Learning Without Teaching: Its Place in Culture

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Laymen and psychologists alike agree that some human learning takes place without the help of teaching and some takes place untaught. Yet, as Jerome Bruner (1966) indicates, most experimental studies of "learning" ignore the role of real-life teaching and consider only the kind of drill provided in the experimental setting. This drill is usually seen as stimulating repeated encounters with the evidence, rather than a deliberate teaching process.

By contrast, social psychologists and educators are prone to focus almost exclusively on teacher-learning interaction and to ignore spontaneous learning. This is, in particular, true of L. S. Vygotsky whose pioneering work on the relations between the mental and the social is somewhat marred by his neglect of "natural" (as opposed to "cultural") development (Wertsch, 1985; cf. Fodor, 1972). As Wertsch points out:

In his discussion of the relationship between development and instruction, (Vygotsky) argues that learning cannot be reduced to teaching in instruction, yet one is precisely the interpretation that seems most compatible with his converse about the emergence of intrapsychological from interpsychological functioning. (Wertsch, 1985, p. 73)

Anthropologists, being primarily concerned with culturally transmitted knowledge, often take for granted that most learning directly or indirectly involves sustained interaction with others. But the equation, implicit in Vygotsky's work, of culturally transmitted knowledge with knowledge learned through interaction is ethnocentrically biased. In most human societies children become competent adults without the help of institutionalized teaching. There are no schools, no syllabus, no appointed teachers. Parents and other elders don't see their duty towards children as furnishing the child in various skills, but actions carried out with the purpose of teaching are rare. Most learning is achieved as a by-product, in the course of interactions that have other purposes.

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All human life, hence all human learning, takes place in a social and cultural setting and is affected by that setting. This does not mean, however, that all human knowledge is socially transmitted: Individuals also learn from idiosyncratic experiences. Not all knowledge, properly speaking, is taught. Some transmissions take place without the help of the older generation, for instance by unconscious observation. 1 Transmission can even take place in spite of contrary teaching, as when parents teach one thing and practice another and are imitated rather than hated. The study of traditional societies, where rich cultures may be transmitted with little deliberate teaching, suggests that some very basic learning abilities may need social interaction, but not teaching, in order to be effective.

In Western folk psychology, though, learning and teaching (sometimes expressed by the same word, e.g., apprendre in French) are considered as one and the same process seen from two complementary perspectives. When learning is achieved without apparent teaching, some kind of teaching is nevertheless assumed to have taken place. Thus we say "experience taught me," . . . . "he has taught himself." . . . These metaphorical extensions of the notion of "teaching" are carried over from ordinary language, where they are relatively harmless, into scholarly anthropology or psychology, where they beg many questions, as witnessed by the following exchanges:

Paper: I would like to say something about Sperber’s reference to abilities that appear in a child without having been taught. It is wrong to identify teaching with a standard situation in which a teacher stands in front of a class or a mother interacts with her child. There are much more subtle ways in which society transmits knowledge to successive generations, as may be seen in many cases of one-to-one correspondence in our social lives. The system of skills and knowledge transmits many things, among them the idea of one-to-one correspondence. It is not possible that some forms are selected for this kind of function by some evolutionary process.

Sperber: One must distinguish between explicit, direct instruction, which in itself can never be the source of learning processes, and objects of instruction, which can suggest to the subject a systematic development only if he has the equipment for that. An organism that constructed the one-to-one relationship from observing recapitulation would not overcome his inability to "teach" but rather to his own limitations. (Felsch-Palmaire, 1981, pp. 250-251)

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1 Interim is far from the sample, sauteur phenomenon it is usually thought to be. Roland Gelso, who was a discussant for this chapter at the Tel-Aviv University seminar, pointed out that interim involves the structure which, among other things, permits the learner to observe the behavior of others. This allows the learner to compare other behavior with the standard so as to ensure its implications. To a significant extent, therefore, even in isolation the mind may operate as a fairly autonomous mechanism that sets up and drives the use of a well-structured cognitive system for processing behavior in the learner's environment.

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From an anthropological point of view, a social practice or an institution is characterized by the purpose the social actors attribute to it. From this viewpoint, teaching is a social practice aimed at causing learning (i.e., "education" in a broad sense). Teaching must be distinguished from other kinds of social practices that are not aimed at causing learning. Of course, the actual effects of a practice may be very different from its cultural or socially recognized purpose. A teaching practice may, in fact, cause very little learning. Conversely, a ritual activity, say, that is not aimed at causing learning may nevertheless greatly contribute to learning because it displays a good deal of socially relevant information to an intelligent learner.

Although teaching may fail in causing learning, where other institutions succeed, we expect teaching and learning to be on the whole—on certain respects, essentially—correlated. But this correlation, which is an important anthropological and psychological topic, must be studied and not simply postulated. 2 From a psychological point of view, "learning" is a medley of problems and mysteries. The fact that learning is sometimes helped by teaching, or is dependent upon it, makes it a further problem rather than a solution.

The study of learning and its relation to teaching may be clarified by moving from a discussion of learning in general—a level at which few, if any, useful generalizations are to be expected—to learning in specific cognitive domains. The idea we want to advance is that not all concepts are equal. Different conceptual domains may require or tolerate different kinds of supporting environments. Some domains, particularly those where more or less spontaneous learning takes place, may need supporting environments with only a minimum of previous, culturally imposed structure. The environment's role would be merely to provide the physical and psychological targets that trigger the learner's attention. To say in such cases that we actually learn from the exemplars that occasion learning obviously begs the question of what may count as a legitimate datum. It is the conceptual structure of the domain that tells us what the criteria are and how they are to be organized and interpreted.

But how are specific domains to be identified? Several well-known kinds of considerations can be brought to bear on the issue. Conceptual analysis can suggest domain-specificity by showing that the structures to be learned are very different, as between, say, arithmetic and color classification. The presence of much greater individual differences in performance in some fields (e.g., understanding mathematics) than in others (e.g., language comprehension) provides another source of evidence. An additional source is the study of specific cognitive losses, such as various forms of aphasia and agnosia, examples of which will be discussed later on.

2 Claire Perret (1980) may be right in claiming that the human species has a unique pedagogical disposition. In other words, humans may well react the same as development or to correct performance in a way we other animals don't. Thus, the distinction between learning and teaching is not only important to observers. What this allows the learner to compare other behavior with the standard so as to ensure its implications. To a significant extent, therefore, even in isolation the mind may operate as a fairly autonomous mechanism that sets up and drives the use of a well-structured cognitive system for processing behavior in the learner's environment.
by some kind of language teaching. But basic linguistic abilities seem to develop spontaneously, given a medium of ordinary linguistic interaction. This constitutes strong evidence not just for the innate, but also for the specialized, character of human language learning ability.

While language may provide the best and richest example of a specialized learning mechanism, it is not the only one. Take the case of color. Until the 1970s the dominant view of color categorization was that advanced in linguistics by Sapir (1911/1972), in anthropology by Benjamin Whorf (1956), and in philosophy by William James (1906). According to that view, innate human abilities impose no particular organization on the color continuum. Each culture apprehends this continuum and divides it into named zones as it wishes. Hence, there should be no universal in color categorization—a prediction corroborated by a superficial look at color terms across languages.

To the contrary, more recent, methodologically sounder cross-cultural studies of color categories have indicated that basic color sets are perceptually invariant across cultures (Berlin & Kay, 1969; Heider, 1972; Kay & McDaniel, 1977). Thus, we find that in all languages having at least three basic color terms, there is one term whose meaning is best instantiated by focal red (a small region of the spectrum definable as a particular combination of hue, saturation, and brightness), and essentially the same holds for all basic colors. Moreover, variations in identifying the best instance of, say, "red" are individual rather than cultural.

Taken together, the cross-cultural and developmental evidence suggest that deliberate manipulation of the learning situation (other than deprivation of relevant input) could not fundamentally alter the content or development of color categorization. In other words, teaching is largely irrelevant to the learning of this very basic cognitive ability. In particular, different color terminologies, far from determining different color categorizations, all accommodate to the existing universal one. They differ merely in providing richer or poorer means of verbally encoding processing basic color categories. To be sure, what takes place once we move beyond basic color categories and look at elaborate terminologies linked to special uses of color (e.g., dying or painting) largely remains an open empirical question. In this regard, it would not be surprising if we found important cultural differences together with a regular involvement of teaching in transmission.

Nowadays cognitive sciences often take for granted the specific and spontaneous character of language learning abilities and are willing to acknowledge the cognitive specificity of each sensory modality. At the same time, there is still a widespread tendency to consider that our modularity-specific concepts are all learned and processed in the same way. In particular, it is often assumed in the cognitive literature that a single common theory uniformity holds for all terms, however much the kinds of objects or events they denote might differ. For instance, it is generally taken as

In working assumptions... that in the domain of both man-made and biological objects, there occur information-rich bundles of attributes that form natural classes.

...learning... where certain linguistic principles in human cognition.

Furthermore, the severe pathology or total deprivation of human interaction to prevent linguistic development. So far as we know, absence of language teaching (understood, in the widest reasonable sense, as interaction specifically aimed at helping language learning) is no hindrance at all. What role language teaching may play (if it actually occurs) is, as we have already suspected, very uncertain. In a society with many social dialects, it may ensure that a socially more valuable dialect is being learned. It may bring about a marginal differences in linguistic proficiency which, in a very competitive society, may turn out to be real social significance. Other linguistic sciences are probably favored

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One barely tapped source of evidence on the demarcation of cognitive domains is the study of cultural transmission: some bodies of knowledge have a life of their own, only marginally affected by social change (e.g., color classification, folk-tales), while others are of cultural knowledge (e.g., literary, advanced algebra) depend for their transmission, and hence for their very existence, on specific institutions. This suggests that culture should not be viewed as an integrated whole, relying for its transmission on indeterminate human cognitive abilities. Rather, it seems that human cognitive resources are involved in different ways in the many more or less autonomous, sociolinguistic subsystems that go into the making of culture.

With a few examples, let us illustrate how this simultaneously cognitive and anthropological approach might help demarcate those specific cognitive domains where spontaneous learning takes place.

Spontaneous Learning

Until recently, in anthropology as in education theory and developmental psychology generally, all human knowledge was assumed to be acquired essentially in the same way. Learning was seen to derive from a unitary system of cognitive structure, with some complexity in its organization over time, but not in its procedures at any given stage (Lewin, 1904; Lashider & Piaget, 1966; Vygotsky, 1962). Psychology aside, individual and cultural differences presumably owed to differences in the particular experiences the developing system was intended to interpret. By manipulating individual and collective experiences, then, people might be led to acquire different bodies of knowledge. Teaching could reasonably be seen as a deliberate manipulation of such kind, potentially effective in all domains.

There is now a good deal of plausible speculation and empirical evidence against such views. Work in theoretical linguistics and experimental psycholinguistics posed the first, and still the most significant, challenge to the idea of a single unspecialized learning ability (Chomsky, 1965, 1980; Pinker, 1984). For the first time in human history, learning theory is not essentially a mere replication and highly institutionalized systems of principles were proposed to account of significant aspects of human linguistic behavior and for its development in the individual. No other psychological domain appears to reflect the peculiar kinds of empirical regularities that might suggest a wider operation of these linguistic principles in human cognition.

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The continued and seemingly inexhaustible controversy over whether the genus (Barthol., 1940; Berlin, 1972) or the species (Diamond, 1956; Boles & Tyler, 1960) constitutes the psychologically and historically primitive grouping that has remained inconclusive. In fact, the basic folk-biological kind may be properly designated "generic-species" (Atran, 1982a).

The life-form level further generalizes generic-species into large exclusive groups (tree, grass, moss, quadruped, bird, fish, insect, etc.). Life forms appear to pettition plants and animals into a contrasting lexical field: a pre-theoretical division of positive features that are opposed among one or more perceptible dimensions (size, smell habits, mode of locomotion, skin covering, etc.) (cf. Brown, 1984). By and large, plant life forms do not correspond to scientific taxa, while animal (life forms approximate modern classes, save the psychologically "residual" invertebrate groups "bugs," "worms," etc.).

A consequence of divisions and ranking at the life-form level is that phenomenally and ecologically marginal groups may assume the status of monogenic life forms. The phenomenally peculiar (though taxonomy regular) characteristic of monogenic life forms is that they have insistent aspects of both generic-species and life forms. As generic-species these facets are readily perceptible at a glance. As life forms they occupy a distinctive role in the economy of nature. Because they are so distinctive, they may easily be marked off by characters chosen from dimensions spanning other life forms: For example, "cactus" for many American and French folk, as well as for the Aguarunas of Peru (Atran), can be pegged from "tree," "grass," and the like by a rather simple set of diagnostic oppositions (Atran, 1985, cf. Sperrer, 1979a).

Taxononomic ranking of living kinds is apparently peculiar to that domain. The field structure for artifacts, while often conflated with that of living kinds, is quite different. For one thing, taxa of the same category are disjoint precludes artifact groupings entering into ranked taxonomies. There can be no absolutely artifact ranks. Not only can artificial items belong to more than one "taxa" within an inclusion series (a wheelchair as both "furniture" and "vehicle") but a given item may belong to different series (the same item as a case for packing furniture or as a table used as furniture). It would also be useless to think in terms of "monogenic" artifact categories.

Talk of artifact "natures" is idle as well. For example, one and the same item can literally be an instance of "wastepaper basket" in one context and "snood" in another if intended differently (cf. Dougherty & Keller, 1985). It is the fact that artifacts are defined by the functions they serve, rather than by any inherent perceptual properties, that allows a given (morphologically self-same) item to belong to different categories of artifacts in different circumstances (cf. Miller, 1978). But, for example, a dog is always a dog.1

1 Still, according to Reuch (1972), p. 111, just as "women colors in which English speakers apply the word 'red' or 'rubin' than admit[s] some breeds of dog (such as the terriers) are more representative of the 'meaning' of dog than a Pit-bull." But the ecologi with color is atomistic. If a Pit-bull is not...
The intuitive structure of groupings ranked according to their presumed underlying nature thus hardly applies to artifacts. For example, "oarsmen" may be judged to fall under the category "dog," but not under "farmers," even though "dog" is normally thought of as a type of artifact (cf. Hamper, 1982). In contrast, although for ancient and modern Greek folk some instances of herbaewaualao might resemble those of carabiner, neither household oaks might not look like trees at all, tall-growing mammal would not be classified under "tree" while stunted oaks would be. (cf. Theophrastus, 1966). Similarly, among the Tukula of Indonesia (as in most other cul-
tures), "one hour of a particular small walking..." this "tree (ו_רנהו_ל) a tree (ו_רנהו_ל) or of the same sapling..." "this is not a member of the (herb-a-
wax weed class), it is a tree (ו_רנהו_ל) and hence contrast with a goat" (Taylor, 1979, p. 224).

The claim for universal principles of folk-biological taxonomy is not for the universal status of particular nines, only for taxonomic categories. The categories of specific-species and life form are universal. The delimitation and placement of particular taxa is not. To claim that life forms are fundamentally pragmatic notions (Randall & Hauen, 1984) is belied by obvious fact; for instance, children be they 2-year-old Americans (Douglashy, 1979) or Mayans (Seno, 1979) that art certainly do not "learn" "would-rat" when they learn "tree" (Atenas, 1987). Also, claims as to any "universal principles" governing the sequence in which life forms appear in the language of any given society (Ilkonen, 1984), whether or not such principles are related to societal complexity may have little to do with taxonomic principles. A permanent empiricism bias confounds the prior notion of abstract taxonomic schema with substantive patterns derived from experience. Categories as such have no historical dimension, even though particular taxa of may. Indeed, the so-called "universality" of the living kind conceptual domain, we find that the learning of ordinary living kind terms is remarkably easy and needs no teaching. At a limit, one need only once point to an animal (even in a zoo or book) and name it to have young children immediately classify and relationally segregate properly, or only parochially, a dog, when other kind could be confused with what it may be difficult to discuss with a hamster and "orange" about, or where "dog" home off and "lived" begins (cf. Labor, 1973, Eiseund, 1979, however, this is certainly not the case. "dog" "cat" as any other such living kind. Perhaps there is a lesser degree of coincidence in the judgment especially the child's, a judgment that a Polynesian or a Korean turns a dog not another have been kind or such as a cat, then in the judgment of a Polynesian or a Korean shaped to be a dog other than a cat. the Polynesia and Korean however cannot account for anything but dogs. The result is that members of a living kind, but not an artificial kind, are presumed to have the most essential underlying nature regardless of the extent to which members actually differ in physical appearance. This presupposition establishes the natural unity of ordinary types of living kind despite obvious individual variations among exemplars (Arnes, 1980; cf. Spelke, 1974). It is why, for example, canine species may well be classified with animals defined as "mammals" by common. Note, however, that it is impossible to say of a flying there that it be "dog," "dog" of a region called "bush" in the animal kingdom in the same classes. For the "dog" of a large-footed "panda" or for the "dog" a natural underlying order. By contrast, those of a cat or a bird are merely pliable and fairly - not necessarily - means for these animals, to realize their defining functions.

Evidence for Domain-Specificity

Let us now return to the issue of what sorts of evidence might be brought to bear on the delimitation of basic cognitive domains. Thus far, we have relied chiefly on conceptual analysis: showing that a given domain is universally present and structured in a specific way that differs radically from the ways other domains are structured. In particular, anthropological and psychological findings clearly suggest that the mind organizes the domains of living kinds in a very different way from that of artifacts, no matter what the culture. But the argument for universal, domain-specific cognitions does not depend exclusively, or even necessarily, on cross-cultural similarities (e.g., cultural
"universals" in the sense of Levi-Strauss, 1969). The social subordination of women, for example, appears to characterize all known cultures. It could even be argued that there is some biological grounding for this condition. There is no reason, however, to attribute the varied ways people psychologically process this pervasive social phenomenon to some universal cognitive mechanism. Conversely, the ability to develop and understand mathematics may be rooted in some fairly specific cognitive mechanisms, which human brains are innately endowed with (cf. Chomsky, 1965). Many cultures do not require that people use this ability. Nor is it occasioned by every environment. Mathematics does not spontaneously arise irrespective of social context, but seems to require a richer and more sustained sequence of experience and instruction in order to flourish than, say, basic grammatical knowledge, color perception, or appreciation of living kinds (cf. Roodkopf, Sturte, & Telci, 1971).

A more revealing indication of basic, domain-specific knowledge comes from study of cultural transmission. Admittedly, the acquisition of all cultural knowledge depends upon its mode of transmission. But the acquisition of certain basic forms of knowledge does not seem much influenced by the sequence in which it is communicated. That is, what is learned does not much depend on how it is passed along. Taxonomical knowledge of living kinds, for instance, is roughly comparable across similar physical environments regardless of whether it is "ideologically formalized" in one society or has a "high rhetorical profile" in another. Thus, the Hanunoo of the Philippines possess detailed basic botanical knowledge that they take over entire to demonstrate and pontificate upon (Consolin, 1954); but the Zambians of Madagascar, whose tropical environment and avidity knowledge are rather similar to that of the Hanunoo, appear to pass on their equally detailed basic botanical knowledge quite informally and with scarce commentary (Bloch, 1983).

An additional source of evidence for domain-specificity stems from development psychology. For it is logical to suppose that the basic structures of human cognition are those which severely constrain, and therefore greatly facilitate, the rapid acquisition of cultural knowledge. Experiments in the field indicate accordingly that young children—be they American (Kell, 1986) or Yoruba (Jefil, 1985)—distinguish artifacts from living things, and come to presume that only the latter continue to "natural kinds" with underlying essences.

Concerning notions of underlying nature, more recent studies by Kell (1988) and his colleagues (Lebrun & Kell, 1989) show that preschoolers have some presumptions, however rudimentary. In other words, the youngsters clearly "have some beliefs about what are not likely to be biologically relevant properties, regardless of their characteristic.

Thus, most of the knowledge pictured here cannot allow temporary and insecure

1 This is not to say that Hanunoo response on general biological nature, like specialized Zambians; this cultural concern with voice, acts on complex modes of transmission governing social "rituals." Notes—"a culture-specific". One might assume that even domain-specific presumptions for living kinds and for other biological phenomena (Gill, 1966) remain consistent with some universal cognitive mechanisms (Kell, 1986). In such a case, the precise nature of the universals (or innate biases) is not yet known.
In sum, it is logically impossible that humans are able to conceptually generalize from limited experience without a priori structures that govern the projection of finite instances to their infinitely extendable classes. It is an entirely empirical question whether or not these principles cross domains, and, if they do, which domains they cross. No a priori assumption in the matter is justified. The implication for research strategies is clear: In the absence of sufficient further evidence, results from a presently nonexistent cognitive domain should not be extended to other domains. We should be prepared to discover that, after all, the structure of human concepts is a mosaic rather than a monolith.

The Place of Spontaneous Learning in Culture

What we have suggested so far is that some abilities, concepts, and beliefs are easily acquired, without the help of teaching, and on the basis of ordinary interactions with others and the environment. What makes this acquisition easy is an innate readiness that takes different forms for different domains, or, in other terms, a set of domain-specific cognitive dispositions. The existence of such dispositions is, of course, neither more nor less mysterious than that of any adaptive aspect of the species’ genetic endowment.

Human cognitive dispositions describe a core of spontaneously learnable representations that are highly similar across cultures. Cultures develop—with greater diversity—beyond this core. They include systems of representations that are not spontaneously learnable. On the contrary, these systems require deliberation and often long and difficult learning, which may greatly benefit from adequate teaching.

We will now consider briefly and in a very simplified way, two types of such systems, representations, science and religion, to see how they depart from the cultural core while nevertheless remaining rooted in it.

Core concepts and beliefs are easily acquired and tend to be adequate for ordinary dealings with the social and natural environment. Yet they are restricted to some core areas and domains and are rather rigid. Other, harder-to-learn representations may be less limited in their domain of application and less rigid. They involve different cognitive abilities, in particular, the human ability of forming representations of representations. This metarepresentational ability (closely related to linguistic communication: see Spertus & Wilson, 1960) allows people to retain information that they only partly understand and to work on it in order to understand it better. Such processing of half-understood information over time is typical of deliberate efforts to learn counterintuitive ideas, and is found in both science and religion.

A major difference between spontaneous and nonspontaneous, or sophisticated, learning is that only in the former case are the individual’s newly acquired thoughts directly about the objects of the new knowledge; for example, about physical properties or animals. As for sophisticated learning, the individual’s newly acquired thoughts are initially about the knowledge itself: for example, about notions and ideas in physics or in biology. Only if and when these notions and ideas become fully assimilated may the knowledge cease to be non- or even counterintuitive and become direct knowledge of, say, physical or biological facts. The passage from representation of knowledge to assimilation of knowledge is often difficult, if not in the sciences. Sometimes it is not even possible, so that some forms of knowledge, such as religious ideas, remain forever metarepresentational.

In the case of the sciences, what makes this metarepresentational ideas understandable at all is that they remain rooted in common sense intuitions, however remote (see Ajzen, 1986). The history of science, for instance, suggests that the breakthroughs that characterize modern theories followed a conscious probe of the scope and limits of common sense “given” in the corresponding naïve theories. Consider evolutionary theory: Darwin (1859, p. 426) rejects the essence of species as “merely artificial combinations made for convenience”; yet the argument for natural selection would fail, in Darwin’s eyes, if it is failed to be a solution to the problem of the origin of species, a problem whose formulation presupposed that the term had its customary reference (Wallace, 1809, p. 1; cf. Hodge, 1987). Evolutionary biology today has gone even further against the grain of intuition in rejecting the common sense view of species as classes of organisms and substituting the notion of the species as a “logical individual” (Ghiselin, 1981). But even these axiomatizations of evolutionary theory (Williams, 1983) that treat species communities as individual space-time wholes implicitly appeal to a notion of the “metarepresentational” species that closely approximates the lay conception (Mayr, 1969, p. 27).

In practice, the field biologist who is initially unfamiliar with a terrain can usually rely on local folk to provide a fairly accurate first approximation of the scientific distribution of the local flora and fauna (at least for vertebrates and flowering plants). True, genetics and molecular biology have little recourse to folk intuitions, but in these fields as well generalizations depend on the acceptance of taxonomic inferences that do make use of notions like species.

Plainly, the learning of the sciences need not recapitulate the historic process of discovery. It seems, however, that understanding at least some central notions of a science represents understanding the corresponding “meta” notions and relating the two appropriately. This fact places some light on the role of quality of teaching in cases of sophisticated learning: The role of the teacher is not merely to present, however soundly and clearly, the scientific notions and theories; it is also to help students relate these to common-sense experience and knowledge.
In the case of religious beliefs, we take the view that they never became fully assimilated to basic knowledge. They retain an element of mystery not just for

considerers but also, though differently, for the believers themselves. In cognitive terms, this is due to the religious beliefs being homeomorphically structured (see Sperber, 1975a, 1985a). In sociological terms, they are deployed, taught, discussed, and reinterpreted as deities, demons, or sacred texts. The fact that religious beliefs do not lend themselves to any kind of clear and final comprehension allows their learning, their teaching, and their exegesis to go on forever.

Religious beliefs, however, are not unconcerned with common-sense knowledge.

They are generally inconsistent with common sense knowledge, but not at random; rather, they dramatically contradict basic common-sense assumptions (see Atran, 1986). For instance, they include beliefs about invisible creatures, beliefs about creatures who can transform themselves at will or who can perceive events that are distant in time or space (see Sperber, 1975b). This factly contradicts factual, common-sense assumptions about physical, biological, and psychological phenomena. Such dramatic contradictions contribute to making religious beliefs particularly attention-arousing and memorable. As a result, these beliefs are more likely to be retained and transmitted to a human group than random departures from common sense, and thus to become part of the group’s culture (see Sperber, 1985a).

In brief, religious beliefs, too, are rooted in basic beliefs, albeit in a “selective-

conscious” way. Thus, whereas a given religious text or tradition, one might “predict” that the likelihood of a transformation from one thing into another should decrease as the distance... between the common-sense categories of these two things increases (Keil & Klein, 1985). For instance, the metaphors of humans into animals and animals into plants may be more common than that of humans or animals into artifacts. To the extent such violations of category distinctions shock basic notions of ontology, they are attention-arousing, hence memorable. But only to the degree that the resultant possible worlds remain bridged to the everyday world can information about them be stored and evolved in plausible genres.

Our metaphorical talk about a core of spontaneously learnable knowledge, and a periphery of further knowledge that requires deliberate learning and teaching not only suggests that the one is more stable and central than the other; it also indicates that they are functionally related. The very existence of the periphery is made possible by the core. Sophisticated knowledge elaborates or challenges common-

sense knowledge but does not (common-sense ontological) categories of these two things. Differences in knowledge (Keil & Klein, 1985).


References


