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ROUTLEDGE

London and New York

The Future of Anthropological Knowledge

Anthropology is no longer a single discipline, but rather a range of different practices carried out in a variety of social contexts. Important new questions have been posed by the sustained challenge which third world, black and feminist scholars have provided to the established agenda of the social sciences and humanities in recent years. It is in this context that the nature and purpose of social knowledge, and in particular anthropological knowledge, comes into particular focus.

By examining the changing nature of anthropological knowledge and of the production of that knowledge, this book challenges the notion that only western societies have produced social theories of modernity and of global scope. Knowledge of society can no longer be restricted to a knowledge of face-to-face social relations but must encompass the effect of technology, global consumption patterns and changing geopolitical configurations.

The question 'what is social knowledge for?' is not intended to provoke an answer, but rather a series of interrogations. In *The Future of Anthropological Knowledge* contributors explore the nature of social knowledge from a variety of perspectives and examine the manner in which anthropological knowledge is changing and will be reformulated further in the future. In raising questions about who produces knowledge and theory, they map out an innovative agenda for the discipline in the twenty-first century.

Henrietta L. Moore is Reader in Social Anthropology and Director of the Gender Institute at the London School of Economics and Political Science.

Contents

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Series editor's preface

To suppose anthropological analysis can shift between global and local perspectives may well imply that the two coexist as broader and narrower horizons or contexts of knowledge. Indeed, the relationship seems familiar from the ethnographic record: in cosmologies that set a transcendent or encompassing realm against the details of everyday life; or in systems of value that aggrandize this feature while trivializing that; or in shifts between what pertains to the general or the particular, the collective or the individual. And if knowledge consists in the awareness of context shift, then such scaling may well seem routine. However, this book does not take scale for granted. It examines certain contexts in which people (including anthropologists) make different orders of knowledge for themselves as a prelude to questioning assumptions about the 'size' of knowledge implied in the contrast between global and local perspectives.

Marilyn Strathern
University of Cambridge

Chapter 1

The changing nature of anthropological knowledge

An introduction

Henrietta L. Moore

What role can anthropology play in the multipolar, globalized, post-colonial world we all now inhabit? How should anthropology respond to the shifting political determinations of representation and knowledge production? Anthropology is no longer a singular discipline, if it ever was, but rather a multiplicity of practices engaged in a wide variety of social contexts. A whole series of new questions has been posed by the sustained challenge which third world, black and feminist scholars have provided to the established agenda of the social sciences and humanities in recent years. The world of the academy has begun to tilt on its axis and to revolve in a slightly different manner. Such changes have been paralleled by significant shifts in the geopolitics of the world economy. It is in this context that the nature and purpose of social knowledge, and in particular anthropological knowledge, comes into particular focus.

The question 'what is social knowledge for?' cannot be answered; at least, not in the singular or the definitive. In any event, such a question is not intended to provoke an answer, but rather a series of interrogations. From the moment the process of interrogation gets under way, the terms themselves begin to present problems: whose knowledge; what sort of knowledge; what constitutes the social? These problems are emblematic rather than representative of a series of particularly pressing intellectual and political difficulties, all of which bear in some way or other on the highly charged relationships between knowledge, identity and power. The chapters in this volume work over the question of the nature of social knowledge from a variety of perspectives, and they examine the manner in which anthropological knowledge is changing and will be reformulated further in the future. In raising questions about who produces knowledge and theory, they map out an innovative set of understandings about the nature and politics of the anthropology of the twenty-first century. In this introduction, I examine some of the main themes raised in the rest of the book and provide my own suggestions for the future of anthropology.

WHO ARE THE PRODUCERS OF KNOWLEDGE?

We have all been aware in the social sciences of the impact of the critique of the Cartesian *cogito* and the unravelling of grand narratives and totalizing theories, variously labelled post-modernism, post-structuralism and/or deconstructionism. The debates sparked by these critiques have led to a revision of the role of the academic and/or the expert practitioner. One consequence has been a call for a revaluation of the actor's or community's point of view, as part of a more general call to specificity, to the local. The clear demand is that the politics of positionality and location should be recognized and addressed.

The anthropological response to this move has been ambiguous and driven by uncertainty. The call to the local and the specific was hardly radical. Anthropologists have long prided themselves on their valorization of the 'actor's point of view' and on their grasp of local circumstance and local perspectives. What was new was the questioning of the interpretative authority of the anthropologist and the focus on writing rather than field-work as the domain of knowledge production. Paradoxically, some hostile critics felt that what was being threatened was not only the anthropologist's experience of personal interaction and her collection of systematic data, but also the emphasis on local specificities. While supporters held that the post-modern turn revealed the dialogic and shared nature of cross-cultural interpretation and representation, detractors argued that anthropological texts were now more about the anthropologists than the people they were studying. In other words, both sides claimed the more authentic connection with local people and their specificities. At its most uninteresting, the debate collapsed into an unenlightened scuffle between the self-declared supporters of empiricism on the one hand and interpretation on the other. What is strange is that all this discord should have left so many important questions untouched.

For one thing, the anthropological definition of knowledge remained curiously divided. Anthropologists had always been happy to see local people as producers of local knowledge about for example, agricultural experimentation, cosmological theories, and medical cures, but there was very little question of such knowledge being valorized outside the local domain. This was true both for supporters and detractors of the so-called post-modernist turn. In other words, local people produce local theories and such theories are, almost by definition, not comparative ones. The implicit assumption was therefore that the theories of non-western peoples have no scope outside their context.

This unwitting parochialization of all theories other than those produced by western science and social science was paradoxically reinforced by the deconstructive/post-modern turn which makes all theories partial and local. It thus never seemed to occur to the anthropological supporters of this

move that it might be necessary to consider the comparative pretensions of local theories as part of the process of reanalysing knowledge production rather than simply revealing the partial nature of anthropological truths.

Deconstructionism argues, of course, that all theories are partial, and there is thus no distinction between the local theories of anthropologists masquerading as comparative social science and those of the people being studied. However, this position occludes the point about the production of knowledge and of how that production is valorized. Anthropologists, for all their concern with local understandings and specificities, do not habitually view the people they work with as producers of social science theory as opposed to producers of local knowledge.

This assumption is connected to the lack of politicization of knowledge production within the discipline of anthropology as a whole (see Ong, Chapter 4, this volume). The major issue here is one about how anthropologists treat each other and about how that treatment is predicated on the geopolitics of resource allocation (see Karim, Chapter 6, this volume). This problem is not confined to anthropology, but is rather a feature of the dominance of western theorizing in a variety of disciplines and of the structuring of the academy along the fracture lines of centre–periphery politico–economic relations. Anthropologists from the developing world, for example, may produce theoretically innovative work, but if they claim that it draws on theoretical traditions outside mainstream western social science, they are likely to find that it will be denigrated as partial and/or localized. If they are critical of western social science, they may find that they are sidelined. Western social science consistently repositions itself as the originary point of comparative and generalizing theory.

THE GENEALOGY OF DISCOURSE

It is in the context of the post-modernist debate in the social sciences and the humanities, and the resulting theoretical elaboration of notions of difference, that we can see this point amplified most clearly. Black and third world scholars, post-colonial theorists and feminists have pointed out how the analogical figure 'same-as'/'different-from' which underpins western philosophical thinking works in a pervasive and discriminatory manner to structure forms of representation and knowledge in specific contexts.[1] Several black and third world scholars in a variety of disciplines have developed specific theories of signifying, and methods for reworking the relationship between the same, the other and the analogue that function outside the Cartesian model of the knowing subject. I am thinking here of the work of various African philosophers and theologians, including Jean Kinyongo, Oleko Nkombe, Vincent Mulago, John Mbiti, Alexis Kagame of Henry Louis Gates and Gerald Vizenor, amongst others (Masolo 1994; Mudimbe 1988: chapters 2 and 3; 1991: Chapter 2; Gates

1988; Vizenor 1988, 1989). These theories, while dependent for their current intelligibility within western academia on the rise of post-modernism, are not post-modernist and are not derived from or intellectually dependent on post-modernism. This is not an attempt to develop an origins theory, but simply to point out that post-modernism shares some characterisitcs with ways of philosophizing or thinking that have existed in other times and other places.[2] This point should not need making, but there is a purpose in the politics of the moment in empha-sizing that the critique of the Cartesian *cogito*, like Picasso's modernism, did not simply originate in Paris. The mutually informing nature of critical frameworks and analytical categories developed in apparently diverse intellectual milieux and geographical locations is only one of the reasons why claiming the originary nature of western philosophy and theory is misleading.

The critique of the subject–object relations based on the Cartesian *cogito* is one way of trying to rethink alterity, and by extension subjectivity and collectivity. Africa has a long history as the defining trope of an alterity which grounds western subjectivity, reason and identity. It is not surprising then that various African scholars should have sought to transcend this dualism and to establish alternative frameworks for the relationship between subject and object. The fact that these efforts began in the 1930s and were explicitly linked to the political projects of liberation and nationalism is something barely known about and almost completely unrecognized by the vast majority of social scientists and humanities scholars. The revaluation of some of this work, and the sudden mainstream respectability of black scholars like Henry Louis Gates and Gerald Vizenor, is the consequence of the modishness of post-modernism in the duck pond of western theory. In other words, their intellectual per-spectives have suddenly become valorized by the development of post-modernist thought in the West with its clearly parallel concerns, giving rise to a relatively comfortable situation where they can be safely understood as derivative. Feminist theory has experienced a similar problem, moving from being 'overstated' to being an 'offshoot' of post-modernism/deconstructionism. What this all amounts to is a testament to the continuing failure to recognize some groups of people in the world as producers of knowledge.

In seeking to link together a number of critiques of alterity, I am not suggesting that African, native American and Afro-American scholars are all making exactly the same kinds of argument. This would be crass, and besides, I am not interested in erecting an alternative totalizing theory. The more general point is really one about exclusion and about the genealogy of discourses. For example, one of the reasons for the general neglect of African philosophy by the western academy is that in the period

since the 1950s a good many African philosophers have been writing on the borderline, or rather in the borderlands, between theology and anthro-pology (Mudimbe 1988, 1991; Masolo 1994). Their distinctive contribution has been in trying to link African religious beliefs to Christian theology. It is this very engagement with faith, both on the practical and the intel-lectual level – many of these scholars are actually Catholic priests and not practising anthropologists – which has permitted their reclassification and relocation as theologians rather than as secular scientists of culture. The scope of their enterprise, while located in specifics, is both comparative and global, just as it was for those African scholars writing about negritude.

The discourses of African philosophy cannot be understood outside the contexts of anthropology as a generalizing science and colonialism as a specific historical and political project. This is a point made most forcefully by African scholars from a variety of perspectives. There are those who make a claim for a specifically African philosophy based on African concepts and beliefs, sometimes known as ethno-philosophers, for example, Kagame (1956), Mbiti (1969) and Nkombe (1977), and their work seeks to revalorize African philosophy in the face of a colonial dialectic which consistently refigures what is African as the inferior of what is European. Other African scholars, for example, Towa (1979), Hountondji (1983) and Bodunrin (1984), are extremely critical of the ethno-philosophers whose work they see as a form of descriptive ethno-graphy which fails to escape the terms of alterity dictated by a colonized and colonial mentality. Both sets of positions are thus underpinned, albeit in very different ways, by a recognition of the historical and political project of philosophy in Africa. This point is ignored to a significant degree by many non-African scholars, including anthropologists, who consistently fail to realize that the search for identity and authenticity which is essential to this work is part of a project of modernity; that is, a project for the future, and it is in this sense that the aspirations of the work are global. There are supporters and detractors for a complex array of ideas about subjectivity, nationalist identity, regional autonomy and Africanization within the communities of African scholars involved, but one dominant trend which Mudimbe (1988: Chapter 5) identifies involves a critical rereading of African and western theories and interpretations in order to expand the possibilities for knowledge production in the future. The relationships between knowledge and power remain very much bound up with questions of individual subjectivity and collective identity, as it does for the rest of the world. However, it would be a mistake to imagine that a privileging of the local and the specific, as well as a repudiation of certain kinds of totalizing theory, must necessarily entail a prohibition on comparative thinking, if not the end of knowledge itself.

When it comes to looking at the practices of western academic anthropology, it is often an incomplete and rather inchoate set of anxieties about comparison, authenticity and identity which seem to have served to rule much anthropology written by African scholars out of court. If we read Evans-Pritchard on the Nuer, why do we not read Francis Deng on the Dinka; and if we refer to Evans-Pritchard on the Luo, why do we not defer to Ogot; why do we not in fact use any of the major anthropology texts written by African scholars in the 1930s, 1940s and 1950s as teaching texts? One response is that these authors are not anthropologists, they are theologians or historians. Another response is that these texts are not anthropological because they are culturally specific and partisan. This is the kind of criticism regularly levelled, for example, at Jomo Kenyatta's book on the Kikuyu. 'Culturally specific, partisan', why should that be grounds for disqualification? Such characteristics do not, after all, necessarily distinguish these texts from any other anthropology text. The argument is surely one about who can be said to produce true knowledge.

There is a particular danger in discussing situated knowledges: in acknowledging the importance of alterity and diffraction in their constitution and conceptualization, one slips too easily into an unthought dialectic of opposition which is the negativity of difference. Mudimbe has said that one of the failings of anthropology is that it begins by measuring the distance from the same to the other (1988:81). What has to be avoided is any tendency to construct African knowledge(s), for example, as simple reversals of Euro-American ones. Processes of radical othering are merely methods of exclusion and hierarchization by another route. Indigenization of knowledge(s), while potentially powerfully creative for individuals and collectivities within specific contexts, runs the risk of defining certain kinds of knowledge as absolutely local, without comparative scope or wider application. It is imperative that anthropology should recognize that local knowledge, including local technical knowledge, can be part of a set of knowledges properly pertaining to political economy and the social sciences, and can thus be comparative in scope, as well as international in outlook (Richards, Chapter 7, this volume). What is sometimes implied in anthropological writing about local knowledges is that they constitute closed systems, in the sense that they are incapable of self-reflection and auto-critique. Indeed, this has long been thought to be one of the criteria which distinguishes traditional societies from modern ones. In the debate over whether African philosophy can be properly said to be a philosophy, one of the disputes has been about the existence or non-existence of an ongoing auto-critique of concepts, notions and forms of argument. It is reflexivity which is thought to be characteristic both of philosophy and of modern knowledge; without such auto-critique there is no knowledge, merely belief.

THE TECHNOLOGIZATION OF ANTHROPOLOGICAL KNOWLEDGE

This point raises the question of what constitutes knowledge. So far, I have been using the term knowledge(s) to encompass the theoretical in the broadest sense: philosophy, political economy, the social sciences, the humanities. I have not been speaking in the strict sense of those most modern forms of knowledge: science and technology. I want to turn now to the way in which science and technology are transforming anthropological knowledge through a transformation of its objects of enquiry.

The idea of the world as a very small pond linked together by the massive power of communication media and international capitalism is one of the background principles informing a great deal of intellectual endeavour, commercial activity, and techniques of government at the present time. One of the things that technology has really revolutionized is the scale or scales at which social relations operate. Face-to-face interaction, as many scholars have pointed out, is no longer the only basis for society, and this point alone revolutionizes anthropology's object of study. The shift that has taken place, and one which has been reflected in the language in which we teach and write, has been between social relations and sociality. The concept of sociality tries to embrace human/human and human/non-human relations. Writing that employs the notion of sociality is dependent on a decentring of the Cartesian subject, but most of it is not derived from nor even inspired by post-structuralism or post-modernism.[3]

One problem here concerns the mediation of our understanding of our bodies and of our self-understandings via technology (see Martin, Chapter 2, this volume). This includes everything from modern medicine's ability to represent the interior of bodies, and even our cells, to the transformation of intimate relations brought about by globalized soap operas and patterns of commodification. We are all now technologized selves in some very important sense. One consequence of this is that the boundaries of the self are expanded, and often breached. The self is no longer, if it ever was, a singular, self-contained entity, but a participating, relational one; and one which is no longer simply human.

However, selves, as we tend to forget, have probably never been simply human. They have in many times and many places been part divine, part animal, part vegetable and part machine. The new cosmologies of the hyper-real provided by computer games and the cinema may have much more to do with Dogon ancestors and the Ramayana than anthropologists, with their traditional and modern societies, have had time to comprehend. This is not to deny the interventionist power of modern science and technology, nor the massive asymmetries of power which sustain technological diffusion. But the imagined cosmologies of contemporary societies

are proper objects for anthropological enquiry; and the availability and the speed with which technological productions diffuse makes everyone a producer of knowledge about technology to some degree or other. Perhaps more importantly, technology touches everyone's sense of self, all individual and collective identities. To a certain extent, it could be argued that this is not particularly new; perhaps it is only now that technology seems so pervasive and so intrusive that we, as ordinary observers of the contemporary condition, can see the degree to which selves are technologized.

The kind of thing I have in mind when I speak of the relationship between technology and identity is the way in which, earlier this century, blood transfusions in Central Africa produced stories of vampires and of children being stolen for their blood. These tales, which were reworkings of old themes and stories, were often aimed at Christian missionaries whose celebration of the Eucharist must have made them vulnerable to such accusations (White 1993a, 1993b). However, these stories were as much about colonial wealth extraction and exploitation as about anything else. Their modern counterparts are many, but in the 1970s when Malawi's new capital Lilongwe was built with South African money (and remember, Malawi was the only state in the region to support South Africa), people often refused to work on water installation schemes, particularly when the pipelines were to run close to hospitals. The story was a simple one: the purpose of such pipes was to pump blood from Malawi to South Africa to pay for Lilongwe. Debts must after all be paid. Technology transforms social relations.

These examples of technologized selves and identities do not feed on the hyper-real, on the kind of images purveyed by computer games and videos, but perhaps the part-turtle, part-human, part-machine actors who people the hyper-real are continuous, as well as discontinuous, with earlier forms of technologized selves. The idea that the modern world is producing individuals who are no longer fully human, that modernity attacks the completeness of the person, is misleading if we are trying to suggest that people in other times and places have been simply fully human.

What a particular perspective on technology opens us to as anthropologists, and as individuals, is not just the problems and potentialities of the contemporary moment, but a different way of thinking about selves and identities, an emergent auto-critique of our own knowledge constructions, a genealogy of our own discourse. And we arrive there by acknowledging other people as producers of knowledge about technology – knowledge which has a comparative and an international perspective – and by recognizing transformations in ourselves, as well as in our domains of enquiry.

If the boundaries of selves, subjectivities and collectivities are expanded by technology, and if what is breached in the process is the singular,

Cartesian subject and its binary economy of same/not same, then we should also be aware that other kinds of entities are put in question by a reformulation of the anthropological object of enquiry. Once again, this reformulation is forced by a recognition of others as producers of knowledge. Attention to local practices and discourses of knowledge entails a recognition of the global not as a monolithic entity sustained by grand narratives of progress, but as a set of situated and interrelated knowledges and practices, all of which are simultaneously local and global. Once again, we could say that post-structuralism and post-modernism have enabled an acknowledgement of diversity and plurality, and thereby of alternative accounts by others. However, a more critical perspective here would suggest that the alternatives preferred by much post-modernist theory are those that it produces itself, rather than those produced by others, hence the many accusations of exclusion and depoliticization levelled at post-modernist theorizing.

The formerly unquestioned entities of social science thinking, like system, subject and society, have come under attack from inside and outside anthropology, and over many years. At issue here are questions of fixity and closure. The bounded is being replaced, at least in academic discourse if nowhere else, by the relational. We are now no longer looking for ontological categories, but for interwoven patterns; what was once systemic is now mobile. What I have in mind here is Marilyn Strathern's analysis of body parts and social relations (1988), Gille Deleuze's desiring machines and nomadic knowledge (Deleuze and Guattari 1987, 1994), and Edward Said's (1983: Chapter 10) travelling theory (see also Yang, Chapter 5, this volume). These theories draw on rather different intellectual traditions, but what they share is a particular kind of critical practice.

POWER AT THE MARGINS

Both Deleuze and Said are concerned with the role of the intellectual which is, as they see it, to unmask power and thereby limit its affects.[4] This they consider should be the ethical relationship of academic knowledge to power (see Karim, Chapter 6, this volume). In addition, Deleuze emphasizes the violence of modern systems that use order as a form of domination, and his notion of ideas as mobile strategies that are resistant to systemization is congruent with his understanding of the role of the intellectual in modern society. Both Deleuze and Said stress the importance of knowledge production at the margins, of being in exile from the centre; and this decentring of the subject, which is both metaphorical and physical, has much in common with the independently developed theories of third world, feminist and black scholars which have long emphasized the analytical and critical power of the excentric perspective. I do not

want to emphasize the commonalities between these theories because I am not interested in subsuming their differences. However, it is hard to overplay the value of these emerging discourses which seek to establish a space and a locale in the borderlands for knowledge production. Part of the significance of focusing on borderlands and margins has to do with questions about how knowledge works in different places, how it gets transformed, but also with borderlands and margins as spaces of transition, transformation and reformulation. What is new about such conceptualizations is that centres, borders and margins are no longer fixed locales, and the economy of exchange between centre and periphery is disrupted.

On another level, the replacement of fixed centre–periphery relations by a multicentred political economy has had clear consequences for the arts, social and political sciences, philosophy and technology. The manner in which we theorize our world is changing, as are the power relations constitutive of theory. The knowledges now produced are simultaneously local and global, but they are not universal. This is perhaps nowhere more apparent than in the rise of social movements and social interest groups. Such groups empower themselves by creating and/or amassing, and then transmitting, specialist knowledge. Anthropology has played a role here, through what is termed advocacy anthropology and participatory research, as other academic disciplines have done (see Harries-Jones, Afterword, this volume). What is particularly interesting about the specifically local or located knowledge generated by the activities of interest groups is that it is generalizable as a technique of knowledge, or, if you prefer, as a kind of analytics.

THE ANTHROPOLOGY OF GOVERNANCE

This methodologization of knowledge and of its link with power is, according to Foucault, one of the defining features of a modern world. If one takes Foucault's genealogy of the subject and subjectification in the European context as one genealogy amongst others, then the argument is a convincing one. However, to rewrite Foucault's genealogy as a progressive narrative of the relationship between the traditional and the modern does not, in my view, make a convincing argument. For example, the nineteenth-century Bemba polity of Central Africa was, for the most part, unable to secure political control of its citizens via direct means because of the vastness of the terrain, the sparse population, the fluidity of residence and the lack of technology. What the Paramount Chief did do was to mark upon people's bodies, through amputation and blinding, the prerogatives of the chief. As the paramountcy established itself more firmly in the early decades of the twentieth century, the nature of citizenship altered, and with it the modes of subjectification.[5] The chief's control of production processes through the strict ritual timing of the burning of the fields was, amongst

other things, the operationalization both of a technique of power and of a technique of subjectification. The power of the Bemba chiefs depended on this ritual political economy which, in its turn, marked local people's experience of the cycles of the year, of the climate and the landscape, of the gendered division of labour, of eating and sexual relations, and of the comings and goings of labour migrants.

Anthropology's recognition of the importance of such techniques of power, subjectification and knowledge has had little to do with Foucault traditionally, largely because anthropology developed this method of analysis in the context of so-called traditional or stateless societies. An implicit division between traditional and modern societies, and a rather specific view of the domain of anthropological enquiry may also explain why so few anthropologists have attempted to develop an eclectic Foucauldian approach in the context of a contemporary anthropology.[6] This is particularly surprising given the trend in anthropology towards critical reflexivity and the analysis of knowledge/power relations. In spite of the assumed popularity of Foucault within the discipline in recent years, we still lack a sustained genealogy of anthropological discourse. Perhaps, more importantly, there has been little attempt to use Foucault to engage with a debate on intellectual ethics, the grounds for a moral anthropology, and questions of doubt, care and solidarity.

Let me begin with the first point and address the question of how a neo-Foucauldian perspective might enrich a reformulation of anthropology's subject of enquiry. Foucault attempted to enlarge on his 'microphysics of power' concerned with bodies and individuals, and laid out in *Discipline and Punish*, by developing a 'macrophysics of power' concerned with populations.[7] What interested Foucault here was the art and/or practices of government, the means of managing populations. In his essay on governmentality, he attempts to show how entities, such as society and the economy, which are essential for modern governance, emerged in Europe between the sixteenth and eighteenth centuries. The emergence of such entities required particular material and conceptual conditions, including the development of specific techniques, knowledges and expertise (Foucault 1991). During this time, Foucault argues, the family disappeared as the model for government and was replaced by a perspective based on the population. The notion of a population produced new problems, such as birth and death rates, epidemics, circulations of labour and wealth, which had to be recognized and managed. And out of this management came statistics, the science of the state (Foucault 1991: 99). The purpose of government evolved, not as the exercise of sovereignty, but as the welfare of the population, the increase of its wealth, health and longevity. Thus government becomes inseparable from the knowledge of all the processes related to the population from what has come to be called the political economy of the state (Foucault 1991: 100).

Foucault's concept of governmentality is an aid to understanding and analysing all the mechanisms (techniques of knowledge, power and subjectification) through which social authorities seek to administer the lives of individuals and collectivities, and the way in which individuals and collectivities respond. This analytical perspective can be used to analyse the state, but it is not state-focused. Crucially, it also involves what Foucault called 'bio-politics'; that is the indirect mechanisms and the forms of self-government that are part of disciplinary regimes, and which exist to align personal behaviour and self-management with political and economic objectives. This is one of the traditional domains of anthropological enquiry, as I mentioned earlier, and includes everything from the organization of household space and eating habits to the regulation of production cycles and the ritual enactment of cosmological principles. All anthropologists are now engaged with working in populations that are part of nation states, but I am not proposing a study of the state. As Foucault said, the modern state does not have that degree of functionality we tend to attribute to it; it is really 'no more than a composite reality and a mythicized abstraction' (Foucault 1991: 103). It is not the impact of the state on society which is of interest, but the impact of governmentality on ways of living and on social institutions, including the state.

Foucault uses the notion of governmentality to indicate a certain mentality, a particular way of thinking about the sorts of problems which can and should be addressed by particular authorities and through particular strategies. Governmentality is concerned with specific discourses and practices, and with the particular rationalities which sustain them in the context of a given set of material and historical conditions.[8] Such rationalities will always be local, developed in specific contexts by politicians, academics, the media and ordinary people (see Long, Chapter 3, this volume). However, these rationalities will also be international in their perspective and global in their scope. They are forms and techniques of knowledge which tie people into those processes of modern living which are beyond their control but in which they are forced to participate, directly or indirectly.

A modern anthropology would surely have as one of its major objectives the critical analysis of these forms of rationality. Governmentality involves background assumptions about divisions of labour, domains of enquiry and means of procedure which give rise to analyses, reflections and strategies that presuppose the development of specialist forms of knowledge. Modern government thus involves a mass of intellectual labour which seeks to develop new methods of documentation, analysis and evaluation. Amongst these new methods are all the social science disciplines, including social anthropology. Social anthropology is therefore part of the rationality of governmentality, and this is the case whether you teach in Peking, Detroit, Kano, Rio or Delhi.

Modern government also involves moral questions and ethical debate about, for example, the circumstances under which it is legitimate or feasible for certain kinds of authorities to intervene in people's lives, and about the boundaries between the public and the private. There is a huge range of issues here, but I would like to suggest that governmentality is a proper object of anthropological enquiry, both in its local manifestations and in its comparative scope. While the specific case history which Foucault provides for Europe is not a universal model, and thus we could agree that specific forms of governmentality exist in specific places, it could also be argued that certain forms of governmentality are global in their scope, if not necessarily in their effects. There are economic rationalities imposed by international bodies, and sometimes welcomed by individual governments, such as structural adjustment, which have very specific local effects in terms of household composition, urban living standards, agricultural labour and asymmetries of power between women and men. These economic structures, developed through expert debate and based on philosophical assumptions, are engaged with global asymmetries of power and forms of domination. Local responses, however, are far from passive, and new forms of knowledge and self-government are evolved at the local level, inside ministerial offices, shanty dwellings, neighbourhood bars and maize depot stores. These are discourses on governmentality. The international community's attempt to promote good governance in Africa, while sending UN troops to oversee the breakup of nation states in various parts of the globe has produced a bitter debate on human rights, ethnic identity and issues of self-determination and self-government. These are also discourses on governmentality, sometimes viciously fought out through bio-politics which involve torture, killing, dismemberment, dislocation and dispersal. Governmentality involves techniques of knowledge and power which touch all individuals and collectivities, whether directly or indirectly. Health care, family planning programmes, irrigation schemes and educational provision are all part of these disciplinary techniques, and they are all intermeshed with expert knowledges, including those of the social sciences. Many anthropologists in universities all around the globe, whether or not they are working in anthropology departments, are involved in the techniques of government. This concerns not only those who engage in development work and consultancy, but also those who provide the ethnographic information on which plans and policies depend, those who investigate the effects on local populations of regional and national decisions, and enquire into changing marital strategies and livelihood options, and demonstrate the interconnections between witchcraft and wealth, and engage in dialogue with local people and other anthropologists on these issues (see Long, Chapter 3, this volume). But most importantly, we are involved because we teach, because education is part of this process of governmentality. It is one of the major

ways in which individuals come to align themselves with moral, ethical, economic and political objectives, and because we teach we all have a hand in this process, wherever we work and whatever we actually teach. Critical reflection on our practices would suggest that there are compelling moral and ethical reasons for trying to develop a modern range of anthropologies which do actually take account of the complexities and techniques of knowledge production within and between societies, groups and regions.

NOTES

1 These classificatory terms are most problematic, but they work to identify self-declared positions and locations, not to define categories.
2 This is a quite unsurprising point, especially since many of the African philosophers and theologians involved in the early debates about 'the existence and nature of an African philosophy' were influenced by the Harlem Renaissance and negritude movements, as well as by phenomenology, existentialism and surrealism.
3 See, for example, the work of Ingold and Carrithers.
4 See Deleuze 1983; Deleuze and Guattari 1987, 1994 and Said 1983, as well as his Reith lectures for 1993.
5 See Moore and Vaughan 1994, for an extended discussion of the impact of colonial rule on the Bemba polity and its effects on the nature of chiefly power.
6 Major exceptions here include the work of Ong (1987) and Rabinow (1989).
7 For an extended discussion of this and other issues concerned with rationality, modernity and governmentality, see Gordon 1987, 1991; Miller and Rose 1990.
8 Sandy Robertson's book *People and the State* (1984) is one of the few anthropological texts to try and tackle these issues.

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Chapter 2

Interpreting electron micrographs[1]

Emily Martin

> I think I felt as I would if a doctor had held an X-ray to the light showing a star-shaped hole at the center of one of my vital organs. Death has entered. It is inside you. You are said to be dying and yet are separate from the dying, can ponder it at your leisure, literally see on the X-ray photograph or computer screen the horrible alien logic of it all. It is when death is rendered graphically, is televised so to speak, that you sense an eerie separation between your condition and yourself. A network of symbols has been introduced, an entire awesome technology wrested from the gods. It makes you feel like a stranger in your own dying.
>
> (DeLillo 1984)

One theme in the social study of science relates closely to the theme of this book: global and local uses of knowledge. In a recent book by a biologist, Richard Lewontin, *Biology as Ideology*, the author argues (though his book is intended to put a stop to it) that 'science has replaced religion as the chief legitimating force in modern society'. Science claims that its method is objective and untouched by politics, true for all and for all time. Science claims that its product is universal truth: 'the secrets of nature are unlocked. Once the truth about nature is revealed, one must accept the facts of life' (Lewontin 1991: 8). On the one hand, to capture the force of these universal truths, the term 'global' hardly seems large enough. On the other hand, would not such universal truths blot out the 'local' entirely? There is a strong normative injunction in science that strives to disallow the views of non-scientists:

> the layman and the non-specialist are posited in the natural sciences as ones whose interpretation of, and opinion about, the works of science *ought* not intrude into the relevant discussion at all. Their views are culturally fixed as being in principle irrational, or at least irrelevant.
>
> (Markus 1987: 22)

The natural sciences might be a kind of limiting case in their insistence on the global – nay, universal – applicability of their findings, and their

simultaneous insistence that no point of view outside the natural sciences ought to affect their findings. In the face of this insistence, anthropology is in a position to play an important role. Anthropologists are beginning to take up the ethnographic study of science's global system of knowledge, much as they earlier took up the study of other systems of knowledge with universalistic claims, such as world religions (Hess 1992). But anthropologists have been slower to explore carefully the role of non-scientists in the formation of scientific knowledge in the West or the developing world.[2] Important ethnographic questions in such an exploration, ones that will guide this chapter, are whether people outside science will interpret the works of science, given the opportunity, despite the strong sanctions against doing so, and whether they do so in terms that are primarily local and particular rather than global and universal.[3]

In order to examine these questions, I focus on micrographs, hugely magnified visual representations of microscopic biological entities and processes that play an important role both in the ongoing activities of research scientists, and in the media that is meant to carry the works of science to the public.[4] The use of technology to effect scale changes will be central to my discussion. The powerful operations of many technologies – photography, microscopy and tissue preparation – are brought into play to lift tiny molecules and cells within the body into a scale large enough for visibility by means of the naked eye. The power inherent in the scale changes made by these operations could serve both as an emphatic demonstration of the amazing ability of science and to silence the voices of laymen and non-specialists when confronted with their results. As we will see, no such silencing occurs. For scientists and non-specialists alike, micrographs provide a lively field for the play of imagination.

USING AND ENCOUNTERING MICROGRAPHS

My recent research was designed as a social history and ethnography of the immune system. The research was carried out over three years in diverse settings: an immunology research laboratory, several HIV clinical settings, workplaces, and a variety of urban neighbourhoods. As part of the fieldwork, I worked as a technician in the laboratory, became a member of the local chapter of ACT UP, and served as a volunteer 'buddy' to several people with HIV/AIDS. Together with a team of graduate students, I carried out over two hundred extended interviews in urban neighbourhoods and workplaces.[5] In the laboratory setting, I frequently attended lectures on immunology in classrooms and lecture halls. Almost inevitably, the lecturer would illustrate his or her statements with slides and transparencies. The slide would frequently depict a microscopic view of the cell or process being described. Various minute participants in the

immune system (T cells, antibodies, tissue stricken by auto-immune reactions) would suddenly loom huge on the screen in the lecture room, dwarfing us all. The rhetorical flow of the lecture was often timed to produce these images at a moment of closure and proof: this is what I say we found, and *here is a picture of it*! In one striking case, where the lecturer was able to illustrate a process he had discovered experimentally with a video tape of the cells actually engaged in the process, the audience audibly gasped in appreciation.[6]

As well as a sense of drama, there is certainly a lively aesthetic involved when scientists produce, choose and display these images. After many a lecture, I heard people commenting to each other about the 'beautiful', 'incredible', 'stunning', 'technically perfect' micrographs that were shown. The standards are so high, researchers told me, that one would never dare (for fear of ridicule) use an image that was imperfect: one that showed extraneous dirt, one that was blurred, one that showed any degradation from the tissue-fixing process. But aside from this (a topic about which a great deal more could be said), the main thrust of the pictures in science is to clinch an argument by revealing visual evidence of what one is claiming.[7] In the immunology laboratory where I carried out fieldwork, this was impressed upon me in many ways. One researcher lamented that the photographs accompanying his articles could not be as convincing as those of his colleagues who used micrographs of cells: his findings depended on the western blot, a technique he was teaching me, and however well it was done, it could only result in fuzzy and indistinct bands in vague shades of grey. Another recalled a turning point in immunology, when Gerald Edelman, a Nobel Prize recipient, saw for the first time a micrograph of an antibody, showing that it had the shape of a Y. The visual clarity of the photograph forced Edelman to revise his own calculations, which had wrongly led him to believe that antibody molecules were structured in the shape of a T. This moment serves as a model of how photographs, especially electron micrographs, are used to achieve closure and finality in a scientific argument.[8]

Outside research science, I noticed that electron micrographs illustrating biological processes appear in a great variety of popular publications.[9] Whole books are devoted to revealing the invisible world of microbes and micro-organisms that live among us (see e.g. *Microcosmos* (Burgess *et al.* 1987); *The Secret House* (Bodanis 1986)). Ordinary household appliances have been redesigned specifically to rid our homes of these (once seen) unwanted guests. Advertisements for vacuum cleaners with special filters are now commonly accompanied by electron micrographs of the dust mite, which is a common cause of allergies. Films and textbooks on biology for schools covering topics from asthma to reproduction frequently include many micrographs illustrating cells, viruses, etc. and their activities.[10]

Electron microscopy plays the role of medical sleuth in a popular article about a potentially disastrous outbreak of an infectious virus brought into the USA by way of African monkeys intended for scientific research. Electron micrographs of cells from one of the monkey's liver provide 'definite confirmation' that the cells are infected with a filovirus, a type of virus that includes Ebola virus, known to have been lethal to almost nine out of ten humans who contracted it in previous outbreaks in Africa (Preston 1992: 71). In the end, the filovirus in the USA turned out to be a variant of the deadly Ebola which was not harmful to humans. But the four Hollywood film studios which wanted to offer Richard Preston a contract for the film rights to the story apparently intended to make the electron microscope as sleuth a central feature of the plot.[11] (We will have to wait and see whether Twentieth-Century Fox, who won the contract, follows through.)

Because of all this, we built a series of interactions with electron micrographs into the general interviews on health that we were conducting in urban neighbourhoods. Once a conversation with someone was well under way, we would show him or her a series of micrographs of cells involving the immune system. We would say that these were enlarged photographs of inner parts of the body and ask in one way or another, 'What do you make of this?' If the person hesitated to say anything, wanting more specific information from us, the interviewer would read aloud the brief caption that appeared with the photograph in the original publication.

One of our goals was to see how familiar people were with these images perambulating out from science into the society, in what Latour calls the 'irruption of objects into the human collective' (1990: 152). Another goal was to see whether, even though the images were usually taken to have been produced by science and scientists, the quintessential domain of the rational, people would dare to speak about them imaginatively. We would often ask, 'do these pictures bring any thoughts to mind?' or 'how do you react to these pictures?' We were interested in whether people would have anything to say at all, given the strong authority with which science speaks in our culture, and given the strong antithesis between the taken-for-granted rationality and certainty of scientific knowledge and what we were asking for: imaginatively produced meanings.

In due course, we would also ask whether having seen the images that we introduced or other similar ones might change the way the person thought about his or her body or self. Obviously, asking such a question so bluntly and in such a confined context has limited utility. The results presented below should be taken only as an initial indication of what kind of impact these images might be having on society in general.

MICROGRAPHS AS OBLIGATORY PASSAGE POINTS

Considerable attention has been paid in social studies of science to ways in which scientific machines and their operations and tests can become 'obligatory passage points' for the conduct of science (Latour 1983, 1987; Cambrosio and Keating 1992: 370). Like foot soldiers who must cross a river by only one bridge, scientists come to regard certain procedures or tests as obligatory in order for their research to be considered valid. For example, Cambrosio and Keating detail how new entities, monoclonal antibodies, and an associated machine, a fluorescent activated cell sorter (FACS), came into standard usage in contemporary immunology. These tools led to the development of new techniques that quickly became 'obligatory passage points': once they became a standard part of research practice, scientists working in relevant areas had to use these techniques in order to have their work accepted as valid (1992: 365).

In the history of science, Steven Shapin and Simon Schaffer trace the process by which Robert Boyle in the seventeenth century was able to make witnesses' observations of his air pump such an obligatory passage point: 'discussions about the Body Politic, God and His miracles, Matter and its power, could be *made to go* through the air pump' (Latour 1990: 152; see also Shapin and Schaffer 1985). Latour often argues that the force of these scientific tools that become obligatory passage points resides in their ability to effect a change in scale:

> Boyle modifies the *relative scale* of phenomena: macro-factors about matter and God's powers may be made amenable to an experimental solution and this solution will be a partial modest one . . . [Boyle] refines his experiment to show the effect on a detector – a feather! – of the aether wind postulated by Hobbes thus hoping to disprove his contradictor. How ridiculous! Hobbes raises a big problem and he is rebutted by a feather inside a transparent glass inside a laboratory inside Boyle's mansion! . . . [Hobbes] denies the possibility of what is becoming the essential feature of modern power: change of scale and displacement through workshop and laboratories.
>
> (Latour 1990: 153)

Among the non-scientists in our research, micrographs were what might be called *weakly obligatory* passage points. People who are not scientists do not face the demands of the laboratory setting in which scientists obligatorily illustrate results with beautifully clear micrographs whenever possible. But non-scientists do live in a world filled with print and video media which are saturated with micrographs. From *Time* and *Newsweek* to science teaching films in secondary schools, the simple ubiquity of micrographs means that almost everyone has bumped into them before. But in one context of our fieldwork, contact with images

and knowledge about cellular entities were *strongly obligatory*: a college class on cancer and AIDS taught by a molecular biologist in a large state university. One member of our ethnographic research group took the course and interviewed the professor and a selection of the students who took the course. I begin with a discussion of this context, because unlike the people in our general interviews, these students were literally being tested on how well they absorbed the professor's view of what makes up the body.

The professor, who I will call Peter Keller, had a clear message he wanted to convey to students:[12]

> I think one's attitude towards one's health is enormously important to determining one's health. So without really trying, just by studying the immune system . . . you have this stuff. Your B lymphocytes are incredible. I think they're saying 'Oh!' and you almost stand up a little taller and you walk around and say 'I'm powerful', which I think is extremely useful in being powerful and being healthy. So I just in some sense, consciously identify with powerful things in me. . . . So I mean people presumably less educated, who may never have really thought about their immune system. . . . So I would picture, if you went in there and got a group of twenty people together and said, 'You know what you have in you? You have this immune system. You know what it can do? I mean you know why a vaccine works? You know why you only get a cold, a disease only once?' And 'Wow, really? I have that in me?' It seems to me, I just take that for very granted that that is empowering, and makes people stronger.

But in spite of his strong agenda and the power imbalance between the professor and his students, those students had a wide range of different responses to images of cells of the immune system. One student echoes the professor's message:

> I don't think the average person realizes, you know, what your body does. I mean, it's such a gigantic task to take care of these things, all this stuff's going on, so much all the time. I think we just take a lot for granted, but it really is kind of neat.
> [Yeah, that it can do that without your knowledge?]
> Yeah, right, I mean for all I know it can be, you know, combatting a disease, or something.
>
> (Drew Stratton)

Another reflects back on how much he was influenced by the class which he had attended two years before, but rejects altogether the link Professor Keller takes for granted between the biological details and feeling empowered.