinary encounters and the anxieties they generate. It comes not from cultural but from social life. Green (2005: 135) has already noted the fractal or self-similar nature of analytic oppositions in descriptions coping with excess not of discreteness but of the kinds of relatedness that characterise (in her case) proliferating ethnicities.[51] We have already seen that the same disjunction can repeat itself at different scales of descriptive discourse (p. 93). However, Green would distinguish the powerful effects of a hegemonic 'fractal discourse' from 'fractal patterning' as a (social) property of relationships (2005: 153). The latter informs the model I have in mind.

This is the figure of the person disclosed as a 'fractal person'. The person is envisaged as an entity with relations implied (Wagner 1991), the fractal dimension lying in the fact that such an entity is neither one person nor many persons.[52] Think of the enclosed New Guinea Highlands

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[51] There is much mileage to be gained from her ethnographic insight (Green 2005) of the way certain social entities endlessly, recursively, participate in one another, an excess not of too much fragmentation but of too much connection. I am grateful to Dr Green for our earlier communications on interdisciplinarity in this light.

[52] I give a Euro-American view of the fractal person that would emphasise the individual and its extensions, rather than a Melanesian view that has to extract the individual from a pre-existing relational nexus.

gardens growing the food that will be fed to people, including women and children, and including the pigs that travel between clan lands. The sweet potato indicates the ground's extensional capacity; its plants originally came from elsewhere so that planted land is an entity with relations to other land implied. The same is true of persons. Someone grows up on their father's clan land, a member of their father's patrilineal clan, but attached to or implied in that person's identity are relations with the mother's patrilineal kin as well.

Now an analogy often made is between individual disciplines and individual 'cultures'. Yet with the horticultural image in mind one can also think of disciplines socially, as bodies of knowledge with external relations integral to them. The relations are integral in so far as, for example, an external impetus gets built into the very rationale for undertaking research, or into a discipline's borrowing from other areas of study, or into plans for the teaching curriculum.

Why did I emphasise a model drawn from social life rather than from culture?[53] The *cultural model*, that treats disciplines as so many distinct 'cultures', is the current orthodoxy and may seem self-evident to practitioners. It gets us into matters of translation, a sense of boundaries, of interpreters, trading zones, transactions, and so forth. To borrow from the history of economics, basically this is the neoclassical cosmos of discrete entities. A neoclassical model presupposes goods that generate already established values, desirably produced in that form, so that those who wish to trade have to find currencies of interchange between them in order to create the conditions for consumption or communication. In this view, management lies outside or between the entities (goods), after the fact of their constitution. Management can demonstrate it is productive when it is seen to bring pre-existing items of knowledge together.

A *social model* would look more like a political-economy one, where consumption is entailed in production, and vice versa. That is, a discipline's relational extension appears as an integral part of itself (productive consumption/consumptive production).[54] The management of such external relations as its place in a research centre or HEI, its drawing in the interests of students, its commercial applications, the handling of its

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[53] I have since realised that I echo Alfred Gell's (1998) quest for 'an anthropological theory' apropos art.

[54] The social model would have a comment on the cultural one. The cultural model proposes that the research way of thinking about disciplines, with autonomous lives and independent research trajectories, is consonant with notions of the person exaggerated as 'the individual' in much Euro-American thought, leaving relations as a kind of residue.

resources and personnel is built in, entailed, integrally implied. In this view, management can be thought of as a discipline's essential (fractional) remainder[55]—its extension—for it is what gets a discipline elsewhere, to another place. By analogy with the fractal person (an entity with relations implied), to think of disciplines' problems with external communication as being intrinsic to them is to think of research management as an inescapable dimension of their activities (Corsín Jiménez 2007). So we are talking about research practices with management entailed.[56]

In fact I have borrowed twice over from social anthropology. First is the distinction between the cultural and the social for thinking about two approaches to the relationship between research and management models of knowledge creation.[57] Here the parallel with economics was redundant in one sense, since it was not really necessary for me to step outside my own discipline—these approaches also rehearse an old debate in British Social Anthropology about descent versus alliances models for groups and their relations with one another. Second is recent theorising on personhood and the nature of sociality, some of which began in the Highlands of Papua New Guinea a generation ago but has since been taken up elsewhere, as the contributions to Mosko and Damon (2005) attest. But does this borrowing make for a kind of uselessness? Yes, indeed: a model with elements that one disposes, opposes, turns inside out (Riles 2000)—this is beginning to look like modelling for the sake of it.

Modelling for the sake of it gets us to some interesting places. Combining research and management models of knowledge creation with cultural and social models of disciplinary encounters gives us an alternative to conventional descriptions of interdisciplinary work. It helps formulate the observation that we are dealing not (just) with disciplines as singular entities, but with disciplines and their remaindering effects. If the problem of communication is an entailment, integrally implied, there will also be disciplinary specificities in what counts as good communication. So rather than, as in the prevalent cultural model,

[55] 'Remainder': something left over (from the rest of itself), generated from within but not remaining inside, an integral element that appears beyond encompassment. In descriptive practices, see Strathern (1991: xxii–xxiii); apropos fractional dimensions, neither sum nor part, see Wagner (1991: 166).

[56] There is also an 'internal' dimension to research management, of course, where the impetus comes from within the discipline. e.g. to 'organise' information, to relay results to colleagues, to share or not share data. Here the practitioners set their own agenda of communication.

[57] The question of the relationship between cultural and social anthropology, for example, is reviewed by Moore and Sanders (2006*a*) in terms of the several debates it animates.

taking techniques of communication as neutral enablements, we would focus on what we already know, that the way disciplines 'do' their relational extensions—how they communicate—differs too.

And that kind of uselessness, modelling for the sake of it, also means that I can after all do better than guess at the perspective from management. Cultural models of organisations and practices, seen as discrete entities with their own ethos and value systems, matter as much in business and commerce as in academia.[58] Nothing new here. But I think we can also apply a social model. Management, that is so fluent in communication, has to deal with expertise—from specialists, from disciplines, from codes of tacit and implicit knowledge and not least from research—whose form might be amenable to working on but whose content is not. We could see these as creating management's fractal dimension, even perhaps to imagine research in the form of self-correcting expertise integrally implied in the fields that management addresses. In short, we would be talking about management practices with research entailed.

Quite deliberately, I prefer to see research and management as interfolding rather than collapsing into each other. This is no more than a heuristic device. I referred to the observation (Lederman 2005) that in the US divisions between different subfields of anthropology replicate themselves *within* those subfields too.[59] In the same way we can see that the impetus that appears to distinguish research from management is also found within each. The contrast has many names, among them that between what we think we can know and what we want to communicate. Keeping these apart is to emphasise a tension between different means and ends, a typical 'research' response, while to merge them would perhaps be a recognisable 'management' response.

This is how I take Schön's 'reflective practitioner', now some twenty years old, the professional who thinks in the context of the actions he or

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[58] And organisations can also share cultural practices. 'The cultural issue [that organisations are wedded to particular ways of doing things] is seen by many experts as the main obstacle to implementing knowledge management' (Ives, Torrey and Gordon 2002: 99).

[59] A phenomenon that also takes ethnographic form (M. Strathern 1991: xviii). Another example: the difference between information and knowledge is as important for KM as it is for academic pedagogy (cf. Junnarkar 2002:140–2). Penny Harvey, Manchester University (pers. comm.) comments on the limitations of the heuristic categories themselves, evidenced in the twist given every time 'useless knowledge' is sought out and rendered instrumental precisely *for* its tangential, ie 'useless', qualities. She cites an engineer reading novels to better know the terrain in which he is working.

she has to take.[60] Schön introduces a different tension, between technical and professional rationality. It is technical rationality that separates means from ends, research from practice and knowing from doing (Schön 2002: 165), and that would no doubt revel in the distinction between research and management that I have been labouring. In its place, the reflective practitioner frames means and ends *inter*dependently, experiments in reframing also being experiments in action.[61] But these are nothing like research. On the contrary, the 'practice context', as he calls it, is radically different from the research context. Thus far from confirming or refuting a hypothesis, the practitioner tries to make his hypothesis come true. 'The practitioner's hypothesis testing consists of moves that change the phenomena to make the hypothesis fit' (ibid.: 149). That is because such practitioners—like managers[62]—have an interest in transforming the situation they are dealing with.

But then the fascinating thing is that, as far removed from the abstract model of research as all this seems, the nearer we suddenly get to a research-based discipline.

> [Practitioners'] hypothesis-testing experiment is a game with a situation. They seek to make the situation conform to their hypothesis but remain open to the possibility that it will not. Thus their hypothesis-testing activity is neither self-fulfilling prophecy, which insures against the apprehension of discomfirming data, nor is it the neutral hypothesis testing of the method of controlled experiment, which calls for the experimenter to avoid influencing the object of study and to embrace discomfirming data. The practice situation is neither clay to be molded at will nor an independent, self-sufficient object of study from which the inquirer keeps his distance.
>
> The inquirer's relation to this situation is *transactional*. He shapes the situation, but in conversation with it, so that his own models and appreciations are also shaped by the situation. The phenomena he seeks to understand are partly of his own making; he is *in* the situation that he seeks to understand. (Schön 2002: 150–1, original italics.)

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[60] My thanks to Alan Blackwell, University of Cambridge, for the introduction. The professionals might come from any of an array of disciplines, including architecture and engineering.
[61] From within KM, Takeuchi and Nonaka (2002) adopt a similar position, based on Polyani's contrast between explicit (techno-rational) and tacit (experiental, indwelling) knowledge, both at the epistemological pole of a further contrast between epistemology and ontology.
[62] They may associate themselves with the specific concerns of 'change management' (Elena Rockhill, Cambridge University (pers. comm.)). Barry (forthcoming), discussing Isabelle Stenger as a political activist and scientist as well as a researcher in science and technology studies (a practitioner indeed), and her view of scientists seeking to create events that have effects, anticipates the comments below about social anthropology.

This disquisition, from someone who calls himself an industrial consultant, technology manager, urban planner, policy analyst and teacher in a professional school, just about sums up the reflexivity of *the last twenty years of social anthropology*. For 'experimenter' read 'author'; for 'situation' include 'fieldwork'; for making a situation conform to a hypothesis, recognise latter-day functionalism.[63] To be specific, this practical disquisition distils the force of recurrent debate as to how academic anthropology is to place itself in relation to, is to reflect upon, the knowledge it generates and creates through research. Barry (forthcoming) pinpoints the effect on its descriptive endeavours in observing how recent research in anthropology has been 'productive of events'.

There is a disciplinary-like dimension to the simultaneously objective and personal knowledge of the reflective practitioner, for his or her knowledge 'is compelling only to the members of a community of inquiry who share [the same] commitments' (Schön 2002: 166). Schön does not like dichotomies, but he was making a definite case for distinguishing such situation-defined practitioners from the generality of academic researchers. So here, once again, we find similar issues repeating themselves within a research paradigm that are supposed to be typical of what distinguishes (in this case, professional) practice from research. So it does not really matter *where* one alights on this tension. Rather than collapsing the distinction between research and management, it is as good a one as any to stay with. In any event, the fractal person allows one to imagine an entity with foreign-seeming extensions intrinsic to it.

And this brings me back to the original educational impasse. Plagiarists may be knowledge managers in the making. But they have some way to go in appreciating what is entailed in management. They seem hopelessly stuck in a cultural or neoclassical world of discrete entities and consumer products, for in refusing to learn they also refuse to admit knowledge as an extension of themselves beyond themselves.

Capacities: ends and means

The UK research community is coming to the end of the period opened by the DTI quinquennial review that confirmed the mission of the

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[63] By latter day functionalism, I mean the kind of approach that would (say) make an ethnographer with a hypothesis about the way gender differences have to be culturally created go off and search for initiation practices; not 'finding' them may lead to a search for functional equivalents.

Research Councils. In talking (2001: 15) about the key contribution that the science base has to make 'to the economy and society in the UK'—and social science is included—they find a place for curiosity too. Wonderfully, they use 'users' as their ventriloquist: 'many industries recognise the fundamental importance of curiosity-driven research' (ibid.: 52). One would need to know more than I do about the politics of document-writing to interpret the way curiosity appears as a useful add-on. Or perhaps it is so important it is taken for granted.

The notions of usefulness and uselessness prompt the question of how we make things to be the one or the other. What kind of means–ends relationship is built into Euro-American assumptions about the purposes of knowledge, and into the very notion that knowledge can be assessed as 'useful' or otherwise? As we have seen, a powerful index for our times is the ability to communicate. This turns on the timeless capacity for responsiveness. I say timeless only because—unlike communication that depends so intimately on its media, on its gestures and language—being responsive needs take no overt form. Curiosity is the name we give to one kind of responsiveness. And curiosity yields knowledge about the world that may or may not be anything one can do something with.

I draw from all this some conclusions in the form of opinions.

Knowledge has to be more than information to be accumulated (or managed, as our plagiarist does) for the sake of informing others. In enlarging understanding, knowledge keeps the brain alert. Without an enlarged view one cannot make judgements (if only our narrowly 'relevance'-seeking sixth formers knew). And knowledge to satisfy curiosity in the knower never shows a productivity deficit. The impetus has to be responsiveness to the world at large, not in order to encompass information about everything but to exercise the capacity to know *something*.[64] Curiosity is no more nor less that the ability to be interested in many things all at once, indeed, in as many as come into view.

Responsiveness and curiosity are pressed into service in social connections between persons, where they appear as the means to promote interactions, and turn into relational capacites. There is probably nothing more important than the capacity people have to relate to one another. Anthropological practice (fieldwork) further teaches us the ethics of the open subject: 'to accept responsibility for the social life of an other, as a

[64] Jean-Klein and Riles (2005) offer a splendid definition of anthropological responsiveness as ongoing labour, as an aversion to the routinisation of anthropological forms of engagement.

social person' (Battaglia 1999: 133).[65] In other words, *persons acquire a responsibility to keep one another's relational capacities and faculties alive.*[66] Yet with these relations, a kind of limit also enters. For even as persons acquire these responsibilities, they are limited by one another's ability or willingness to discharge them.

Both ability and willingness are circumscribed by the ends people hold in view. It is because people have goals that they enrol others in their own agendas. By the same token, these ends can come to determine outcomes. And they can become a problem for others. Thus, whatever empathy they show, it is no business of anthropologists to imagine that they share their subjects' ends; rather they should take charge of their own (Jean-Klein and Riles 2005). How to do this is a question for them. So let us leave ends aside. I borrow from Riles (2004) the point that the other question for the anthropologist is how to cultivate the *means* of taking care of one another's capacities. This is where, as a means by which to cultivate responsiveness, knowledge comes in.

Sykes (2005: 2) observes of anthropologists that they 'take responsibility for their [own] ignorance' by raising difficult questions. In scholarship more generally, she suggests, scepticism, or a premise of doubt, a condition of vulnerability, is a way of assssuming this responsibility. Ignorance, in other words, is not something that in being remedied is to be forgotten. It is too potent an adjunct of learning. As a New Irelander from Papua New Guinea asked her, what did she have to forget just to write it all down (ibid.: 215)? 'Fieldwork is a daunting undertaking, but it would be a mistake to try to triumph over it' (ibid.: 220).

Education systems are explicitly charged with taking responsibility for ignorance, and we might hope with keeping scepticism and doubt alive too. They are also charged with the job of nurturing diverse capacities and faculties. If one way of taking care is through acknowledging other people's dignity by enacting one's own, when anthropologists so act it must be through what they practise; to draw once more on Jean-Klein and Riles (2005), 'by emulating the discipline in their own practices, they

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[65] Battaglia's inspiration here is Heidegger—accepting any limitations of another's sociality moves the other in the direction of social disconnection and death. We have to take responsibility, she writes (1999: 133), 'for any act that socially diminishes or "kills" the connective potential of another, as if of oneself'.

[66] Sykes (2005: 5) talks of how she realised that in making a decision to reside in a particular place she became responsible for her hosts' well-being too. Intersubjectivity, the state of being of human beings 'as biologically social beings' because they cannot but help 'engage others in the process of becoming themselves' (Toren 2002: 188) is the other side of the mirror.

reveal the discipline in others'. Perhaps so too across fields of knowledge. I said that one reason for engaging with interdisciplinarity is because of the way it can be attached to the relational or extensional capacities of disciplines. Social relations are seen as crucial instruments in knowledge transfer.[67] In being responsive to those snippets of information about education in Britain today, I wanted to show anthropology's responsive nature.

Yet what holds for interactions between persons holds for the social life of disciplines too. When the capacities for responsiveness, communication and relational extension are pressed into the service of social ends, that is, into diverse institutional agendas, we have also seen the fatal limitations. A discipline's success becomes defined in terms of how well it *produces* or performs its relational potential. Making responsiveness *relevant* is to assume that responsiveness only gives evidence of itself when its use can be shown by those on whom it has impact. Interdisciplinarity becomes a tick-box *qualification* for a grant. I opened with three anxieties about education: they are created by just such limitations. The anxiety of mine I put in their place is about the perversion entailed in exploiting responsiveness while only allowing in curiosity as an add-on. It is an anxiety about using such capacities without replenishing them. They can never be 'used up' as raw materials can.[68] But they need 'using' in the sense of exercising—use that is not pre-empted by posssible usefulness. In

[67] An example from the Lambert Report (2003: 12–13): the most exciting kinds of knowledge transfer happen in situations where people get together, perhaps by chance, even as innovation comes out of dynamic interpersonal networks and complex social relationships. Indeed the new regime of knowledge production (Maasen and Lieven (forthcoming), after Nowotny, Scott and Gibbons 2001) that stresses the interdigitation of diverse fragments of knowledge for solving local problems, and ongoing efforts to monitor and assess deliverables, also requires more networking activities. However, I hope it is clear that I am here reporting on a utilitarianism, not endorsing it (and find potentially perverting (see below, this page) sentiments such as 'To achieve success, knowledge sharing and knowledge management need to be viewed as human performance issues [to enable] . . . human performance to be opitmized' (Ives, Torrey and Gordon 2002: 100–1)).

[68] As Brennan (1993; 2000) for example describes for the process of capital production that binds 'living energy' (raw materials, plant substances) in forms that cannot reproduce themselves (fuel, fertilisers). In some brief and salutary words on economic productivity between the UK and its competitors, the chief economic adviser to the DTI speaks of using up resources, of more development to stay abreast of everything else ('we have to run just to stand still') (Pryce 2005). The remedy: 'We need to increase value by generating and exploiting knowledge' since this is such a high value-added area ('[A]lmost 50% of total value added in our economy comes from knowledge-driven sectors'). Not, one hopes, without attending rather carefully to its regeneration and replenishment.

the words of another Melanesian anthropologist (Miyazaki 2005),[69] this
is hope in the means rather than hope in an end.

   We have encountered three kinds of uselessness. Extraneous detail
that slows down communication in pinponting a phenomenon with its
coordinates. Irrelevant parallels by which to think one thing through the
lens of another. Modelling for its own sake as an indulgence in learning.
When all is said and done, she would be a fool who tried to demonstrate
the usefulness of everything she knew.

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[69] Of the several anthropologists whom I have quoted or cited here, Battaglia, Demian, Damon,
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