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SIDNEY W. MINTZ LECTURE FOR 2000

An Anthropology of Knowledge¹

by Fredrik Barth

Whereas previous Sidney Mintz lectures have celebrated Mintz's work on inequality, racism, and ethnicity, I have chosen to speak to the broadest scope of his research and teaching in anthropology. A comparative perspective on human knowledge allows us to unravel a number of aspects of the cultural worlds which people construct. I argue that knowledge always has three faces: a substantive corpus of assertions, a range of media of representation, and a social organization. Using ethnographic materials from New Guinea and Bali and also from our own universities, I try to show how in different traditions of knowledge these faces will interrelate in particular ways and generate tradition-specific criteria of validity for knowledge about the world. Thus the trajectory of a tradition of knowledge will be to a large extent endogenously determined. This implies not a diffuse relativism of "anything goes" but a relativism in which we can demonstrate how already established thoughts, representations, and social relations to a considerable extent configure and filter our individual human experience of the world around us and thereby generate culturally diverse worldviews.

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I wish to focus on the problem of knowledge—what a person employs to interpret and act on the world. Under this caption I wish to include feelings (attitudes) as well as information, embodied skills as well as verbal taxonomies and concepts: all the ways of understanding that we use to make up our experienced, grasped reality. We all live lives full of raw and unexpected events,² and we can grasp them only if we can interpret them—cast them in terms of our knowledge or, best, anticipate them by means of our knowledge so that we can focus on them and meet them to some degree prepared and with appropriate measures. Thus a person's stock of knowledge structures that person's understood world and purposive ways of coping in it.

As we know, this stock of knowledge varies greatly between persons. It shows staggering ethnographic diversity among local human populations; it varies socially among adults within such populations; and of course it varies developmentally, from the limited emotional registry and motor and voice control of infants to the complexity of insights, information, and repertoires of adults. My claim is that we can greatly advance our anthropological agenda by developing a comparative ethnographic analysis on how bodies of knowledge are produced in persons and populations in the context of the social relations that they sustain.

In a brief exchange I was once privileged to have with Clifford Geertz on the topic, he commented that my view of knowledge and its role in human life did not seem to distinguish it much from what anthropologists have been calling "culture." Indeed, it does focus on many of the same data and seeks to analyse many of the same phenomena. But in calling it knowledge rather than culture I think that we ethnographers will analyse it differently and find ourselves disaggregating our received category of culture in distinctive ways that hinge on what our ideas of "knowledge" evoke.

Knowledge provides people with materials for reflection and premises for action, whereas "culture" too readily comes to embrace also those reflections and those actions. Furthermore, actions become knowledge to others only after the fact. Thus the concept of "knowledge" situates its items in a particular and unequivocal way relative to events, actions, and social relationships.

Knowledge is distributed in a population, while culture makes us think in terms of diffuse sharing. Our scrutiny is directed to the distributions of knowledge—its presence or absence in particular persons—and the processes affecting these distributions can become the objects of study.

Differences in knowledge provide much of the momentum for our social interaction, from gossip to the division of labour. We must share some knowledge to be able to communicate and usually must differ in some knowledge to give focus to our interaction. An understanding of the balances of sharing and difference in

1. This paper was delivered, as the 2000 Sidney W. Mintz Lecture, to the Department of Anthropology of The Johns Hopkins University on November 2, 2000.

2. I am referring to what Weber (1949:81) called the "meaningless infinity of the world process."

knowledge that predicate social cooperation should constitute a vital part of any theory of human society.

The knowledge component of our being is conceptually separable from our relationships and group memberships, the social dimensions of our lives. Yes, of course social organization is based on knowledge—no less, the knowledge of social statuses and their associated rights and duties, assets, and expertise—but the social aspect points specifically to the patterns of *action* that unfold. Thus the social interaction that emerges on that basis can be distinguished from the knowledge that provides its base. This distinction will help us to escape from the analytical impediment of a concept of “social structure” which confounds the two and has hounded much anthropological thought.

In the following, I will reflect briefly on the above as a productive theoretical position and then exemplify and elaborate it with some empirical sketches from New Guinea, Bali, and contemporary universities.

What Knowledge Is

I do not think we should try to be too clever and start practising as amateur philosophers or metaphysicians rather than anthropologists. To the extent that we are acquainted with contemporary currents on these topics, this may be best used to liberate us from a compulsive search for truth, rationality, and scientific method and encourage our ethnographic discovery. But we cannot afford to be too simple, either. In an effort to seek middle ground, I turn to that towering but currently unfashionable philosopher, Bertrand Russell, especially to his 1948 popular overview *Human Knowledge: Its Scope and Limits*.

Russell resolves for us the paradox of subjectivity and shared knowledge. What a person knows, he points out, is dependent on that person’s own individual experience: “He knows what he has seen and heard, what he has read and what he has been told, and also what, from these data, he has been able to infer” (1948:9). An important key lies in the last phrase, that knowledge can be based on inference.

In virtue of certain events in my own life, I have a number of beliefs about events that I do not experience—the thoughts and feelings of other people, the physical objects that surround me, the historical and geological past of the earth, and the remoter regions of the universe that are studied in astronomy. For my part, I accept these beliefs as valid, apart from errors of detail. By this acceptance, I commit myself to the view that there are valid processes of inference from events to other events—more particularly, from events of which I am aware without inference to events of which I have no such awareness.

By our acceptance of valid inference, we all extend the reach and scope of our knowledge immensely, relying on judgements based on whatever criteria of validity we em-

brace—above all, what others whom we trust tell us they believe.

As a consequence, much of our knowledge we have accumulated by learning from others—including, indeed, the criteria for judging validity that we have learned to use. Though it is experience-based, most knowledge thus does not become private in any individual sense. This makes a great deal of every person’s knowledge conventional, constructed within the traditions of knowledge of which each of us partakes. My personal skills and embodied knowledge are likewise largely constituted on the basis of activity into which I have been socialized, some of them embodied through purposeful practice, some of them preconceptual, arising from experience based on how my physical body functions in the world (Lakoff 1989). My analysis will seek to show precisely this: how a knowledge that must have its wellsprings in individual experience yet becomes to large extent conventional in social circles and in turn what the processes are whereby these conventional bodies of knowledge assume their locally characteristic shapes.

Our academic prototype of “knowledge” probably refers to the things that are contained in a textbook, an encyclopedia, a dictionary. Such sources lay out knowledge as if it were context-free—a mode that collapses historical time in acquiring knowledge, elaborates taxonomies, and prizes coherence. It simulates a knowledge without knowers. Some of our knowledge we do treat in that way, but much of it we do not. It is important that we not think single-mindedly with this narrow prototype in mind in our comparative study of knowledge, since such a mode, though it is no doubt salient for some purposes in Western and perhaps in other literary traditions, is certainly not the exclusive mode of knowledge for any person in any tradition.

Current anthropological attention to the concept of knowledge tends to focus on a particular syndrome of contemporary issues. Is knowledge best understood as a thing or a relationship? How far can (and should) ideas be copyrighted and patented? Might a global code of intellectual property rights provide a way to secure benefits to indigenous peoples from their heritage?³ Anthropologists are caught in the tension between resisting the runaway commoditization in our own world and a desire to defend indigenous rights within it. These are important issues but perhaps not the most felicitous way to approach an anthropological study of knowledge. I suggest that we put them aside here to concentrate on a search for general insights, language, and concepts for an anthropology of knowledge on which, among other things, a more effective defence of indigenous rights might draw.

Geertz (1983:4) has stated that “to an ethnographer, sorting through the machinery of distant ideas, the shapes of knowledge are always ineluctably local, indivisible from their instruments and their encasements.”

3. For a review of this discussion, see Brown (1998). A useful discussion of indigenous knowledge in relation to development (Sil-litoe 1998) is found in the same issue.

If I read this correctly, my reaction would be yes, for a generation of ethnographers steeped in a particular “cultural” perspective, that has been true. What I am proposing is that we break with this framing and work to perform the mental, analytical operation of dividing the shapes, instruments, and encasements from each other, the better to analyse the internal processes of differently constituted traditions of knowledge.

A Framework for Analysis

Where should anthropologists turn for a framework of concepts and questions with which to explore the comparative ethnography of knowledge? It is important not to be too clever and willing pupils of established Western scholarship, lest we squander the opportunity for a fresh perspective that can arise from the relatively unexplored world of ethnography. As academics, we have been marinated in Western philosophical discourse to the point where we might too readily accept its current parochialisms as universal premises. We want to be able to discover and be surprised by other lives and exercise the relativism whereby all of the traditions, bodies of knowledge, and ways of knowing practiced by people are recognized for our comparative and analytic purposes as coeval and sustainable, each on its own premises. Our first and major step must therefore be to try to lay out how these traditions of knowledge are configured and how they are variously reproduced and changed.

I see three faces or aspects of knowledge that can be analytically distinguished. First, any tradition of knowledge contains a corpus of substantive assertions and ideas about aspects of the world. Secondly, it must be instantiated and communicated in one or several media as a series of partial representations in the form of words, concrete symbols, pointing gestures, actions. And thirdly, it will be distributed, communicated, employed, and transmitted within a series of instituted social relations. These three faces of knowledge are interconnected.

Being interconnected, do they mutually determine each other? That is my claim, as I wish to show in the exemplifications that follow. But to develop the argument as simply as possible, we need to invert the way we habitually think when we construct analyses. I am *not* inviting you to take a highly generalized and abstract unity (knowledge) and divide it into three parts (substantive corpus, communicative medium, and social organization) and then progressively break each of these parts down further till we finally arrive at the level of particular human actions and events. On the contrary, my thesis is that these three faces of knowledge appear together precisely in the particulars of action in every event of the application of knowledge, in every transaction in knowledge, in every performance. Their mutual determination takes place at those specific moments when a particular item of substantive knowledge is cast in a particular communicative medium and applied in an action by an actor positioned in a particular social

organization: their systematic interdependence arises by virtue of the constraints *in realization* that these three aspects impose on each other in the context of every particular application. Specific micro-circumstances will thus determine how the mutual influences between the faces of knowledge are affected, and to the extent that we can identify repetitive, persistent effects of mutual constraint and influence in these particular realizations of knowledge, we have identified processes of mutual determination between the three named aspects of knowledge.

This perspective secures the space for *agency* in our analysis: it makes us give the necessary close attention to the knowers and to the acts of the knowers—the people who hold, learn, produce, and apply knowledge in their various activities and lives. Thus, as I shall try to demonstrate, it is in the close analysis of action that we shall see the mechanisms at work which effect the mutual determination between the aspects of knowledge that we have abstracted.

There, we can observe the interplay of circumstances that generates the criteria of *validity* that govern knowledge in any particular tradition. They arise through the effects on action of the constraints embedded in the social organization—the distribution of knowledge, its conventions of representation, the network of relations of trust and identification, and instituted authority positions of power and disempowerment. But they are also affected by constraints that arise from the properties of the medium in which the knowledge is being cast, which affect the ideas that can be conveyed through forms of representation that are felicitous, limited, or impossible for those ideas in that medium.

We may then be able to analyse the *trajectory* of a changing corpus of knowledge by identifying the potentials and constraints that these criteria of validity and feasibility provide for the production and transmission of knowledge in concrete traditions. This conjunction of factors will have the effect of pointing native thinkers and actors in particular directions of effort, creativity, and representation.

Finally, we may be able to lay bare some of the determinants of the forms of *coherence* or systematicity achieved in various traditions of knowledge, depending on how items in the corpus are constituted, how these items are householded in the social organization, and the degree of precision and force with which messages are cast in the media and representations that are employed.

So far, I have tried to lay out a basically simple framework of disaggregation, dissection, and analysis. To be able to articulate the processes and connections more clearly, my modelling has made the gross simplification of ignoring the multiple ways in which exogenous factors impinge on the processes I seek to analyse. To put them into the model as well, it seems to me that one would have to complicate it and expand it untenably. But in each particular empirical case, such externalities must be taken into account and may be highly salient. One such factor is the ubiquitous one of the material circumstances, which determine the pragmatics under which

local human life unfolds. The other would deal with relations of power that arise outside the local social setting: an environment of non-local others and their knowledge systems, practices, and strengths will always impinge on local worlds from the outside. To include them at this point, however, would as far as I can see shatter the framing of my present argument and militate against the detailed exploration of systemic local processes that I intend. The resulting exercise would then probably turn into just one more generalized account of global processes and their localized impacts. For present purposes, I adopt the narrower—and yet dauntingly complex—purview.

Transmission of Knowledge and Its Trajectories of Change

Let me now specify more concretely how we may use the framework I have outlined. First, I will summarize some of the materials and analyses I have been developing on the Ok region of New Guinea (Barth 1975, 1987). This is a region of small, scattered local communities. At the time and location of my first fieldwork in 1968 among one of its groups, the Baktaman, they were very recently contacted and thus just emerging from a history of endemic warfare and limited communication between adjoining settlements and none with a more distant outside world. Subsistence was based on the cultivation of taro as the main staple, supplemented by hunting, collecting, and modest pig raising. The most abstract and systematically developed tradition of knowledge among them was cast in the form of secret rituals that dealt with growth, vegetative fertility, and support from ancestors—ancestors, incidentally, who could be vindictive as well as bountiful, dangerous even in the hands of their own cult masters. I shall try to demonstrate the gross impacts of particular features of social organization and the communicative medium on the form of knowledge that was cultivated in this tradition of knowledge and its trajectories of marginal change.

The content of the Baktaman ritual/religious/cosmological tradition clearly falls within my concept of knowledge: it provided people with a way to understand major aspects of the world, ways to think and feel about the world, and ways to act on it. One might call it a mystery cult, recognizing that “mystery” is a philosophically rather sophisticated construction that entails not absence of knowledge but an experience of awe before phenomena and questions for which one believes there can be no comprehensible final answers. Animal species, ancestral bones, natural substances, fire, water, colours, taboos, deception, pain, and fear, sacrifice, spells, prayers, songs, and a small number of myths made up the symbols and actions of cult and communication. The sessions above all in which the tradition was cultivated took place in small temples, attended by a handful of senior men, or, at the rare times of initiations, in

larger assemblies where seniors and novices engaged in extensive rites some parts of which took place before an audience of the uninitiated women and children of the community.

In native consciousness, the validity of this knowledge depended on its having been received from now deceased ancestors under the constraints of secrecy. The secret initiation of male novices therefore provided the validating organizational form in which the knowledge was reproduced and transmitted. Among the Baktaman this involved seven degrees of stepwise initiation through which sets of novices advanced under the tutelage of a cult master and of their next-senior set of initiates. The process started with cohorts of boys of estimated age 5–14 years (this being an area without marked seasons, the Baktaman were without concepts of calendrical time), and it was not completed till the members of the age-set were in their late thirties or early forties.

Wishing if possible to obtain a dynamic picture of this tradition of knowledge, I tried to obtain indications of historical changes in the initiation rituals among the Baktaman and their neighbours. Given their embraced premise that all valid knowledge was knowledge that had been passed on by the ancestors, there were no oral histories of changing traditions, but working through the particulars of the recollections of a few older Baktaman men I did eventually learn of nine minor items of ritual that had indeed been changed or been subject to attempts at change in their lifetimes. More strikingly, the riot of variation revealed by comparing local and clearly cognate communities in the larger region seemed to suggest the prevalence of rapid historical flux over time. I return below to what these materials on regional variation indicate with respect to the trajectories of change in knowledge.

First, according to the program of disaggregation and analysis that I have announced above, I should provide some more context for the particular forms of representation and the modes of transmission. The knowledge contained in the tradition was cast, as we have seen, in mainly non-verbal codes of images and acts. By means of ritual manipulation and juxtaposition in the rituals, analogies were constructed between phenomena, and metaphors were created which were thus, as symbols, brought into harmony with each other to enrich each other's connotations. Thus, for example, a series of analogies was demonstrated between different models of growth—leaves on the trees, human hair on the head, the fur of marsupials, the pandanus-leaf thatching of the temple, the subcutaneous fat of pigs—linking all of them as images of the effects of an invisible force, somewhat like heat, that makes taro plants and subterranean taro corms grow.

My claim is thus not, in the structuralist mode, that these images are constituted as a series of oppositions encoding the contrast between growth and decrease. Such a representation of the knowledge involved trivializes it beyond repair. Rather, I understand them as cumulative and harmonizing metaphors, connecting known aspects of the world to shape an elusive, complex,

and difficult-to-grasp appreciation of the pervasiveness and mystery of growth.

To my mind, the most compelling secret and sacred image of the mystery of taro growth—not revealed until the sixth degree of initiation—was provided by the brush turkey, the bones of which were uniquely placed along with the ancestors' bones in shrines within the temple. Now, the brush turkey is a large wild fowl that buries its eggs in large leaf-heap nests that it builds from forest litter. There its eggs are incubated by the heat of compostation, until the chicks hatch at a stage of development when they can break out of the ground and literally fly away into the sky. Such paradoxical images are particularly favoured in Ok cults for the sense they create of the hidden mystery of a covert power of transformation—here birds of the air that emerge from the very ground in which the taro grows in sites characterized by an elusive, sourceless heat. To similar effect, the first small secret taught to little boys at first-degree initiation was to rub themselves on the forehead with pig's fat so as to grow quickly—but also to rub dew on arms and chest. While water was generally represented as a removing agent that washes away other substances and must not be allowed to spoil the effects of increase from the pig's fat, dew on the leaves of the forest in the early morning was tagged as a secret growth force: a miraculous inversion manifesting increase, where water itself grows from nothing on the leaves of the forest in the darkness of the night.

The communicative medium that embodies such visions and knowledge is thus one that depends for its force on the combination of the heightened experience induced by secrecy and danger, the vividness of imagery of the selected natural symbols, and the complexity of their harmonization through multiple revealed analogies and ritual associations. What is constructed as a corpus of knowledge by these means creates a characteristic way of knowing that might be described in externalist language as poetic—a visual symphony that represents the ancestrally granted mystery of growth as something that covertly permeates nature and creates mankind's daily food.

It follows from the basic criterion of validity—that these are secrets transmitted from the ancestors before they died—that such knowledge should be unchanging. Yet the regional variation and the slight changes I could unearth within the Baktaman tradition bespeak the presence of flux and change. And, as we have known since the pathbreaking study by Latour and Woolgar (1979) of knowledge production in a modern biochemical laboratory, the strictest of methodological and theoretical principles of validity are profoundly reshaped by the pragmatics of social organization and performance.

What, then, might be the characteristic processes of knowledge production and change in an Ok tradition of knowledge? To look for clues we should place ourselves in the position of the key actor, in this case the senior initiator, who has the responsibility to re-create this symphony of the ancestors before the eyes of the novices. It would have been a long time—a plausible minimum

of five years and often more like ten years—since the cult master was last asked to perform this initiation. Meanwhile, he had stored the knowledge in his memory, secret and tabooed and perilous, without opportunities for intermittent idle talk about the secrets or any notational system or mnemonic devices other than the sacred objects themselves to remember it by.

The initiation makes up a many-day, complex ritual sequence with considerable dramatic nerve. Now the cult master is supposed to make its secrets of the ancestors suddenly and powerfully manifest, shaping the messages in the visual idioms to make them compelling so that they will do their work to induce fertility and inform and transform the novices. This is emphatically not an occasion for personal invention, which would compromise the messages' validity as the visions of the ancestors. Yet a mere mechanical repetition of the ritual of many years ago may not be adequate, even if the cult master were capable of the rote memory needed: it has to be a re-creation of revelation, with the force to compel the audience of both novices and more advanced knowers. In such a situation, one would expect the cult master, in an honest effort to reproduce the mystery, to be very concerned to secure a maximally effective performance. This means that he must try to enhance the ritual in the ways that are possible: highlight the poetry of the images and their harmonization, pitch the emotive register so as to move the audience maximally, and model the representations of cosmological ideas as clearly and graphically as possible to intensify their thrust.

A set of cross-pressures thus seems to frame the ritual performance and thereby its possible trajectories of change over time. Its character as revealed and transmitted knowledge means that it should be stable, and because there are other knowing seniors present besides the novices changes can at most be moderate and incremental. This also means that the trajectory of change will be path-dependent, since it is its latest performance that at every step defines the fount of tradition. The nature of the medium requires that its idioms resonate emotionally and vividly with the audience, so the precision of the message can be relatively low but the importance of its illocutionary force is great. One would expect the substantive effort and thus the marginal changes in the knowledge in such a situation to focus on the richness of harmonization of idioms, the consistency and coherence of secret knowledge, and the shock and surprise value of new revelations to the novices, and therefore paradoxes and the ambiguities of deeper truths hidden behind overt appearances or previous deceptions will be at a premium. Only thus can the mystery be reproduced, and thereby will its slow trajectory of creativity and change be determined.

Both the known variety of traditional cults in the Ok area and the micro-details of marginal changes in the practices of the Baktaman seem to support the predictions of the model I have presented. The extensive and complex ethnographic materials in which I try to show this to be the case have been published and must be judged in a larger context than can be provided here. My

purpose in putting this brief sketch before you is to show the *kinds* of claims I make by means of an analysis based on this model of knowledge production and transmission. I am certainly not proposing that the specific dynamics of the Ok traditions of secret knowledge can provide us with a paradigm for other, or all, knowledge systems. My main point is that in these materials we can see the three faces of knowledge coming into play and asserting their influence on each other and on the shape of the tradition. These are processes that should be visible in the moments of manifestation of any tradition of knowledge when the pressures and empowerments of its social organization, the constraints and potentials of its medium, and the elements of knowledge in its corpus impinge on each other.

Coherence, Precision, and Generality in Traditions of Knowledge

In these materials from the Baktaman and their neighbours we have dealt with very small-scale processes of transmission, involving a few score persons at a time in single chains of performances in small communities with very limited intercommunication with neighbours. Circumstances become quite different where large populations partake in a broader flow of knowledge within a diverse and multisited tradition. The most obtrusive questions under such circumstances seem to be three: the nature of subdivisions in the total body of what people know, that is, the separate branches of knowledge that coexist in the population; the degree of standardization and sharing of knowledge that is produced within each branch; and the form and degree of ideational precision, coherence, and generality that is developed and maintained in each branch. These are issues I shall try to explore in connection with ethnographic materials from North Bali.

First, the issue of branches of knowledge: In a complex civilization such as that of Bali it makes descriptive sense to divide the totality of knowledge into separable traditions. By this I mean not the cognitive domains of the linguist ethnographer—or, indeed, the taxonomically inclined native—but the bodies of knowledge that are socially instituted. Among Balinese one finds many professions and many specialities, each of which produces and sustains—and often seeks to monopolize—sectors of specific knowledge. Some of these sectors of knowledge belong to larger traditions with different geographical and historical roots and indeed clearly different criteria of validity. In the treatment of sick patients, for example, one finds Bali-Hindu priests, balian healers, Muslim teachers, and bio-medical doctors proceeding in their characteristic ways on the basis of the knowledge they use and linked in different directions with broader traditions of knowledge such as Bali-Hinduism, sorcery, Islam, and Western medical science.

Each such tradition might be inspected by the anthropological analyst for its implicit logic and conceptual

structure, but I wish to avoid the usual circular argument that explains their characteristics by means of whatever logic and structure we as ethnographers abstract from their empirical content. Our analysis becomes more illuminating if we are able to identify the salient processes of production, reproduction, and use of knowledge that take place and shape the forms of knowledge. These processes will be lodged in the social organization of authorities, practitioners, and clients, in the instituted modes of recruitment and replacement of personnel, and in the forms of communication by which each corpus of knowledge is taught, learned, applied, and marginally changed. Moreover, an analysis along the lines of disaggregation that I have outlined will show that each of these many traditions has a characteristic constitutive dynamic that arises internally from the interaction of its three faces. Although most individuals in Bali participate simultaneously in several distinct traditions, the empirical materials indicate that endogenous processes within each tradition generate most of these features and that cross-influences between traditions are far less evident.

Let me focus mainly on Bali-Hinduism, since it is currently unique to Bali and therefore one degree less complex than most of the others in that internal processes within Bali can be said to determine its present dynamics. The sum of Bali-Hinduism makes up an enormous corpus of knowledge—a complex and varied set of beliefs, skills, and practices. Its favoured subjects are far more comprehensive than what we found in the New Guinea example in that it embraces nature and cosmos, health and life, ethnopsychology and human morality, and a panoply of supernatural entities that erratically affect and may even invade and possess human beings.

The question I wish to raise is the extent to which and the sense in which this Bali-Hindu superfluity of cosmology, ritual, morality, and religion can be described as a coherent system of learning and, if so, the nature of its coherence—the character of its systematicity. It strikes me that such a question cannot even be raised in the context of anthropology's usual "cultural analysis," where the assumed fact of unity serves as an unquestioned premise to frame the investigation. In such a holistic analysis, the analyst is usually content to look at a few key representations, explicate their overt structure, and give an interpretation of the ideas, meanings, and symbols that they convey. Looking at it as a tradition of knowledge, however, we should be able to disaggregate the knowledge into its three faces and investigate its constituting processes, thereby laying bare the proper dynamics that generate the tradition's separation from other traditions, its corpus, and the nature of whatever coherence may obtain within it. Again, I must be content to illustrate and explicate a few steps of my analysis only, referring the critical reader to a more extensive ethnography published elsewhere (Barth 1990, 1993).

In a complex ethnography, it is convenient to start with the instituted social organization to map out the fields of social action, though any one of the three faces of knowledge could in principle serve as our point of entry. On the highest level of organization, the premise

of Bali-Hindu cosmology is that Bali belongs to the gods—not all of Bali to a single pantheon of gods but each locality and function to a separate god/aspect of godhead. Each god has one or more local temples or shrines within temples, and there are in Bali an estimated 20,000 temples. Every temple is maintained by a local congregation and led by a priest.

The temples are the main arenas of Bali-Hindu worship in which Bali-Hindu knowledge is collectively objectified, but there are many other arenas in which it is applied, discussed, and taught, such as in sacred text-reading study groups, informal talk, the rites of passage of family members, theatre and puppet performances, private ritual, and moral discussion and debate. Children and young people are not encouraged to delve deeply into these questions lest they go mad, and adult engagements usually take place in organized forms led by an instituted authority. But these authorities make up a strikingly multifarious set. There are the sacred text fragments that are read only in restricted, ritual situations; there are Brahmana priests of inordinate social rank and endogamous high-caste origin who perform passage rites and consecrate new temples; there are village priests who direct the worship in every public temple; there are Balian healers; there are puppeteers and travelling troops of ritual performers; there are temple possession mediums and private consulting mediums; and of course there are innumerable descent-group priests and family elders, as well as episodes of spontaneous possession in every congregation. An even more striking feature is that among the temple priests of Bali there is no system of training and authorization and no centralized or regional control of the incumbency of priesthood and priestly posts. Succession to the office of priest in a temple is determined autonomously by the congregation of each temple, variously by succession within patriline, by popular election within the congregation, or by selection by the god through a possessed medium.

Such a social organization for a large-scale tradition of knowledge raises a number of challenging issues. The most salient questions are (1) What can ensure any degree of continuity in the corpus of knowledge in Bali-Hinduism when the system for the training of its professionals is so singularly rudimentary? and (2) What can ensure any degree of coherence and consistency within that corpus when it seems to leave spaces wide open for erratic local innovation?

On the first point, it should be emphasized that a temple priest is expected to lead the most elaborate public rituals with what look and sound like complex liturgies: mantras in Sanskrit, Old Balinese, and Javanese, offerings, purifications, and blessings, the production and manipulation of intricate ritual objects, and so forth. I have a number of vivid testimonies from current priests who claim to have been taken aback and totally unprepared to be suddenly designated the successor of a deceased incumbent in a temple session where the possessed medium pointed god's finger at him or the congregation suddenly demanded his consent. As a limitation on this apparent anarchy, these same accounts may mention

help to the novice priest from the priests of other temples but also direct inspiration from the god and honorable and successful improvisation. There is likewise the circumstance to consider that Bali-Hinduism allows a great degree of particularism and localization of ritual injunctions, whereby spontaneous irregularities will affect the totality of the tradition less than they would in a more globalized system. Yet I cannot resist speculating on what might, for example, be the nature of continuity in our own discipline if professors were appointed in similar fashion.

The other challenge concerns how a degree of coherence and consistency within the tradition's corpus of knowledge can be evolved and sustained under such conditions of erratic innovation. Most threatening to any priestly and disciplined cultivation of sacred knowledge would seem the practice whereby gods regularly descend among their congregation and speak directly to people through possessed mediums, on an unpredictable and potentially unlimited range of subjects, at every full moon in 20,000 temples throughout Bali. There are certain institutionalized brakes on these events: the priest holds the authority to translate or interpret obscure statements by the possessed medium, and if the performance gets totally out of hand he may also diagnose the event as a case of possession by an evil spirit/devil falsely posing as the god of the temple. Yet I have been present in a session where a well-established priest made no attempt to divert the god from speaking through the temple medium and scolding his priest for ritual errors, until the errant priest finally dissolved in hysterical sobbing.

Moreover, the presence of such a large cadre of temple priests, each independently authorized and engaging his flock in worship, religious speculation, and moral instruction, might seem an equally potent threat to any unity of dogma and cosmology. How can we imagine that a religion with such a social organization can speak with one voice and maintain and transmit a consistent and coherent corpus of learning by means of its segmented multitude of priestly authorities? Considering the historical battles and not infrequent failures to do so in an organization as massive as the Catholic Church, equipped as it is with its holy and authorized text, its seminars, investitures, and councils, and its disciplines and excommunications, the situation of the Bali-Hindu tradition seems indeed precarious. At issue are both the degree of standardization and agreement on knowledge between members or authorities within Bali-Hinduism and the kinds of coherence, logical or otherwise, that can be maintained between the items that compose Bali-Hindu knowledge.

Balinese themselves do seem to value the idea that everything must be exactly right. In social life, one begs forgiveness "if I may have made a mistake," and ritual errors can have catastrophic consequences. Moral and philosophical debate likewise often involves abstract principles and systematizing logic. The ideology thus seems to embrace standards of rigour and exactness as paramount ideals. But what might provide the exacting

standards by which to judge error and correctness? Given the imprecision of the media through which Bali-Hindu knowledge is largely objectified (ritual objects, blessings, obscure mantras, vivid art forms, a cast of mythical and theatrical figures), such a declared ideal may indeed be a trifle spurious. And the ambiguity of representations is only exacerbated by some general Balinese philosophical tenets, for example, that everything in the world is in a state of flux and if its current instantiation drifts too far towards one extreme it may flip to the opposite extreme or that any one form or phenomenon may, in a particular situation, appear as a manifestation of an apparently quite different phenomenon.

A traditional ethnographic procedure would be to search for empirical regularities in the ethnography of Bali so as to ascertain the extent of agreement that obtains between Bali-Hindu authorities and to abstract the common principles on which their knowledge is based from a systematic inventory of that knowledge. But nothing like the necessary data for such an assessment are available: ethnographies have hardly scratched the surface of local and regional variation or expressive wealth contained in the Bali-Hindu tradition. Might we, then, try to do as I did with the New Guinea materials referred to above and look for processes of knowledge production, innovation, and marginal change? Again, the surfeit of productivity in the variety of representations and expressions militates against establishing any kind of canon or time line against which marginal empirical innovations and changes could be identified and measured.

But perhaps the whole issue I raise is contrived and too narrowly conceived. Speaking of "knowledge" we too easily focus on generalization, consistency, and a logical coherence in which an ideal system of knowledge is seen as one which derived its corpus from a few abstract principles by systematic deduction. But knowledge in its different modalities can range from an assemblage of disconnected empirical detail to a "theory of everything," and even among ourselves in the West it is probably greatly weighted towards the former rather than the latter form. Consider, for example, the details of houses, trees, slopes, and paths that we carry about in our minds regarding every neighbourhood we "know" and how constantly in use its ungeneralized detail is in our daily lives; consider the mass of specific empirical information that we file under rather simple taxonomies of animals and plants. So let us return to basics and ask first just how Bali-Hinduism is used as knowledge, that is, "used to interpret and act on the world."

Observing and listening to people using it shows us that it is mainly employed to interpret a social and moral world—indeed, one that embraces far more than the moral world which a Western person constructs—and to act socially and virtuously in it. And the rigour and exactness that persons cultivate are concerned precisely with these social and moral aspects, not with the physical and material. The enormously elaborate representations, towers, and offerings at a cremation, for example, must be *intended* to be scrupulously correct to avoid

ritual error and disaster but not necessarily so in their actual physical execution to avoid the dire consequences of error. Most of the ritual objects are subcontracted and produced by others, and then it is their producers, not the sponsors of the ceremonies and offerings, who will suffer the consequences of any ritual error that might occur. Indeed, if they are executed with rigour, care, and good intentions, even their producers will probably escape the bad consequences of errors. Or other escape devices may obtain. For example, in the case of exhumation for cremation, it is vitally important that *all* the bones of the buried person be retrieved and burned. But one may choose merely to take a handful of earth from the grave, which then "symbolically" stands for the whole and complete skeleton. We are in a world constructed on principles of sociality and morality, not mechanical causality.

The power of such a system of knowledge should therefore be measured in terms of the productivity of the images, insights, and explanations that it provides for reflection and action on the complexities of interpersonal relations and of individual health and success and disaster, not in the rigour of its abstract generalizations about an impersonal, physical cosmos. And its coherence will be located more in its social organization and in the communicative medium and images it offers than in the abstract logic governing its corpus. Bali-Hinduism provides a singularly rich vocabulary and set of images for discourses and judgements on worshipfulness and cooperation, virtue and evil, harmony and danger. The role of its priesthood and the pressure on each priest and religious paragon is to maintain that productivity and engage the congregations in their ritual work. It is not to work out a consistent set of dogmas or abstract generalizations about the world. Thus, the particular kind of composition that characterizes its corpus arises not from a failure for other purposes but from the strengths that the medium of representation and the dynamics of the social organization provide to those who apply it in action.

Modern Academic Knowledge

Any attempt to give a general account of knowledge must be reflexively applicable to its own pursuits—in this case, both to academic knowledge in general and to our own anthropology in particular. But can the simple perspective I have used to approach Ok cosmology and Bali-Hindu thought illuminate modern academic knowledge?

I am treading here on treacherous ground, where any statement is easily read as signalling one or another of the familiar, contestable positions in the debates that have preoccupied Western philosophers and methodologists for centuries. Yet I may need to make my prejudices clear. To my understanding, modern academic knowledge is a way of knowing that has emerged historically through the union of a number of ideas. It hails from the Enlightenment and rationalist individualism.

Its global systemization through what Latour (1987) calls “centers of calculation” nurtured its spectacular accumulation, scope, and power. Its emergent idea of research, in the strict sense of systematic procedures for producing previously unknown knowledge, implied a radical shift from the ideals of scholarship found in other literate traditions, which valorize the encyclopedic command of existing bodies of knowledge. The ideological and organizational features of this vision of knowledge were perhaps most clearly epitomized in the Humboldtian university concept. I take it as indisputable that the resulting forms of knowledge have proved immensely effective and have revolutionized much of modern thought and modern political economy.

An anthropological perspective invites us to go beyond the narrower questions of scientific methodology, or truth and rationality, and instead observe the overall circulation and deployment of modern knowledge—the interleaved phases of its construction, representation, distribution, and reproduction and the uses made of it by positioned actors and teams. This is congruent with the approach I used to analyse Ok and Balinese materials, where I focused on their representation and transmission of knowledge and their practices of use, not on a critique of underlying methodological principles. A similar perspective on modern knowledge makes it fully amenable to the approach for which I plead. I thus see no problem in disaggregating sectors of academic knowledge into the same three faces as other knowledge: the bodies of substantive assertions it contains, the characteristic media and representations in which it is cast and communicated, and the social organization within which its activities take place. We then observe their interplay, especially in the criteria of validity and the constraints on performance that are generated not in an imaginary and universalized space but in the particular moments of realization of action.

Looking separately at the media of representation and communication allows us to discover how very unlike each other the different branches of academic knowledge are. Mathematical knowledge has its computations, gross anatomy its atlases, microbiology its technical apparatus and chemical models, and so on. These representations shape both thought and action and thus the practices of scholars in different disciplines. Emily Martin (1987, 1994; Kirschner 1999) has furthermore uncovered the role of broader networks of ideas and framing metaphors in how science is represented: the language of industrial production in reproductive medicine (and the hidden curriculum of traditional gender knowledge that it incorporates), the images of war games and the body boundary anxieties that permeate immunology. Besides shaping popular knowledge in these fields, such imagery must also affect the construction of research projects and thereby the production of new knowledge. There is much empirical and analytical work to be done along such lines in each of the different, particular disciplines of science, humanities, and social science.

Clearly distinguishing the modes of representation from the organizational face of knowledge also allows us

a clearer picture of resulting practices within universities and disciplines. As in the case of Ok cosmology and Bali-Hindu thought, what might seem relatively minor details of social organization can have, I suggest, great impact on the academic knowledge that is produced and husbanded. Some evidence of these effects in our own discipline in Britain have recently been discussed under the heading of “audit culture” (Shore and Wright 1999).

In contrast to Humboldt’s heroic scenario of original, critical research pursued by autonomously driven scholars, the short-term gains of “research and development” have played an increasing role in university rhetoric of self-justification. Continuing this trend, we are currently seeing a trivialization of the work done in universities in Britain and elsewhere under the pressure of demands for justification through “public accountability.” A social democratic concern for the usefulness of the university’s services to society and a neoliberal suspicion of the efficiency of the use of funds in any institution not directly related to the market combine to demand such accountability through procedures that monitor university research and teaching by “quality assessment.” To this end a political technology of self-monitoring, audits, and other “quality assurance initiatives” has been instituted. According to Shore and Wright (1999:565), by the 1990s every British anthropology department was subject to a cycle of academic audit one year, a competitive ranking of research output the next year, and a teaching-quality assessment the third year. Any unsatisfactory department was given 12 months to remedy its position, after which core funding and student places for that unit were withdrawn. By 1997, two further agencies were designed: an institute for the accreditation of academic teachers, which expected faculty to devote five to eight days per annum to “remaining in good standing,” and an ambitious quality-assurance agency to standardize degrees, set subject benchmarks, formulate target outcomes for each programme in each institution, name academic reviewers for each discipline, and scrutinize quality-assurance mechanisms in each institution on a six-yearly cycle.

What is put in the hands of this bureaucratic leviathan is nothing less than the power to replace and reshape the criteria of validity governing anthropological knowledge in Britain. If traditional scholarly criteria of validity have not been totally eclipsed, they certainly will be significantly supplemented by this regime. The only way for scholars to survive in such a situation, Shore and Wright point out, is to design their research with the measuring instruments of the quality-assessment bureaucracy in mind and create a paper trail to provide evidence of performance that is measurable and will give a positive score. Thus, inevitably, the design of the measuring instrument defines what will be valued. Since the organization controls resources and the granting of legitimacy, the criteria of validity for British anthropology will, from now on, represent a balance between the simplicities imposed by the measuring capacity of the audit mechanism and the vicissitudes of patronage and factionalism among the select few who hold positions in its bureau-

cracy. It seems discouragingly safe to expect less imagination and creativity and more triviality from scholars governed by this regime, and to that extent the model predicts the trajectory of anthropological knowledge in Britain.

The technology of reviews and academic audits will be familiar to all of us. Yet there is reason to hope that its effects on scholarly performance in, for example, the United States will be less than in Britain. Control is somewhat less centralized in American academia, and much arbitrary power is held by individual university presidents. Paradoxically, this may favour the conditions of creativity among colleagues in America. The performance of a university president is, after all, in part judged by the president's proximity to academic excellence and fame, and entrepreneurial success in recruiting famous faculty enhances the president's own status. This in turn sets up a quest for fame among scholars in every discipline, allowing a different set of criteria of validity for the knowledge they produce and a different structure of rewards. The quality-assessment technologies may therefore prove to have both fewer uses and less levelling effects in America than in Britain.

General Reflections

Unsurprisingly, it emerges from the preceding section that the perspective I have applied to the analysis of Ok and Balinese knowledge can be used to illuminate significant aspects of academic knowledge as well. That must be so, as I see it, because its first and basic move is to set up dimensions of description (corpus, medium, social organization) that are based on truisms about all knowledge. The issue is where a more comprehensive and detailed analysis along these lines might take us in our understanding of how academic knowledge works. In my small example above, I focussed on a few features of the social organization of universities and anthropology and on the criteria of validity and the practices that they generate, not on an analysis of methodology in the strict sense. In this respect, my mode of approach is somewhat like what since the 1970s has been called the "strong program" in science studies (Barnes, Bloor, and Henry 1996), characterized especially by its agnosticism with respect to the truth or falsity of specific items of knowledge.⁴

But my purposes are different: an exploration of the ethnographies of human knowledge, in the forms that

they patently have in various human populations, rather than a normative critique or exposé of how scientific research is pursued. Obviously, it would not be very fruitful for anthropologists to study the varieties of human knowledge only to dismiss most of them for faulty method. People construct their worlds by their knowledge and live by it, and therefore an anthropology of knowledge should ask how these varieties are variously produced, represented, transmitted, and applied. This account must be "relativist," of course, and will have only marginal and limited use for concepts of truth and falsity, rationality and irrationality. Truth is not the bottom line (Putnam 1981:130). But such a relativism certainly does not mean that "anything goes"—*pace* Feyerabend (1975). The illustrations I have given suggest that each tradition of knowledge will be characterized by distinct and in their own ways stringent criteria of validity—presumably in some kind of systematic relation to the uses to which that knowledge is put.

Much of the controversy around the strong program in science studies arises from the objection by many natural scientists that such an approach misses the whole point of science: its discovery of truth through its engagement with nature itself as the external referee and thus the ultimate explanation of all scientific knowledge (Sokal and Bricmont 1998:85, 97). Now, all knowledge, as noted in the definition, engages "nature" in that it is used to interpret and act on the world, and we need to be precise and discriminating in our description of how different representations of knowledge and different sociologies are linked to different practices of application to nature. Baktaman cultivators pile leaves and uprooted vegetation around their taro plants because "the taro likes the smell of rotting vegetation." They doubtless have accumulated agronomical experience that this practice affects the world, that is, the growth of taro. They do *not* pursue their representation further to determine if it is indeed the smell and not some other consequence of their practice that makes the taro thrive. But the image of representation that they use seems perfectly adequate in motivating their mulching practice. What sense would it make for us to translate their image literally and then fault it as if it motivated practices that they do *not* follow? I propose that in our description of knowledge we need to be very meticulous in our recording of how items of knowledge are connected with—no: are part of—specific practices. We should not, in the fashion of early ethnographers, lose ourselves in what strikes us as the bizarre imagery.

Will such meticulousness allow us to disregard nature as the tribunal of knowledge and explain the content and trajectory of knowledge purely by social and representational factors? Certainly not, if we have the hubris to wish to explain human knowledge *ex nihilo*. But a social and representational description will take us a long way in specifying the pathways of feedback from action on the world—from nature—to socially positioned thinking and acting persons, reaping experience that is profoundly shaped by the specific tasks, purposes, and representations of knowledge that they construct. Thus if our idea

4. Or see the principles articulated by Bloor (1991:7): "1. It would be causal, that is, concerned with the conditions which bring about belief or states of knowledge. Naturally there will be other types of causes apart from social ones which will cooperate in bringing about beliefs.

"2. It would be impartial with respect to truth and falsity, rationality or irrationality, success or failure. Both sides of these dichotomies will require explanation.

"3. It would be symmetrical in its style of explanation. The same types of causes would explain, say, true and false beliefs.

"4. It would be reflexive. In principle its patterns of explanation would have to be applicable to sociology itself."

of change is one of a marginal change—like a differential equation of what is happening—then we can, or rather we must, bring a battery of those persons' presumptions and schemas for interpreting the apparent results of action to bear on what new knowledge may ensue. Raw nature obtains very limited access and at best only a small voice through this tight grid of human constructions.

But perhaps some persons are as literal-minded as the old ethnographers were and use conventional representations to think in unconventional contexts. Baktaman cultivators sometimes wonder, as I found them doing, whether, given that the taro can smell, it can also hear. (It probably cannot see, because it is beneath the ground.) Smell also plays a certain role in their ritual: they blow wild ginger in contexts that I never felt I understood. Perhaps odor serves as a model, an image, for action at a distance—a problem I once heard them spontaneously address in wondering how it was that the ancestral skull in the temple could effect growth in the taro of distant gardens. Change in every tradition of knowledge surely arises from within it, through idle speculation, and by transposing models and mixing metaphors, as well as from the external feedbacks from the world that are interpreted in experience. Such speculation must press on the boundaries of conventional knowledge. Can we discover and describe the specific form of the reality checks that such speculation runs into? Surely, the very fact that change in traditions of knowledge is demonstrably path-dependent shows us that these human constructions are not subject to any massively external test of nature and that we need a much less simplistic way to model the interpenetration of a corpus of knowledge and its set of applications to action on the world.

To unravel more of the processes and dynamics of the human varieties in knowledge, it seems that we have an unending program of discovery and analysis ahead of us.

Comments

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Barth has managed a significant conceptual achievement in proposing to develop a comparative ethnographic analysis on "how bodies of knowledge are produced in persons and populations, in the context of the social relations that they sustain." In this proposal he identifies three interconnected faces of knowledge: a substantive corpus of assertions, a range of media of representation, and social organization. This schematic framework offers new insights on the interpersonal and cognitive foundations of cultural meanings.

Many social psychologists have sought to identify the interpersonal factors that determine knowledge distri-

bution, forms of coherence in shared knowledge, and the trajectory of change in cultural meanings. I agree with Barth that meaning construction, transmission, and application in daily social transactions are symbolic actions that take place among socially situated persons with particular communicative intentions. In psychology, the preferred subject of theoretical discourse is mental process. Robert Krauss and I have articulated the social cognitive processes that mediate the development of shared meanings. Our claims (1998:53) are as follows:

Using language to represent a state of affairs can evoke or create an internal representation that differs from the internal representations of the same state of affairs evoked or created by other means of encoding. The internal representations evoked or created by language use can affect a language user's subsequent cognitions. The form that a linguistic representation takes will be affected by the contexts of language use, including the ground rules and assumptions that govern usage; audience design; and the immediate, ongoing, and emerging properties of the communication situation. Through communication, the private cognitions of individuals can be made public and directed toward a shared representation of the referent.

These claims link the use of language in communication to the emergence of socially shared cognitions, which are core elements of cultural meaning systems. As Langacker (1967) argues, when a thought is translated into a speech the speaker must cast it in a form that is appropriate for linguistic operations and pertinent to the communication function. Thus, interpersonal communication is the primary process by which private thoughts are socialized. Audience design in communication provides a good illustration of how a private idea is transformed into a shared representation. Typically, a communicative message is addressed to an actual or potential audience and has been formulated to be understandable by that audience. Regardless of whether the audience consists of some specific other person, a specifiable collection of individuals (students in an introductory anthropology lecture), or a category of individuals (readers of *CURRENT ANTHROPOLOGY*), in formulating communicative messages a speaker must take the addressee's knowledge, beliefs, and motives into account. Speakers describing the Star Ferry Terminal in Hong Kong refer to it differently depending on the listener's apparent familiarity with Hong Kong. Thus, inevitably the speaker will modify the communicative message in the direction of the assumed knowledge of the listener. Moreover, the verbal representation of the referent in the communicative message could overshadow the speaker's original mental representation of the referent. Verbal overshadowing is particularly important for internalization of shared representations because it enables shared representations established in communication to replace private representations.

As Barth mentions, people sharing a cultural context are positioned in a common social organization and participate in similar social practices. Because communicative acts are goal-directed behaviors, culturally salient perlocutionary intentions (intentions to bring about some particular consequence by an act of speaking) may also constrain the pattern of language use within a cultural group, evoking similar linguistic representations and giving rise to shared meanings.

In short, there are different metaphors and modes of discourse in anthropology and social psychology for describing the “processes and dynamics of the human varieties in knowledge.” An interdisciplinary perspective might offer a more complete picture with different layers of detail and generality. One facet of Barth’s conceptual accomplishment is that he offers a concrete analytic framework for establishing common ground for the two disciplines to communicate their insights on how cultural meanings develop and change in interpersonal transactions.

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While he is still best known for his early work on political leadership and ethnic identity, Fredrik Barth has now devoted the majority of his long career to the anthropology of knowledge. We can detect the beginnings of this project as early as 1966, when he wrote, “The problem as I see it is to understand how any degree of systematization and consistency is established and maintained between the different values that coexist in a culture” (1966:12). Rejecting structuralist and functionalist accounts that attribute cultural integration merely to logical or psychological consistency, Barth set out to investigate the *creation* of consistency through personal transactions and other social processes. He took as his inspiration a statement by Boas, originally published in 1896: “If anthropology desires to establish the laws governing the growth of culture it must not confine itself to comparing the results of growth alone, but whenever such is feasible it must compare the *processes* of growth” (Boas 1940:280, emphasis added; cf. Barth 1966: 22).

Comparing processes of cultural growth is exactly what Barth has done in New Guinea and Bali (not to mention the several other societies in which he has conducted fieldwork over the past 35 years). The resulting monographs (Barth 1975, 1987, 1993) and articles (e.g., 1989, 1990, 1992) constitute an exemplary body of work, perhaps the single most important model for empirical research within the emerging neo-Boasian paradigm (e.g., Rodseth 1998, Bunzl 1999, Lewis 2001). Here I would like to focus on the Boasian metaphor of “growth” as a way of analyzing both the scope and the limits of Barth’s anthropology of knowledge.

The concept of growth is deeply ambiguous. It col-

lapses together the notion of *development*, such as the growth of trees or children, and the notion of *spread*, such as the growth of an epidemic or a religious tradition. Both kinds of phenomena may be described as “growth,” but the first kind implies gradual change within a bounded and persisting system (like a human body), while the second implies more or less faithful *replication* within an ever-shifting social network. When Barth investigates the growth of knowledge, which kind of growth does he have in mind?

Taken by itself, his Mintz Lecture might lead one to think that Barth is mainly interested in the first sense of growth, that is, development within a system—the system of knowledge, in this case, found within a given society. Indeed, for present purposes, he deliberately omits the many “exogenous factors” that he knows must impinge upon the “systemic local processes” that he is attempting to model. Such strategic simplification is a necessary step—if not a necessary evil—in all model building, and there is little doubt that Barth gains insights into endogenous processes by temporarily ignoring exogenous ones. In particular, he is able to shed considerable light on the issues of (1) how knowledge in the Ok region has *changed* and *diversified*, given the supreme value that the Baktaman place on cultural continuity, and (2) what makes Balinese knowledge *persist* and *cohere* over such a wide area when there is no churchlike authority to curb “erratic local innovation.” Both change and persistence are seen here as endogenously determined processes, as in the growth of a tree or a child.

Yet a careful reading of Barth’s other works, especially *Cosmologies in the Making* (1987) and “The Guru and the Conjurer” (1990), makes it clear that he is intensely interested in cultural growth as a *distributed* process—a matter of knowledge spreading from individual to individual within a social network and perhaps spilling from one network to another through the activities of “gurus” and other long-distance travelers. To balance our image of Barth’s approach, it is worth remembering his emphasis in an earlier context on the way knowledge often slips the grid of existing institutions: “I wish to grasp general features of the management and transmission of knowledge, and the resulting informational economy of communities and regions, not the structure of particular instituted relations” (1990:648). A related aspect of Barth’s approach is his emphasis on the factors that make some forms of knowledge more “portable” or more “catching” than others (see also Sperber 1996). In the Mintz Lecture we see how a corpus of knowledge is dependent on endogenous media and social organization; what we do not see in any detail is how a given idea or assertion *escapes* that corpus of knowledge and spreads *beyond* its original medium and social milieu. The limitation of this approach has been identified by Barth himself (1990:641), and the question he posed in that earlier context is especially fitting for an occasion honoring Sidney Mintz: “How might we do better, and start building a social anthropology which could inform regional and historical syntheses, and thereby achieve the dynamic

character needed to give an account of variable and changing humanity?"

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Whether we call the object of our study "culture" or "knowledge," what matters is how well our conceptualization of it can elucidate a particular situation. Barth's formulation is especially fruitful because it isolates four very important points: (a) that we need to consider discursive and non-discursive knowledge together rather than separately; (b) that people within a single group participate differentially in multiple social knowledges, which thus become a social resource; (c) that the reproduction of knowledge is an act of agency situated in unique circumstances; and (d) that we can seek to explain the long-term history of knowledge in terms of cumulative generations of reproduction.

Because this perspective is potentially applicable to many media and kinds of knowledge, it raises exciting new questions for history and archaeology. If one views material things as products and instruments of bodies of knowledge which are neither unquestioningly reproduced nor unalterable, then Barth's vision can supply one bridge for linking the micro-sociology of social action with the creation of long-term historical traditions. For example, some archaeologists have begun to consider material culture in terms of how the knowledge required to produce it is maintained and reproduced. Perlés (2001) provides one example: Would an inland community in the Greek Early Neolithic have been able to maintain a complex and detailed body of seafaring knowledge by engaging in very few voyages with long gaps between them? A similar approach is inherent in many symbolic interpretations of material-culture change; the long centuries of remodeling monuments such as Stonehenge must be interpreted as a historical trajectory of change created by generations of ritual participants speaking an inherited language of stones. It is especially interesting to consider "knowledge about knowledge" (Barth's "criteria for validity")—for instance, which genres of knowledge must be adhered to rigidly and which allow free play of improvisation and elaboration. This kind of generative agent-oriented approach is absolutely necessary for any kind of regional analysis of cultural variation (as Barth's own work [1987] illustrates wonderfully; cf. Knauff 1993), especially where "phenotypic" differences in cultural practices have clearly arisen from common roots (for example, Robb 2001).

What is more difficult is to determine the limits of this approach. Although Barth notes that his definition of "knowledge" overlaps with anthropologists' traditional definition of "culture," in practice his analytical strategy limits the depth with which knowledge penetrates the actors. In other words, it separates actors from the act of knowing. As an analytical tactic, this allows us to investigate with great effectiveness and detail ex-

actly how actors of a given kind in specific circumstances decide to reproduce, tinker with, invent, forget, or suppress a given substantive proposition. This is an actor-centered view of agency, which takes intentions and capabilities for action as its starting point. But what about the reverse perspective—in which bodies of knowledge are preexisting and actors are constituted through their relation to them, in other words, through their public acts of knowing? A related question concerns which kinds of "knowledge" are best analyzed using Barth's point of view. His examples seem to suggest that this works, basically, for things that people have choice about believing or at least may be modeled as having choice about: which interpretation of an ambiguous precept to foment, for instance, or whether to write a research grant to investigate DNA, cold fusion, or extrasensory perception. It's not clear where to fit in habituated actions below the threshold of consciousness, inculcated feelings and attitudes such as shame, and such abstract unquestionables as Rappaport's (1979) "ultimate sacred postulates" or Bourdieu's (1977) "generative principles." Barth's essay thus should perhaps be read as an extremely stimulating staking out of a well-delimited part of the problem of agency and social reproduction.

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Barth says that among the Baktaman

the most abstract and systematically developed tradition of knowledge . . . was cast in the form of secret rituals that dealt with growth, vegetative fertility, and support from ancestors. . . .

By means of ritual manipulation and juxtaposition in the rituals, analogies were created between phenomena, and metaphors were created which were thus, as symbols, brought into harmony with each other to enrich each other's connotations. Thus, for example, a series of analogies was demonstrated between different models of growth . . . linking all of them as images of the effects of an invisible force, somewhat like heat, that makes taro plants and subterranean corms grow.

One of the main points of his pathbreaking (1975) account of these traditions (which is consistent with his present account) is that their object is essentially ineffable. The symbols are concrete, mainly visual ones which in their use among the Baktaman are never subjected to the kind of explicit exegesis through which Barth himself is able to link them all and to suggest a common theme such as the "invisible force" described above. Any attempt to do so is, as I think Barth would agree, a compromise that renders them more intelligible from what he calls the "externalist" viewpoint but strips them of the capacity they give to Baktaman initiates to "experience what otherwise might be misery or boredom

. . . as the very epitome of the 'good life'" (Barth 1975: 236)—and, indeed, of their capacity to inform such highly efficacious practices as the mulching of taro mounds.

A somewhat similar compromise is, I suggest, involved in Barth's present attempt to be as explicit as possible about what he means by "knowledge." He is of course not the first social theorist to take this as a central term of analysis. One thinks, for example, of Karl Mannheim (1936) and the large body of ensuing work done under the banner of the "sociology of knowledge," of Foucault's (1972) vision of an "archeology of knowledge," and even of C. S. Peirce, whose foundational work in semiotics had no place for a notion of structure but was all about the growth of knowledge. But it is probably fair to say that no *anthropologist* has made "knowledge" as central a working concept as Barth has. The anthropological context is crucial here, for—notwithstanding his own (1975:159–71) aversion to positional or "contrastive" accounts of meaning—the sense that Barth wants to give to the term "knowledge" is best understood in terms of the explicit contrast he here develops between it and its presumed "other," namely, "culture" (differentially distributed versus diffusely shared, distinct from reflection and actions, etc.).

But when Barth attempts to define "knowledge" positively, he vacillates between descriptions which are too broad to operationalize ("what a person employs to interpret and act on the world . . . [including] feelings (attitudes) as well as information, embodied skills as well as verbal taxonomies and concepts") and ones which are too narrow to be adequate, even as descriptions of his own analytical procedure ("a corpus of substantive assertions"). His proposed threefold disaggregation of knowledge (substantive corpus, medium and representations, social organization) has much to recommend it, as does his processual approach in general, but it is not clear that "social organization" can be separated out as the distinctly actional dimension of knowledge, since all three faces of knowledge are involved "in every transaction in knowledge, in every performance," and since social organization is partly a matter of sedimented fields in which actors are "positioned." Nor is it always clear how to distinguish knowledge as "substantive corpus" from "medium and representations," since knowledge of the latter is crucial in any society and a substantial part of what is differentially distributed.

But it would be grossly unfair to hold Barth to the letter of his own attempted exegesis here of what he means by "knowledge." The brilliance of his work has always been most evident in the *use* he has been able to make of such terms as what Karl Popper (1972) would have called "searchlights" for the illumination of human social life in a wide variety of ethnographic settings. In this respect their effect is rather like the ineffable forms of coherence among disparate experiential realms that are achieved through the concrete metaphors of Baktaman ritual—an effect which makes Barth's general account of knowledge even more "reflexively applicable" than he may have anticipated.

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In a fitting tribute to the scholarship and intellectual virtuosity of Sidney Mintz, Barth has produced an engaging and provocative invitation to consider knowledge as an important theoretical and methodological locus for ethnographic enquiry. Knowledge is one of those slippery concepts that, along with, for example, "family," "organization," "tradition," and "individual," enable anthropologists to talk to one another without getting too bogged down in the specificities of culture and setting. By drawing our attention to corpus, media, and social organization as crucial variables brought together in very different ways in a range of social, economic, and historical circumstances, Barth has gone some way toward suggesting a systematic approach to the study of knowledge across radically different contexts. The approach is one with which I am broadly sympathetic, and I have found a focus on knowledge as the subject of transaction and contestation useful in my own analysis of traditional healers in Sri Lanka (Simpson 1997). However, whilst the lecture succeeds in setting off numerous conceptual and analytical rabbits in some interesting and suggestive directions, there are some important omissions. In particular I am interested in what has happened to tradition, creativity, and, above all, performance in this otherwise stimulating exposition.

I draw attention to these dimensions of knowledge because I think they would significantly strengthen the arguments that Barth presents. Leaving universities aside for the time being, the forms of knowledge that he uses to make his case are not just any knowledge but ritual knowledge, and as such their immanence is made tangible through performances made up of audiences, action, and various kinds of embodied authority. As Leach (1976) once suggested, ritual is practical philosophy; even if it is not necessarily coming up with answers, it is at least posing intelligible questions about existential verities such as suffering, life, death, and conflict. Yet, the power and authority of this knowledge do not simply come down to assertions of its primordality; they are achieved through the repeated performance of persuasive ritual acts. Medium and message, as Marshall McLuhan (1964) and others since have argued, are powerfully intertwined in the communication of this kind of knowledge. Thus, practice informed by tradition is always simultaneously "old" and "new"; convention and invention are two sides of the same coin. Convention has to be continually invented and re-presented, whilst implicit in the notion of invention are conventions from which practice deviates. Focus on the activities of those who are responsible for the performance of things traditional (healers, priests, elders, shamans) ought to throw light on the mechanisms and techniques whereby performance in the present comes to carry the unmistakable stamp of tradition. In this view, tradition is not a mere receptacle of invariant knowledge; rather, it is made up

of fundamentally creative and interpretive acts on the part of the carriers of tradition which are intended to make it appear invariant, ancient, and primordial (cf: Bell 1992 and Fuller 1997). Tradition is in effect a history of creativity (Simpson n.d.), and the exponents of tradition bear an “existential responsibility” (Pye 1991:30) because they must adapt to their present circumstances the knowledge and skills passed on to them. The creative act is to do this in such a way as to deny change and temporality and to fabricate for their audiences a sense of transmitted invariance and timelessness: a performative illusion of considerable ingenuity and persuasive power (cf. Smith 1982:53).

All of this would appear to take us a long way from modern academic knowledge, but, as Barth demonstrates, there is much that might be learned from the ways in which Ok cosmology or Bali-Hindu thought is socially organized and routinely transacted. Yet, outside of laboratory studies we have remarkably little by way of ethnographic research on contemporary academic practice. Paying attention to the details of that practice not just in different disciplines but also in different countries (see Gledhill 2000) seems like a good idea if we are to comment reflectively on what we do in the name of responsible teaching and scholarship. Yet again, the performative dimensions of knowledge are underplayed. For example, the revolution in information and communication technologies not only has had a massive impact on the shape of academic knowledge (the corpus) but also is radically changing its performance and transmission (analogies with the impact of literacy on oral traditions would not be out of place here). Teaching that once took place in a socio-moral context with some parallels to the performance and transmission of Ok or Bali-Hindu knowledge now takes place in a radically altered context. The expansion of information and communication technologies and the audit, surveillance, and monitoring they make possible means that knowledge transactions are increasingly virtual, technological, and information-based. Democratization of information ushers in new forms of authority and accountability. Whereas traditional ritual performers are required to put their energies into making things that are changing seem the same, the energy of academics seems currently to be driven towards masking the stability and continuity of their traditions in order to create a disembodied knowledge that appears new and innovative at every turn. The possible implications of this trend are profound, and Barth is to be congratulated for suggesting some of the frameworks we might construct in order to make possible a comparative exercise in the global ethnography of knowledge.

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Barth’s definition of knowledge is on the face of it innocuous—it doesn’t matter whether we are talking about

knowledge, practice, culture, or structure, because his broad view of knowledge encompasses all these features and, furthermore, he attests to their mutual determinative effects on each other. These terms are the ones with which we narrow down and make visible the subject of our inquiry for specific analytic purposes. We make the terms appear to have certain distinct features, and in this regard they are as useful as the ends to which we put them. What analytic ends are met by Barth’s own glosses on this nexus of human behaviour and conceptualization?

Despite avowing the mutual interconnection of the three “faces” of knowledge—corpus, mode of transmission and representation, and social organization—Barth argues that “the knowledge component of our being is conceptually separable from our relationships . . . the social dimensions of our lives.” While this seems intuitively acceptable to us as Westerners, it is also the case that along with what we learn as a corpus of propositions we also absorb the *techniques of nescience* that configure the limits of that corpus and its vehicles of representation. But what we do not, cannot, or are not supposed to know for whatever social reason is not as easy to represent to ourselves as the explicit portions which embody what is overtly bequeathed to us in the social world.

Because Barth separates the corpus of propositions from their mode of transmission, he creates the problem of what is or is not transmitted under certain conditions—the examples he uses come from his non-Western field areas of Western Province, Papua New Guinea, and Bali. In response to the dilemma of the Baktaman ritual adept, who must reproduce ancestral secret knowledge despite the long duration of its nonperformance and non-transmission, I pose the dilemmas of contemporary indigenous Australians living in settled Australia, who face the challenge of recovering their precolonial traditions after a long period of dispossession and forced forgetting of them in order to reclaim native title rights to their ancestral lands. The Australian states and federal government have been inclined to accept that these traditions have been “washed away by the tide of history” (as one federal court judge opined in a recent landmark native title case) and that consequently contemporary Aborigines have “lost their tradition.”

From one point of view, the comparison between the Baktaman and Aborigines in settled Australia is only structural. After all, the perception of loss among the Baktaman is an endogenously engendered one, while many indigenous Australians were forced through various oppressive actions by settler society to relinquish their language, religion, myth, and so forth. But, as I was told by an Aboriginal Australian whose native title claim I have been researching, any given generation knows exactly what it knows at any given time. If indigenous knowledge of country became mediated through Aboriginal employment on white-owned pastoral stations in the late 19th and 20th centuries, it is indigenous knowledge of country nevertheless. Its continuity with a pre-

vious regime of knowledge of country in a landscape devoid of settlers is nevertheless patent.

While Barth does an excellent job preserving the proportions of the dilemma of “how much we should know” between the very differently scaled worlds of the Baktaman and the Balinese, I am less sure how his third example, that of academic knowledge, relates to the first two cases. From my Australian perspective, at least British universities are focusing on research output that academics would find acceptable, and the priority seems to be preserving the ability of academic departments to sustain themselves in the terms he evidently favours. In Australia, however, research output barely ranks against postgraduate student degrees awarded. To my mind this means that a wedge has been driven into the nexus of academic research and scholarly transmission of a disciplinary methodology through postgraduate supervision; it is no longer necessary to demonstrate scholarship to supervise its reproduction in Australian universities—here, then, is the real danger of separating knowledge from its hierarchies of transmission. Further, resources are being diverted away from the Ph.D. program as such to shorter postgraduate degrees that will attract full-fee-paying students. The result can be predicted—the current emphasis is on producing postgraduates not with purely academic qualifications but with more tailored degrees in “applied” disciplinary knowledge and practice, designed to facilitate their employment outside of the university sector. While I am in no doubt of the value of such courses, given that more anthropologists in Australia are currently employed outside the universities than within them, I am not sure how long it will take, left unchecked, for this mode of transmission to remove altogether the need for scholarly reproduction of disciplinary knowledge. The ultimate effect of this practice by Australian academic departments, particularly anthropology departments, may come to resemble the response of indigenous Australians in the early 20th century: Faced with exile and incarceration if they were caught speaking their own language or practising their precolonial customs, they ceased to do so, leaving subsequent indigenous generations the arduous task of creating the conditions for its reappearance and reemodiment. There may come a time when Australian anthropologists will face the laborious task of reasserting the continuity between academic anthropology and that which seems to be replacing it. But, to repeat the words of my indigenous interlocutor, every generation knows what it must know—and can know.

Reply

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I very much welcome the remarks of my respondents, each of which is constructive and challenging. By pre-

sending not obstacles but productive questions they show the productivity of an anthropological focus on knowledge.

Chiu points to the important ways in which the communication of a thought shapes that thought through a subtle interaction of the need to cast it in a form appropriate to the medium in which it is being encoded, the operations that can be performed in that code, the constraints of convention, audience design, etc. This shapes the thought as a vector in subsequent cognition and use and in the production of shared meanings. Though Chiu seems to favour language over other forms of codification, this schema appears equally relevant to all the media of communication that must engage the ethnographer. Indeed, the recent work by Whitehouse (2000) takes some steps in this very direction. We should welcome the promise that Chiu’s invitation to interdisciplinary discussion offers.

Rumsey helpfully explicates the problems I face in my attempts to identify the ineffable objects of Baktaman knowledge in an externalist and English-language mode. He further points to difficulties inherent in my concept of knowledge. I might say that I intended less than to “define” knowledge positively (“what a person employs to interpret and act on the world . . . etc.”). It is enough for us to recognize that it is where persons engage in such tasks that we should look for empirical manifestations of knowledge. The idea of a corpus, however, refers to only *one* of the three elemental faces of knowledge and not its totality, though it is meant to embrace all forms of templates and skills, non-linguistic as much as linguistic. Rumsey’s other query regarding my characterization of “social organization” as another face of knowledge is very well taken. I hoped to identify a social domain embracing all the interactional affordances and constraints on performance at the moment of action. But since all interaction arises from a prepositioning of the interacting parties and since we need to retrieve all the relevant institutional statuses, conventions, and capacities under this heading, that is not adequate. Too many substantive aspects of social knowledge and too many predistributed skills of communication seem to be folded into this face at present. I have not been able to find a form of words that serves my intentions better and tags what I wish to disaggregate; perhaps the problem is that my construction attempts to schematize too much. At the same time, I do not wish to lose its marginalist potential, which depends on modeling a minimal set of factors that impinge on actors at the moment when knowledge is made manifest in action.

This is where I accommodate the focus on performance that Simpson misses. His observation that my main illustrations are limited to ritual is important. It is essential that we be able to analyse knowledge of different domains and different ways of knowing. Though I could not pursue it in the narrow compass of an article, I claim that it can be done. The result would be to demonstrate how diverse the different traditions of knowledge indeed are. It would also compel me to give a different account of the central problem of so much of philosophy and

methodology, namely, how nature impinges on *some* forms of knowledge in a much more determinate way than it does in those forms that I discuss here.

Robb points up my partiality to the actor side of the actor/structure antinomy. What about the reverse perspective, he asks, in which bodies of knowledge are pre-existing and actors are constituted through their relation to them? I acknowledge that in resisting the structuralists' single-minded emphasis on the aggregate I tend polemically to stress the agency of individuals so as to escape the stasis of the preexisting. That is why Russell's framing of the problem of knowledge was so attractive to me. A more disengaged way is to conceptualize the two as parts of a dialectic. Yet the point of my exercise is to identify the *processes* that generate these vast bodies of accumulated public knowledge. Wallerstein (1988: 531) speaks of culture as the residue of pastness but challenges the usefulness of that view by the counter that "we only know pastness in the present." My strategy is precisely to capture that present knowledge in its distributed modality, to see the traditions of knowledge in their moment of manifestation as they are deployed and identify the reproductive consequences and marginal changes which that deployment produces. In this view, the only "other" kind of knowledge, located elsewhere, would be in textbooks, archives, data banks, and the minds of others—but it needs to be retrieved in the present to have consequences. Through the lense of the moment of action, could we not capture the whole? So, commenting on Robb's illustrations, I would say that "shame" may be a socially inculcated habit and exist below the threshold of consciousness, but it is present when it affects the design and interpretation of my actions and irrelevant unless it does. Robb's other illustrations—Rappaport's ultimate sacred postulates and Bourdieu's generative principles—I would regard as *our* abstract constructions rather than as anyone else's knowledge. But we must also be prepared sometimes to entertain simultaneous disjunctive perspectives on our object and be willing to speak, for example, of a dialectic whenever that might prove useful.

I happily join Weiner and his Australian informant in claiming knowledge transmitted among Aboriginal workmen on cattle stations as indigenous knowledge. Certain chains of transmission can be tragically weakened and disrupted and produce deeply mutated knowledge yet be linked to perduring social groups and identities, and every incident of transmission, whether successfully replicating or tenuously transforming, depends equally on a creative performance at the moment of communication.

Weiner's despair over how to reproduce a tradition of scholarship in the modern Australian university will resonate, I fear, with many of us. One way to resist the administrators' abuse of the university is to show them that the model they use for our case is entirely inappropriate. Even if our only function were to produce graduates for employers outside the academic sector, the conditions under which we do so are unique in that the university sector must be capable of reproducing *itself*

or it disappears. Unlike all other modern institutions, we have no other place to turn for skilled recruits in the hundreds of different disciplines: unless the university sector is allowed to produce full-fledged scholars, it will not be there to serve any of its other functions in 20 years' time.

I have saved Rodseth's comments till last, since they allow me also to articulate my homage to Sidney Mintz. Rodseth generously places my work in an emerging neo-Boasian tradition and points to the fruitfulness of the generative mechanisms I analyse for tasks of historical and regional synthesis, as much as for the analysis of endogenous transformations. I would be very satisfied if the perspective we discuss here were recognized as one that allows us to resume some of Boas's large and central tasks for anthropology—ambitions that have been sidelined in much contemporary work. He laid claim to an immensely ambitious scholarly space for anthropology. His broadest intent was to develop a discipline that could address the dynamics of human society and culture with empirical rigour but generalizing intent, through historical syntheses as much as close analysis of mechanisms. This is a vision and a practice that we should all in our various ways be more prepared to shoulder and that Sidney Mintz has honoured in his scholarship.

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