

Culture, Perception, Language and Cognition (In Search of Universal Information Processes and Structures)

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ABSTRACT This paper tries to provide a theoretical insight into the relation between mind and culture at various levels. Views from anthropology, cognitive science, semiotics, psychology are discussed to get an enriched and multi-perspective understanding of the dynamics of relations between culture and individuals. The issues of perception, language and cognition are analyzed to see if there exists basic universal information processing structures across cultures. It has been observed that there exists universal cognitive processes and structures across cultures, but differences occur at the level of participation and orientation of individual and cultural mind in these processes. At each point of existence nature poses bifurcation points for culture and individuals living in it. Man not only tries to understand nature but tries to construe his world to facilitate his existence. Man is always in a decision making process. Culture provides constraints, opportunities and information to the individual, who while processing these information generates enough surplus meaning which gets disseminated in the culture, thus enriching other minds situated in that culture. A brief discussion has been made in this paper on the cognitive aspect of cross-cultural communication.

INTRODUCTION

Despite the variation among cultures, there are widespread (and likely universal) aspects of culture, taken for granted, that form a skeleton on issues around which cultures are built. Among these are the concepts: kinship, group membership, social dominance, religion, laws, duties, etc. But one also immediately thinks of ownership and property rights, differentiation of social roles, and the existence of elaborate rituals that enhance or instantiate group membership. There is no particular functional reason why human beings have to form cultures this way, but that seems to be the way they are. This parallels the kind of variations on a theme that one finds in the structure of language.

As in the case of languages, the diversity

among cultures is obviously more striking and engaging than their uniformity. But one can also learn to appreciate what is not noticed – how things are the same – and in the case of language this has proved the more scientifically rewarding inquiry. Understanding a culture is very much similar to understanding a living tissue. To understand living tissue it helps to have a microscope on which you can vary the level of magnification. Low power is useful to help dissection, for it reveals boundaries and structures that seem solid and well-defined. It shows the “overall picture”. Too much detail at this stage is a nuisance. But when one wishes to investigate the functional properties of the tissue, how it works, the fine detail becomes crucial. Boundaries that had seemed like walls become, under higher magnification, more vague. They are not impermeable barriers, fixed in time and space, but distributed concentrations of actions, sites of intense and continuous interaction and transaction between the two sides. All the elements that constitute a culture are structures as well as processes that happen to human mind. Rather, structures are built on the foundations of processes. They provide relative stability to the system of culture. Process does not mean absolute flux. Processes are built into structures and institutions by their own inherent momentum which are interactive, integrative and creative. The structures, institutions and in broad sense the culture itself are permeable at their edges, which can be termed as the “transition zones” and some have many transition zones than others. These permeable barriers either permit or block the introduction of change of any kind at any level. Any culture has certain characteristics that create forces for or against the management of change. A culture may resist external as well as internal forces of change with various degrees of success. But it is certainly not permanently immune to changes.

A VIEW FROM SOCIOLOGY

If sociology is a kind of psychology, Durkheim (1895) thought, its object of study must be the mind of society, not of the individual. This mind, the consciousness of the collectivity, was supposed to have emergent properties of its own, in no way reducible to the given properties as inscribed in human nature. Durkheim explicitly spelled out the relation between the consciousness of the individual and that of the collectivity. He did so in terms of a thoroughgoing distinction between sensation and representation.

The distinction was made on two grounds. The first lies in the contrast between the ephemerality of sensations and the durability of representations. Every sensation, Durkheim argued, is tied to a particular moment that will never recur, for even if – at a subsequent point in time – the thing perceived has not changed the perceiver will no longer be the same. We are nevertheless able to represent our experience, and so to know what we have perceived, by catching perceptual images that would otherwise float on the stream of consciousness within the mesh of a system of concepts which remains somehow aloof from this sensory agitation (in a “different portion of the mind”, Durkheim suggested, which is more calm and serene). Like language, which is the medium in which concepts are expressed (“for every word translates a concept”), the conceptual system has a kind of stability: it endures, whilst the stream of consciousness flows on (Durkheim, 1976 [1915]:444).

If people are to share their experiences they must talk about them, and to do that these experiences must be represented by means of concepts, which in turn may be expressed in words whose meanings are established within a community of speakers by verbal convention. Thus collective representations serve as a kind of bridge between individual consciousness that are otherwise closed to each other, furnishing them with a means of mutual understanding: “the concept is an essentially impersonal representation; it is through it that human intelligences communicate” (Durkheim, 1955).

Later, two of the most influential social anthropologists of the day, Edmund Leach (1964 : in Bloch, 1991:34) and Mary Douglas (1966) could still pose the problem of perception and

cognition in very much the same terms. To recognize specific objects and events in the external world, Leach (1964 : cited in Howarth, 1996:103-6) claimed, the flux has to be cut up into bounded chunks. Thus thought fragments the continuum of life as it is lived, and the diversity of culture lies precisely in the manifold ways in which the continuum can be cut. Here he argued that the categories of language provide the “discriminating grid” which, laid over the continuous substrate of raw experience, enables the speaker to tell one thing from another, and so to see the world “as being composed of a large number of separate things, each labelled with a name”. As the child learns its mother-tongue, thereby taking on board a conventional system of named categories, so its environment literally takes shape before its very eyes.

Mary Douglas published her seminal study, *Purity and Danger* in 1966. Here, too, we find the same basic idea: that in perception the world is constructed to a certain order, through the imposition of culturally transmitted form upon the flux of experience:

As perceivers we select from all the stimuli falling on our senses only those that interest us, and our interests are governed by pattern-making tendency In a chaos of shifting impressions, each of us constructs a world in which objects have recognizable shapes, are located in depth, and have permanence (Douglas : 1966: 36).

As with Leach, the roots of Douglas's thinking lie in Durkheim's theory of knowledge. This theory, as we have seen, effectively divides the human subject into two mutually exclusive parts. One part, fully immersed in the sensate, physical world, is continually bombarded by stimuli which are registered in consciousness as a “chaos of shifting impressions”. The other part, however, stands aside from this engagement, and is untouched by it. Here are located the conceptual categories that sort the sensory input, discarding or suppressing some elements of it while fitting the remainder into a pre-existing socially approved schema. Crucially, then, perception is a two stage phenomenon: the first involves the receipt by the individual human organism, of ephemeral and meaningless sense data and the second consists in the organization of these

data into collectively held and enduring representations.

CULTURES, CONCEPTS AND WORDS

Most psychologists would agree that cognition, by its very nature, concerns how past knowledge is brought to bear on interpreting and acting upon current experience. Clearly, the "past knowledge" part of the system is equally important. How current experience is interpreted will depend on the kind of knowledge that is brought to bear on it. Most of us would again agree that adult cognitive processes have developed through organism-environment interaction. It follows from this that the environment plays a key role in influencing adult cognitions. Cultures are complex, interdependent networks of organizations which have evolved over time through reciprocal adaptation between man and his social and physical environment. In any culture individual mind develops and works through schema, conceptions, images, prototypes, theories, goals, tasks, facets, etc.

Language is a primary medium through which culture is transmitted, and the world's languages show considerable variation in structure, both syntactically and lexically. There are many examples of how languages differ in the words they have to refer to the world. But what do such lexical differences mean? It is widely documented in anthropological texts that the elaboration of the vocabulary reflects the particular interests and preoccupations of the society concerned. The more culturally meaningful events, objects or experiences, the more elaborate their associated vocabularies. Clearly, words are not only tools for thought but also tools for communicating with others. The words in any language will then come to reflect the communication needs of speakers of that language. That lexical differences between languages reflect differences in the perceptual and conceptual distinctions made by speakers of those languages was expressed in Whorf's (1956) famous linguistic relativity hypothesis. Benjamin Lee Whorf, ethnographer, linguist, argued that language embodies our view of the universe:

We dissect nature along lines laid down by our native languages. The categories and

types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds – and this means largely by the linguistic systems in our minds (1956: 213).

Linguistic relativity thus asserts that speakers of different languages will have different conceptions of, and experiences in, the world. In its strongest form, we are each intellectually imprisoned by the language we speak (Lloyd, 1972). Whorf's own ability to translate Eskimo words for snow into English phrases is evidence that lack of words does not directly imply a corresponding lack of conceptual distinctions. Rather, languages differ in terms of what it is relatively easy to say in them, in the sense that, for instance, it is "easier" to say the English word "green" than the Yoruba phrase "colour of plants".

As Rosch points out in retro-spect:

It would appear that the colour space, far from being a domain well suited to the study of the effects of language on thought, is a prime example of the influence of underlying perceptual-cognitive factors on the formation and reference of linguistic categories (1975 : 138).

Levi-Strauss (1966) argues that societies only name things which serve some practical or symbolic purpose for them. For example, if a plant has no function within a particular culture, it is not necessary to talk about it other than to say, perhaps, that it is a weed which "has no function". So Eskimos have several terms for the English word "snow" because it is important in their daily lives (and not ours) to discriminate different types of snow. And the enormous variety of Hananoo (Philippines) words for rice similarly reflects their cultural preoccupation with rice as the staple food. In traditional societies, where interests and occupations are less diversified than in the western world, it seems reasonable to suppose that words are coded in terms of the discriminations that it is necessary to make and communicate within each particular culture. In technological societies, the greater division of labour and interests within cultures requires increasingly elaborate vocabularies to

cope with increasingly specialized fields. Correspondingly, this specialization results in smaller and smaller proportions of the population having access to certain areas of the vocabulary. Thus physicists, for instance, have many more terms for discriminating colours than non-artists. Or, going back to the colour domain, artists have access to many terms for discriminating colours than non-artists.

The effects of linguistic categories cannot be considered as separate from the effects of factors which caused those categories to be labeled rather than others in the first place. Language is an integral part of culture. One of the central problems with the Whorfian hypothesis was that it treated language in isolation from its cultural context, and by so doing, ignored the communicative functions of linguistic codes. A more reasonable hypothesis is that what is coded in any language depends on what discriminations one is required to make and communicate within that culture. The relation of language to thought can then only be considered in terms of the relation of both to the whole culture. Vygotsky (1978) and Luria (1976) maintained that, just as the tools of labour change over history, so do the tools of thought; and just as new tools of labour give rise to new social structures, so do new tools of thought give rise to new mental structures.

Scribner and Cole (1973) emphasized three main differences between the formal education offered by schools and the informal education of everyday life: (i) schools take learning out of the context in which it is used; (ii) schools put more emphasis on what is being learned than who is doing the learning and teaching – by contrast, informal education stresses the social aspects of learning; (iii) language (both written and spoken) is the primary mode of transmission in schools, whereas much of informal education involves non-verbal (e.g. observational) learning.

Vygotsky (1978) argued that the process of learning a vocabulary imposes an abstract structure on our memories. As a child masters words such as "cat", "draw" and "paper", it creates a series of culturally defined categories into which new experiences can be assimilated. Vygotsky emphasised the use of inner voices to organize higher mental activities such as remembering, reflecting and planning. He went further, saying

that language not only gives our memories a culturally based order, it is also the mechanism by which we call memories back to mind. Recently social scientists have pushed the argument further and begun to analyze the role that language and society might play in shaping mental abilities. One flourishing school, known as "social constructionism", compares ways of thought in different societies and at different times in history to show how language acts as a "genetic code" for the belief and customs of a culture.

Chomsky (1968, 1975), for example, regards a child's language-learning as a highly intellectual performance. A child is bombarded with what Chomsky calls "primary data". On the basis of such data, the child constructs a grammar – that is, a theory of the language of which the well-formed sentences of the primary linguistic data constitute a small sample. To learn a language, then, the child must have a method for devising an appropriate grammar, given primary linguistic data. As a precondition for language learning, he must possess, first, a linguistic theory that specifies the form of the grammar of a possible human language, and, second, a strategy for selecting a grammar of the appropriate form that is compatible with the primary linguistic data.

To acquire a language, a child must devise a hypothesis compatible with present data – he must select from the store of potential grammar a specific one that is appropriate to the data available to him. (Chomsky) On Chomsky's view each normal child is an intellectual marvel right from the start. Before an infant can hold his milk he is already in possession of a theory concerning the general form of every possible human language (as if there were such a thing). When the adults around him utter words this child immediately starts forming and testing hypotheses to determine which of the possible languages is the actual language of the community in which he happens to be placed. Chomsky says: "Language learning would be impossible unless this were the case".

According to Chomsky, "The child approaches the data with the presumption that they are drawn from a language of a certain antecedently well defined type". So does this infant think to himself, "I presume that these people speak a subject-predicate language"; or, I presume that

in this language adjectives agree with nouns in gender and number?’

J.A. Fodor (1974) correctly draws out an implication of Chomsky’s view and fearlessly endorses it. The implication is that a child can not learn a language unless it already has a language. Fodor holds that both perception and learning require the forming and confirming of hypotheses, and that this in turn requires processes of “computation”. But computation can only be carried out in a system of representation – that is, in a language. Fodor says: “Computation presupposes a medium of computation: a representational system”. Fodor argues explicitly that a person can not learn a language unless he already has a language:

Learning a language (including, of course, a first language) involves learning what the predicates of the language mean. Learning what the predicates of the language mean involves learning a determination of the extension of these predicates. Learning a determination of the extensions of the predicates involves learning that they fall under certain rules (*i.e.* truth rules). But one can not learn that P falls under R unless one has a language in which P and R can be represented. So one can not learn a language unless one has a language. The unlearned language that one possesses, presumably from birth, is called “the language of thought”. It is innate, inner, and private. It is an “internal code”. According to Fodor, “for every predicate in the natural language it must be possible to express a coextensive predicate in the internal code”. He also says “one can not learn a conceptual system richer than the conceptual system that one starts with...”

These are astonishing contentions. But they lack empirical validation. It is no surprise to learn that, for Fodor, the medium in which the supposed innate language of thought operates is the nervous system. He says: “The nervous system ‘speaks’ an internal language. A very costly claim indeed”.

CULTURAL UNIVERSALS

Significant linguistic universals exist and all linguistic universals are cultural universals. Similarly, significant musical universals exist and are

additional cultural universals. Granted, cultural properties are differences. Cultures affect each other and sometimes overlap. So, there might be some cultural features or other that all cultures share (say, socially favoring the right-handed). But such “cultural universals” could easily be insignificant because of (i) explanatory triviality (of no use in advancing general understanding of culture or nature) and/or (ii) reducibility to “natural” phenomena. Expecting to find cultural universals would be like expecting to find linguistic universals, where the most obvious observable fact about language is that they are different from each other.

Linguistic universals are good candidates for being cultural universals, and looking for linguistic universals at the superficial level (directly observable aspects of sound, form, and meaning) is not explanatorily fruitful. Syntactically, every natural language centrally contains nouns and verbs as the most central constituents of sentences. Phonologically, every language selects from a finite stock of humanly producible and audible sounds to construct the sounds of expressions. Such facts about natural languages are, for the most part, not immediately observable on the surface. But they are crucial in that each particular language cannot be accurately described or explained without mentioning and using them – together, of course with non-universal facts. This is because language acquisition has become the main explanatory challenge, where the central motivating phenomenon is the “poverty of the stimulus”. How is it that the child learns so much with so little time and information? The hypothesis widely adopted is that the child already knows a good deal of what he seems to have to learn so that the huge task is reduced for the language-learner to one that can be informationally managed. And what is innately known are linguistic universals. So, linguistic universals exist precisely because every human being not only tacitly knows them – but knows them innately! Recently Chomsky (1982, 1986) and others have proposed a “principle and parameters” theory in which all the principles in question constitute universal grammar (UG) and when values of parameters in UG are set in certain ways the grammars for particular languages result. All the components of UG are linguistic universals.

A natural-language user knows (in some appropriate non-figurative sense of great philosophical interest, deserving more epistemological explication than it has received) the grammar of the language he possesses. In the most radical statement of this proposal, a speaker-hearer knowing his language is nothing other than his knowing the grammar of it in such a way that language and grammar are the same thing (cf. The "internal" language, identical to the language's grammar, Chomsky, 1986). Knowing the words of a language and what to do with them – that knowledge – has a content that can be described only by detailing what the linguistic facts are which must be known (unconsciously or tacitly) to use the language both in speaking and understanding ("use" it minimally, aside from all the complications of actual performance that go beyond bare knowledge of the language used). This tacitly possessed knowledge-of-the-language is not easily conceived of as a list of true propositions, or as any analogous components of a "language of thought" (say), or especially as anything that it is easy to conceive of as being directly noticeable "in consciousness". But no matter how this content should be ultimately characterized, some of it is innate and some of it is acquired.

Since there are linguistic universals that are not explanatorily trivial, there are cultural universals that are not explanatorily trivial. For if there are certain facts about all cultures, then why are not these facts simply non-cultural "physical" facts about the natural creatures who are humans. All humans breathe air, digest food, seek shelter, etc. commonalities due to the "physical" (biological, physiological, neurological) design of humans. Even if it is rather metaphorical to say so, it is still important to say that what "nature herself" causes is not caused by individual humans or groups of them – and culture is not "nature caused," but "human made".

For what is cultural is arbitrary, conventional, humanly devised or created, variable, and not absolutely dependent on biological or other "physical" laws or facts. Any cultural universal retains the elements of conventionality, arbitrariness, variability, creativity, and contingency – in short, its "cultural-character" – that the non-universal aspects of the same cultural phe-

nomena possesses. No one would suggest that the printing press or sailing are culturally universal, but aspects of language, music, religious rituals, buying-and-selling, and many other phenomena do give rise to proposals for cultural universals. And language just is, in particular, the paradigm of what is meant by "cultural phenomena," especially its various special uses (in poetry, drama, law, politics, etc.). Any language's ordinary vocabulary is paradigmatically arbitrary and conventional. No word has to mean what it does, or be used in the way it is. Language components and uses are simply not what they are "by nature". Nature did not make the words mean and do what they do, humans did!. Universality is no argument for a phenomenon being non-cultural, if the phenomenon retains its cultural-character in some way or other. Now it may not always seem clear that an alleged linguistic universal does retain it, e.g. the universal of every natural language containing nouns and verbs. May be that is just a logical necessity.

CULTURAL ANTHROPOLOGY

Cultural anthropologist Boas (1965), consistently adopted the position that the patterned integration of culture, as a system of habits, beliefs and dispositions, is achieved on the level of the individual rather than having its source in some overarching collectivity, and is therefore essentially psychological in nature. And in 1957 Ward Goodenough pronounced that "A society's culture consists in whatever it is one has to know or believe in order to operate in a manner acceptable to its members" (cited in D'Andrade, 1984:89). This view of culture, as knowledge rather than manifest behaviour, was taken considerably further in an influential article by Geertz (1973:33-54).

Culture, Geertz (1973:44-5) argued, "is best seen not as complexes of concrete behaviour patterns - customs, usages, traditions, habit clusters - . . . but as a set of control mechanisms - plans, recipes, rules, instructions (what computer engineers call "programs") - for the governing of behaviour". These control mechanisms, however, are not to be found locked up inside the heads of individuals. Their domain is the public and intersubjective space of social in-

teraction - "the house yard, the market place, and the town square" - whence they are "used to impose meaning upon experience". For any one individual, the range of symbolic meanings which can be drawn upon is more or less given by what is current in the community into which he or she is born. But without the guidance provided by cultural symbols, human beings would be hopelessly lost, unable to establish their bearings in the world - for unlike other creatures whose activities are more closely controlled by innate response mechanisms, humans depend on a substantial input of additional information, learned rather than innate, in order to function adequately in their normal environments. "Undirected by culture patterns - organized systems of significant symbols - man's behaviour would be virtually ungovernable, a mere chaos of pointless acts and exploding emotions, his experience virtually shapeless" (Geertz, 1973).

Culture consists in a framework of symbolic meanings, common to a community and relatively impervious to the passage of time and generations, which gives shape to the raw material of experience, and direction to human feeling and action. People, in short, are supposed to construct the world, or what for them is "reality", by organizing the data of sensory in terms of received and culturally specific conceptual schemata (Berger and Luckmann, 1966: cited in Howorth, 1996:104-8). If two individuals from different backgrounds, placed in the same environment, perceive different "realities", the reason would be that in their construction, each has brought a different cultural schema to bear in organizing the same material of sensation. Granted, then, that every community has its own particular system for the cognitive organization of experience, anthropological attention naturally came to focus on cultural variation in the organizational principles involved.

Relational Schemas

Baldwin (1992) proposed the term relational schema as a cognitive structure representing regularities in patterns of interpersonal relatedness. Relational schemas are seen as generalized representations of self - other relationships rather than as representations of self or others in isola-

tion. A relational schema includes three elements: (a) an interpersonal script containing expectations about how an interaction will proceed; (b) a self-schema for how self is experienced in that interpersonal situation; and (c) a schema for the other person, including expectations about how the other reacts in that situation. Baldwin explained that relational schemas can become rather complex if the interaction is carried out to multiple iterations of if-then sequence. Multiple if-then sequences can be organized into a complete production system for guiding behaviour. The concept of relational schema is a flexible one because it can cover a large variety of possible interactions. It ranges from conventional social role interactions, such as doctor-patient or teacher-student interaction pattern studied by script researchers, to highly idiosyncratic nuclear scenes. The advantage of idiosyncratic scripts is that they have probably the most profound effect on a person's sense of self and relationships with significant others (Baldwin, 1992).

Because relational schemas are based on "repeated experiences with similar interactions" (Baldwin, 1992) and because the two elements (self and other) are fixed as parts of a stable pattern, such a schema - as with all similarly defined schemas - has a conservative nature. There are two factors that make the dialogical self open to innovation. First, a new position, because of its relative autonomy, can bring in new information and knowledge different from the information and knowledge associated with already existing positions in the self. Under the influence of dialogical transactions, existing and established positions can be, under conditions of low resistance, learned from recently introduced positions so that a process of repositioning starts. Second, positions are not to be understood as stabilized centres of knowledge but as perspectives that may, for a shorter or longer time, play a role in direct interchange with the social environment. Relational schemas function as relational repetitions and, as internalized structures, find their centre in the past. As far as schemas are changed they are changed by external factors, given their lack of internal potential for self-change and self renewal. The dialogical self is continually challenged or plagued by questions, disagreements, conflicts, and confrontations

because other people represented in the self in the form of voiced positions functioning as centres of initiative, each with their constructive potentials. The self has the capacity of multiple positioning with the possibility of an emergence of new knowledge as a result of dialogical interchange.

The capacity of self-renewal and self-innovation allows the self to engage in an active process of positioning. The use of the verbs positioning and repositioning allows the dialogical self to take initiative to position itself in new ways, as can be seen in the lives of artists, scientists, and people who renew themselves by breaking at times through the limits of custom and convention.

COGNITIVE ANTHROPOLOGY

In recent years cognitive anthropology has resurfaced in a new guise, as the investigation of what are now called "cultural models". Introducing a seminal volume of essays on *Cultural Models in Language and Thought*, Quinn and Holland (1987: cited in Howarth, 1996:112) define such models as "presupposed, taken-for-granted models of the world that are widely shared . . . by the members of a society and that play an enormous role in their understanding of that world and their behaviour in it". They differ from the classificatory schemas identified by earlier cognitive anthropologists in three major ways. First, rather than dividing up the continuum of experience in named categories, cultural models offer a description of the world framed in terms of networks of interconnected images or propositions, in which objects, events and situations take on regular, prototypical forms. Actual experience in the real world is then organized by matching it to the prototypical scenarios built into the simplified worlds of the cultural models, and these, in turn, furnish conventional guidelines for action. Second, although linguistic data provide important clues to underlying cultural knowledge, it cannot be assumed that word meanings stand for components of the cultural model in a simple relation of one-to-one correspondence. The relation is rather complex and indirect, and can only be grasped through an analysis of the richly textured material of ordinary discourse. Third, cul-

tural models – to the extent that they are fully internalized – do not merely describe or represent the world, they also shape people's feelings and desires. The realm of cognition is inseparable from the realm of affect; thus cultural models should be understood as "learned, internalized patterns of thought-feeling" (Strauss, 1992:3).

Pierre Bourdieu (1990:52-65), has attempted to show how cultural knowledge, rather than being imported by the mind into contexts of experience, is itself generated within these contexts in the course of people's involvement with others in the practical business of life. Through such involvement, people acquire the specific dispositions and sensibilities that lead them to orient themselves in relation to their environment and to attend to its features in the particular ways that they do. These dispositions and sensibilities add up to what Bourdieu calls the *habitus*.

THE THEORY OF PRACTICE

Like the "cultural model" of cognitive anthropology, the *habitus* of Bourdieu's theory of practice could be described as a pattern of thought-feeling. The similarity ends there, however, for thinking and feeling, in Bourdieu's account, do not go on in an interior subjective (or inter subjective) space of images and representations but in the space of people's actual engagement in the settings of practical activity. Whereas cultural models are supposed to exist independently of, and prior to, their application in particular situations of use – such as in doing things or making things, or in the interpretation of experience – the *habitus* exists only as it is instantiated in the activity itself. In other words, the *habitus* is not expressed in practice, it rather subsists in it. What Bourdieu has in mind is the kind of practical mastery that we associate with skill – a mastery that we carry in our bodies and that is refractory to formulation in terms of any system of mental rules and representations. Such skill is acquired not through formal instruction, but by routinely carrying out specific tasks involving characteristic postures and gestures, or what Bourdieu calls a particular body hexis. "A way of walking, a tilt of the head, facial expressions, ways of sitting and of using implements" – all of these, and more,

comprise what it takes to be an accomplished practitioner, and together they furnish a person with his or her bearings in the world (Bourdieu, 1977). And if people from different backgrounds orient themselves in different ways, this is not because they are interpreting the same sensory experience in terms of alternative cultural models or cognitive schemata, but because, due to their previous bodily training, their senses are differentially attuned to the environment.

In the anthropological study of cognition this kind of approach is perhaps best represented in the work of Jean Lave. Her book, *Cognition in Practice* (1988), is a manifesto for an "outdoor psychology" – that is, a psychology that would take as its unit of analysis "the whole person in action, acting within the settings of that activity". Cognition, in Lave's view, is not a process that goes on; inside the head', whose products are representations that bear some complex relation to the world outside, but rather a social activity that is situated in the hexus of ongoing relations between persons and the world, and that pays its part in their mutual constitution. It is a process wherein both persons, as knowledgeable social agents, and the settings in which they act, continually come into being, each in relation to the other. Thus thinking is inseparable from doing, thought is "embodied and enacted", and cognition is "seamlessly distributed across persons, activity and setting" (1988). To study cognition is to focus on the *modus operandi* not of the mind, in organizing the bodily data of sense, but of the whole body-person – conceived as an undivided centre of agency and awareness – in the business of dwelling in the world.

COGNITIVE SCIENCE

Cognitive science emerged as an alternative to behaviourism in the 1950s. Its founding axioms are that people come to know what is "out there" in the world by representing it in the mind, in the form of "mental models", and that such representations are the result of a computational process working upon information received by the senses. The functioning of the mind, then, can be compared to the operation of a computer programme, and the relation between mind and brain to that between the programme and the

"hardware" in which it is installed (Johnson-Laird, 1988). Whereas cognitive scientists, however, have by and large been concerned to discover universals of human cognition, which are attributed to innate structures established in the course of evolution under natural selection, cognitive anthropologists have sought to account for human perception and action in terms of acquired schemata or programmes that differ from one culture to another.

D'Andrade (1981) explains the fit between programmes and processors. By programmes he means the informational content of transmitted culture – what is "passed along" from generation to generation. By processors he means the apparatus of acquisition that makes such transmission possible, an apparatus that is assumed to be common to all human minds. According to this division, cognitive anthropology is concerned with the diversity of cultural content, and with the way in which its organization is constrained by invariant properties of the processing devices that govern its acquisition, while cognitive psychology is concerned with the structure and functioning of the devices themselves, and the way in which they work on all kinds of information (including cultural information). As Johnson-Laird (1988) points out, "programs cannot be constructed out of thin air....A program that learns may itself have been learned - you can learn to learn, but then that learning would depend on another program, and so on. Ultimately, learning must depend on innate programs that make programs". In short, any theory which supposes that all human cognition is grounded in culturally specific schemata must also presuppose that human beings come universally pre-equipped with the structures necessary to enable these schemata to be acquired in the first place.

This is precisely the conclusion reached by Sperber (1995), in the context of his critique of cultural relativism – the doctrine, long ascendant in anthropology, that people in different cultures inhabit different cognitive (or rather, cognisable) worlds, each with its own criteria of rationality and judgement. Relativists argue that just as every non-human animal species, depending on its evolved cognitive organization, can only know the world in its own particular way, so also every human culture is locked into the cognitive frame-

work of a unique worldview. But whereas species differences have a genetic basis, cultural differences are assumed to be entirely independent of genetic constraint. Thus cultural relativists tend to suppose that theirs is a position opposed to an innatist view of the human mind, and that evidence for the diversity of incommensurate worldviews only goes to prove that the underlying structures of human cognition are genetically underdetermined and malleable to "the effects of experience. Sperber (1995) concludes that "the greater the diversity of the cultures that humans are capable of acquiring, the greater the complexity of the innate learning abilities involved". Thus the relativists' appeal to human cultural diversity is not at all contrary to the universalist claims of cognitive science; rather it depends upon them. Most cultural learning takes place through trial-and-error and practice, albeit in socially structured situations, and although beginners may need to follow rules, these rules structure the situation of learning and do not themselves form any part of the content of what is learned. For the skilled practitioner consults the world, rather than representations (rules, propositions, beliefs) inside his or her head, for guidance on what to do next. As Chapman (1991:20) puts it: "If you want to find out something about the world that will affect how you should act, you usually just look and see...You don't need to maintain a world model; the world is its own best representation".

Cognitive science has come up with an alternative model of the way the mind works. Instead of positing one giant processor with a massive capacity for information storage and retrieval, it is suggested that the mind consists of a very large number of small, simple processors, massively interconnected, all operating in parallel, and receiving inputs and delivering outputs to each other along the countless pathways linking them.

ECOLOGICAL PSYCHOLOGY (Direct theory of Perception)

Cognitive science assumes a static perceiver who has nothing to go on but transient patterns of sensory excitation that are, in themselves, quite insufficient to specify the objects and events that gave rise to them. Thus the problem of perception, for the cognitive scientist, is to show how

these ephemeral and fragmentary sense data are reconstructed, in terms of pre-existing schemata or representations, into a coherent picture of the world. In the 1950s, Gibson (1979:127-43) developed the notions of the texture gradient and optical flow pattern to counter the traditional idea that the product of retinal processing – the so-called "retinal image" – was inadequate by itself to produce perception. His attack focused on the retinal image, whose adequacy or inadequacy Gibson thought was irrelevant. He argued that, because we do not see retinal images anyway, debates about their functions were not going to lead anywhere. Instead, Gibson maintained that the basis of visual perception was not the retinal image but rather a set of invariants. In so doing, Gibson completely reformulated the problem of perception (Mace, 1974, 1977). Whereas earlier, the problem of perception had consisted of specifying the cognitive mechanisms by which we process the inadequate stimulus, now the problem involved the development of a theory that specified, or described, all of the information that was already present in the visual array. Processing mechanisms were consequently de-emphasized.

But for Gibson (1979), sensations do not, as such, constitute the data for perception. Rather, what the perceiver looks for are constancies underlying the continuous modulations of the sensory array as one moves from place to place. In visual perception, for example, we do not see patterns of light but objects in our environment. We do so because, as we move about, the pattern of light reaching the eyes from reflecting surfaces in the environment (that is, the "optic array") undergoes a gradual transformation. It is the invariants that underlie this transformation, and not the momentary patterns of stimulation themselves, that specify what we see. Indeed it is Gibson's contention that the invariant relations that structure the modulations of an optic array for a moving observer contain all the information necessary to specify the environment. Perception, then, is a matter of extracting these invariants. The perceiver has no need to reconstruct the world in the mind if it can be accessed directly in this way. Gibson's theory, therefore, is not an account of how retinal images are spruced up by the brain so they can become the basis of

perception. Instead, his theory deals with accurately describing the patterns of information that is present in the world and directly available to the perceiver (Neisser, 1976). Gibson's theory is called a "direct" theory of perception. The perceiver is in direct contact with the real world. He is considered to be on intimate terms with the visual information in the world, rather than being separated or isolated from this information by several stages of cognitive processing. Rather, the information in the light is simply given to the perceiver (Gibson, 1960).

The light that strikes our eyes has been reflected from objects on the ground, and light carries information from these objects. In other words, the light is altered as it is reflected from objects. Some aspects of this alteration (*i.e.* changes in intensive and wavelength of the light) had long been known. However, Gibson believed that the nature of the alteration was more extensive than that. Because the objects on the ground were themselves organized and well-structured, and because the reflection of light was also orderly, then the light took on the organization of the properties of the objects from which it had been reflected. To direct theorists, this answer meant that the role of learning in perception should be de-emphasized. According to them, we do not have to learn how to interpret the ambiguous information in the environment, because the information is not ambiguous. Gibson's theory does not completely rule out the usefulness of experience in perception, but he and other direct theorists differ sharply from the constructivists in their beliefs about the role of experience. Whereas constructivist theory argues that the perceiver must learn how to see objects in the world by learning how to interpret retinal images, direct theorists maintain that the perceiver learns how the higher-order invariants are produced by motion through the world. In particular, such motion produces knowledge of the texture of geometrical surfaces such as edges, corners, convexities, and concavities (Gibson, 1960). This knowledge of geometrical shapes was referred to by Gibson as the layout of perceivable space.

All perceivable spaces had layouts, and knowledge of them was enhanced by attempts to move through them. This principle enabled

Gibson to answer some of the criticisms aimed at his theory for its apparent position on illusions. According to constructivist criticism, Gibson's theory could not explain illusions. If the perceiver is assumed to be in direct contact with the information in the light that is given, then why is the perceiver sometimes mistaken about that information? First, Gibson notes that illusions are static displays of information. However, the perceptual systems of most animals are designed to pick up visual information by movement through the world. Gibson argues that we should not be too surprised if the invariants we usually detect are not picked up in this static and therefore artificial situation. In other situations, a person may misperceive because she has not yet learned to extract the invariants that specify the layout (Gibson, 1977). The information that is directly available to us is always in potential, but not necessarily actual, form. The person who approaches a glass door and, thinking it is open, tries to go through it may be doing a good job of perceiving some of the invariants of texture and optical flow. However, some of the other aspects of the layout, such as the highlights in the glass or dust on its surface, must also be detected if the collision is to be avoided.

What the Environment Affords Us

Gibson developed the notion of the affordance in an attempt to further specify the properties of the environment that are present in reflected light. An affordance of anything is a specific combination of the properties of its substance and its surface with reference to an animal (Gibson, 1977, 1979). Note that the definition refers to a combination of properties. Most objects, because they have a variety of properties that can be combined in a variety of ways, will also have a variety of affordances. Also, the affordance is uniquely related to the animal being considered. On the other hand, the surface of the cocktail table affords walking for my cat but not for me (Gibson, 1977:135).

A listing of affordances that Gibson (1976) described in a talk given to a meeting of architects are given below. Some of the items in this listing provide a clue for getting a more intuitive understanding of the affordance. We might

say that an affordance is a bundle of properties about some specific object that provides us with an opportunity to perceive something specific or to move through the world in a specific way. An affordance, then, is an opportunity to see something or to move in a characteristic way.

Some Natural and Artificial Affordances

1. A solid horizontal surface affords support. A water surface does not.
 - A surface of support affords resting (coming to rest).
2. An extended surface of support affords locomotion, for a terrestrial animal.
3. A vertical solid surface stops locomotion and affords mechanical contact. It is a barrier.
 - A rigid barrier surface affords injury by abrupt contacts, i.e. collision. It is an obstacle. Deceleration is necessary to achieve contact without collision.
 - A nonrigid barrier surface can avert injury by collision.
4. A vertical double surface, that is, a wall or screen, affords hiding behind, that is, being out of sight of observers on the other side. This is true if the double surface is opaque.
5. A double surface at sufficient height above the ground affords getting under. It is a roof.
6. Any layout of surfaces that encloses an appropriate volume of air affords shelter (from the wind, cold, rain, snow). A cave, burrow, or hut.
 - An enclosure affords being out of sight of observers in all directions ("privacy") and thus it affords protection from predators. (All animals sometimes need to hide.)
7. An aperture or gap in any enclosure affords entry and exit.
 - It also affords vision within the enclosures by admitting illumination (sunlight).
 - It also affords looking through (both looking out and looking in).
 - It also affords long-term respiration (breathing fresh air).
 - Note that all the complexities of doors, windows, shutters, grilles, and panes of glass, etc. get their utilities from these basic affordances.
8. A horizontal surface at about knee height above the surface of support affords sitting, a seat.
9. A horizontal surface at about waist height above the ground affords support for objects and facilitates manipulation of objects, e.g., tools, and materials for writing and reading, a workbench, desk, table.
10. A large drop-off in the surface of support affords injury by falling off, a "brink". But a railing affords protection from falling off (like a fence, which is a barrier to locomotion).
 - A small drop-off in the surface of support affords stepping down without injury.
 - A series of "steps" in a stairway affords ascent or descent of a cliff by pedestrian.
 - A ladder affords ascent or descent.
 - A ramp affords a different mode of ascent or descent.

Saying that affordances are related to the perceptual system of an animal implies that the nature of an animal's awareness is highly dependent upon the match-up that is achieved between its sensory apparatus and the information available to be picked up. From all the invariants offered by reflected light, our sensory apparatus has become, over time, tuned to accept certain invariants but not others. The accepted invariants are the affordances. Because our sensory apparatus is unique, Gibson's theory raises the possibility that some affordances are uniquely human. To the extent that we are aware of these affordances, we can describe our mental lives as being channeled, or more accurately, canalized by our sensory system. Saying that our mental lives are canalized means that, to a certain extent, the content of our minds is influenced and bounded by the nature of our perceptual systems (Turvey and Shaw, 1979: cited in Howarth, 1996:111-5).

Some evidence supports the idea of unique human affordances and hence the canalization of mentality. A substantial body of literature demonstrates the universality of human facial expressions. Despite the variations in milieu, facial expressions are produced in similar ways, and photographs of them can be accurately recognised

by people of different cultures. Certain implications follow. First, if perception entails movement, then it must be a mode of action rather than a prerequisite for action. For Gibson (1976), perception is an active and exploratory process of information pickup; far from working on sensations already received, it involves the continual movement, adjustment and reorientation of the receptor organs themselves. What is important, he argues, "is the looking, listening, touching and sniffing that goes on when the perceptual systems are at work". Second, if perception is a mode of action, then what we perceive must be a direct function of how we act. Depending on the kind of activity in which we are engaged, we will be attuned to picking up particular kinds of information. The knowledge obtained through direct perception is thus practical, it is knowledge about what an environment offers for the pursuance of the action in which the perceiver is currently engaged. In other words, to perceive an object or event is to perceive what it affords. Perhaps the most fundamental contribution of Gibson's approach to perception lay in his insight that the information picked up by an agent in the context of practical activity specifies what are called the "affordances" of objects and events in the environment (Gibson, 1979).

Third, the information that is potentially available to an agent is inexhaustible: there is no limit to what can be perceived. Throughout life one can keep on seeing new things in an otherwise permanent world, not by constructing the same sense data according to novel conceptual schemata, but by a sensitization or "fine-tuning" of the perceptual system to new kinds of information. Novel perceptions arise from creative acts of discovery rather than imagining, and the information on which they are based is available to anyone attuned to pick it up. Finally, and following from the above, one learns to perceive in the manner appropriate to a culture, not by acquiring programmes or conceptual schemata for organizing sensory data into higher-order representations, but by "hands-on" training in everyday tasks whose successful fulfillment requires a practised ability to notice and to respond fluently to salient aspects of the environment. In short, learning is not a transmission of information but — in Gibson's (1979) words — an "education of

attention". As such, it is inseparable from a person's life in the world, and indeed continues for as long as he or she lives. Both Gibson's ecological psychology and Bourdieu's theory of practice set out to re-embed perception and cognition within the practical contexts of people's ongoing engagement with their environments in the ordinary course of life. And both seek to escape from the sterile Cartesian dualisms of mind and nature, subject and object, intellection and sensation, and so on. Thus "behaviour affords behaviour, and the whole subject matter of psychology and of the social sciences can be thought of as an elaboration of this basic fact" (Gibson, 1979:8).

A recent attempt to develop this neglected aspect of the Gibsonian programme has been made by Reed (1988). The crux of his argument is that social agents cannot only directly perceive their mutual affordances for one another, but can also share their direct perception of other constituents of the environment. Attuned through prior training and experience to attending to similar invariants, and moving in the same environment in the pursuit of joint activities, they will pick up the same information (Reed, 1988; Gibson, 1967).

As Jackson (1989) notes, "by using one's body in the same way as others in the same environment one finds oneself informed by an understanding which may then be interpreted according to one's own custom or bent, yet which remains grounded in a field of practical activity and thereby remains consonant with the experience of those among whom one has lived". Gibsonian psychology offers a way of thinking about human-environmental relations that dispenses with the conventional dichotomy between naturally given and culturally constructed worlds. According to convention, it is necessary to distinguish between the "real" environment, as it is presented to detached, scientific observation, and the "perceived" environment as it is built up through a selective response to stimuli (Brookfield, 1969; cited in Ingold, 1992:113). In anthropology, the distinction is commonly expressed by means of a contrast between the "etic" level of objective description and the "emic" level on which the environment is made meaningful by cultural subjects. Yet from a Gibsonian

perspective, it is apparent that the world becomes a meaningful place for people through being lived in, rather than through having been constructed along the lines of some formal design. Meanings are not attached by the mind to objects in the world, rather these objects take on their significance – or in Gibson's terms, they afford what they do – by virtue of their incorporation into a characteristic pattern of day-to-day activities. In short, far from being inscribed upon the bedrock of physical reality, meaning is immanent in the relational contexts of people's practical engagement with their lived-in environments.

The Constructive Nature of Perception

The constructivist position begins with the premise that retinal events are inadequate to specify how objects are perceived. In some situations, retinal signals can be ambiguous. First, although the retina has spatial extension, the space is only two-dimensional. It is not too hard to imagine how the retina might send the brain a code that specifies two of an object's three dimensions. But where does the third dimension come from? Our awareness includes knowledge of depth, and the constructivists argue that this awareness of depth could not have been produced at the retina. Rather, the brain must interpret aspects of the retinal code and as a result of its interpretation, generate the third dimension. In other cases, the retinal code produces certain inaccuracies in our awareness of the external world.

According to the constructivists, this other knowledge must be added in to the retinal code to specify the object as it really is in the outside world. The other knowledge is a memorized representation of the building produced by experience. This internal representation may or may not be imaginal. The internal representation does not necessarily have to be based on direct sensory experience. This ability suggests that the internal representation that is added to the retinal code is abstract; it is generated by sensory experiences but is not limited to particular experiences. The constructivist position emphasizes the role of cognition in perception. That is, perception is thought to consist of a series of operations, beginning with a transformation of physical energy. The constructivist viewpoint

takes a strong position with regard to the role played by the central nervous system in perception. Essentially, constructivists argue that perception would not be possible without the extensive computations performed by our brains. In other words, the position assumes that the events that are out there in the world are not very informative by themselves. The various kinds of perception that we do (categorizing, for example – being a kind of perception) are possible only because the brain adds in some information to these stimuli.

In the position's strongest sense, the stimuli truly become informative only after the central nervous system has added its own processing into the world are not necessarily out there. This means that the categories we perceive as being real tell us far more about how our brains work than they do about the factual nature of the world. In this sense, too, the constructivist position strongly implies that our awareness of the world is not necessarily accurate. The stimuli in the world are inherently ambiguous and could be organized in any number of possible ways by the brain, with the result that how we look at the world and what we recognize would be markedly different. Awareness might be understood as a representation of worldly events, but it is almost certainly not a copy of them. According to the constructivists, learning plays an extremely important role in perception. Through our experiences with the world, large, well-organized units of knowledge, called prototypes and schemata, are abstracted and assembled on the basis of distinctive features. Once assembled, these units of knowledge channel subsequent information processing; that is, their influence is top-down. If correct, the constructivist view of perception has strong implications for the areas of social psychology and personality theory.

A PHENOMENOLOGICAL VIEW POINT

Phenomenological is represented above all in the works of Heidegger and Merleau-Ponty (1962; cited in Dreyfus, 1991). Just as the point of departure, for Gibson, had been the perceiver-in-his/her-environment, so likewise these philosophers set out from the premiss that every person is, before all else, a being-in-the-world. For

all his emphasis on perception as a process that is continually going on, Gibson assumed that the world which the perceiver moves around in and explores is relatively fixed and permanent, somehow pre-prepared with all its affordances ready and waiting to be taken up by whatever creatures arrive to inhabit it. From a phenomenological standpoint, by contrast, the world emerges with its properties alongside the emergence of the perceiver in person, against the background of involved activity. Since the person is a being-in-the-world, the coming-into-being of the person is part and parcel of the process of coming-into-being of the world. When we look into phenomena we find, as a basic layer of experience, a whole already pregnant with an irreducible meaning not sensations with gaps with gaps between them, into which memories may be supposed to slip, but the features, the layout of a landscape, or a word, spontaneously in accord with the intentions of the moment, as with earlier experience. At least the pregnancy of the sense which was attributed to the words could result only from the association of a present object of reference with some previous accompaniment. Merleau-Ponty (*Phenomenology of Perception*, 1945) himself insists that thought does not exist independently of words, and it is hard to see how a phenomenon can have meaning without being conceptualized. While discussing the part played by our movements in the development of our concepts of space, he says, "Consciousness is in the first place not a matter of 'I think that' but of 'I can'. This implies that we enter the world as agents as well as observes, and that what we attend to may at the most primitive level be a function of what we desire".

Merleau-Ponty (1945) says that we hold a "primary conception of the world". He believes that there is "a logic of the world to which my body in its entirety conforms" and that one is thereby supplied in advance with a setting for one's sensory experiences. He infers from this that 'a thing is, therefore, not actually given in perception, it is internally taken up by us, reconstituted and experienced by us in so far as it is bound up with a world, the basic structures of which we carry with us, and of which it is merely one of many possible concrete forms. Heidegger (cited in Dreyfus, 1991) begins by distinguish-

ing two ways in which the world may "show up" to a being who is active within it: availability and occurrentness. The former is evident in our everyday use of the most familiar things around us, which, absorbed into the current of our activity (as indeed, we are ourselves), become in a sense transparent, wholly subordinate to the "in-order-to" of the task at hand. The latter refers to the way in which things are revealed in their essential nature to an observer who self-consciously stands back from the action, assuming a stance of contemplative detachment or disinterested reflection. The perceiver has first to make sense of these occurrent entities - to render them intelligible - by categorizing them, and assigning to them meanings or functions, before they can be made available for use.

"The body", Merleau-Ponty (1962) wrote, "is the vehicle of being in the world, and having a body is, for a living creature, to be involved in a definite environment, to identify oneself with certain projects and be continually committed to them". The body is to be considered as the subject of culture, or in other words as the existential (as opposed to the cognitive) ground of culture. Even if it is agreed that a phenomenological approach offers a richer and more "experience-near" (Geertz, 1984) account of human life in the world than do the more formal, "experience-distant" concepts of cognitive science, the problem remains of translating this approach into a programme of research that would give a more accurate idea of how people routinely succeed, in their everyday, skillful "coping", in performing with ease actions that are far beyond the capabilities of any machine yet devised.

The affinity between the approaches to perception and action of Merleau-Ponty and Gibson is striking - all the more so because they came from such different intellectual backgrounds. They were one in insisting upon the centrality of movement to visual perception. As Merleau-Ponty asks, rhetorically, What would vision be without movement? And how could the movement of the eyes bring things together if the movement were blind? If it were only a reflex? If it did not have its antennae, its clairvoyance? If vision were not prefigured in it? Moreover with Gibson, Merleau-Ponty rejected outright the rep-

representationalistic account of visual perception, of the kind that would treat it as "an operation of thought that would set up before the mind a picture or a representation of the world".

CROSS-CULTURAL INTERACTION: A SEMIOTIC PERSPECTIVE

In spite of the multiplicity of points of view, all specialists agree that Semiotics is the interpretation of signs. The sign is the element that approaches the various perspectives. "Man moves in society through the use of signs" (Eco, 1975:11). So Semiotics is concerned with everything that can be taken as a sign, or as substituting something for something else. According to Peirce: "A sign, or representamen, is something which stands to somebody for something in some respect or capacity" (Peirce, 1958). A sign "stands for something to the idea which it produces or modifies That for which it stands is called its object; that which it conveys, its meaning; and the idea to which it gives rise, its interpretant" (Peirce, 1955). For example, a word is a sequence of sounds which stands for an object (that can exist or not, be present or absent, have existed in the past or be cast into the future) for somebody. The word *meow* stands for a cat in child language. For a foreigner, a gesture stands for a meaning in his culture. If he transfers this meaning to another culture he might be misunderstood, or not understood at all. Signs can be explained by using another sign, by the interpretant:

The important element, is neither the "something" nor the "somebody," but "standing for". It is a relation, and functions as such. For Peirce (1958), there are three possibilities of sign relations: a "firstness" which is a monadic relation in general, a "secondness" which is the concept of a dyadic relation, and a "thirdness" which is the concept of a triadic relation. These three relations start from a simple idea, then achieve an intermediate complexity and finally become complex. This process corresponds in firstness to a mere possibility, in secondness to an existence, and in thirdness to a law. In other words, there is a correspondence to sensation, perception and comprehension (memory) that might occur in each of these instances. However a sensation can

be a simple possibility or an elaboration of the ego and outer world. Perception can also be a possibility, a reaction, or a kind of knowledge. This paradigm of a genuine triadic relation is the total sign relation (Skidmore, 1981: in Evans and Helbo, 1986:188). For Saussure (1974), the linguistic sign places a signifier (significant) in relation to a standing-for. The relation between the signifier and the signified is arbitrary because the sign belongs to a socially established code. Thus, language is a system or structure, which forms a network of oppositions, each element receiving a value on account of the presence or absence of the other elements. "It [is] thus possible to think of the whole of cultural life as a vast system of sign systems" (Eco, 1975:14). It is through signs that cultures organize their particular perception and comprehension of the world.

The sign involves consciousness, consciousness of something. This consciousness of something is intentionality. The production of a sign requires perception and thought; both of them use consciousness, consciousness and intentionality would then correspond to Peirce's thirdness. A complete definition of sign is quite difficult. Each definition corresponds to a model of a doctrine. In this sense, Greimas and Courtes attempt a complete definition, through a fusion of Saussure and Hjelmslev (1961) with their own ideas. However, as this definition is part of an analytical dictionary, it is in fact a lexicographical bricolage in which each word refers to another definition: "the sign is a unit of the manifestation plane constituted by the semiotic function, *i.e.* by the relation of reciprocal presupposition (or solidarity) that is established between entities on the expression plane (or signifier) and of the content plane (or signified) during the language act" (Greimas, 1982:296: in Evans and Helbo, 1986:188).

For Hjelmslev (1961: in Evans and Helbo, 1986: 198), the signified and the signifier – or, in his own words, the form and the substance – each have two planes of language: expression and content. The process of semiosis of the sign follows sequential steps: 1. form of expression (phonetics); 2. form of content (phonology); 3. Substance of content (semantics). In this example, semiosis leads us to the interpretation of the sign, which in this case could be a particular

word. Sign is the basic element for cross-cultural understanding from the perspective of verbal and nonverbal communication.

Verbal and Nonverbal Signs

"We speak with our vocal organs, but we converse with our entire bodies; conversation consists of much more than a simple interchange of common words" (Abercrombie, 1972:64). This fact shows us how difficult it is for a foreigner in another country, or a stranger in an unfamiliar situation, to decode signs. In the first place, a foreigner has enough verbal difficulties as it is, and pays little attention to the nonverbal ones. It is difficult to maintain control over several signs at once. There are two implications: is the participant in an interaction aware of the signs? And, being aware of them, is he able to control them? Only if both of these conditions are met is he able to use his intentionality in transmitting a message.

Even so, intentionality conveys different kinds of information between participants:

1. Cognitive information: factual content of linguistic signs;
2. Indexical information: about the speaker himself;
3. Interaction-management information (the participants exchange to collaborate with each other) (Laver, 1972:11).

The means of conveying information can be vocal, nonvocal, verbal, and nonverbal, and/or a combination of these. The first problem is whether we mean verbal and nonverbal behaviour or communication? Can and should verbal and nonverbal be spilt apart?

Sebeok (1975:10) expresses himself in the following way:

The formula "communication minus language = nonverbal communication" is clumsily negative, simplistic and obscurantist. In other words, it makes no sense to speak of "verbal communication" and "nonverbal communication". There is only one communication, a system of behaviour patterns by which people are related to one another (Kendon, 1972), in brief, the subject of the holistic field of interaction ethology (alias semiotics). . . .

Yet, most authors make this separation in

order to study the communicational process. For Ekman and Friesen (in Evans and Helbo, 1986:198) nonverbal behaviour is "any movement or position of the face and/or the body," not differentiating between verbal and nonverbal. The nonverbal acts can repeat, augment, illustrate, emphasize, contradict the verbal signs and also anticipate, coincide with, substitute for, or follow verbal behaviour. For Kendon (1981:3), nonverbal communication is used to designate all the means by which communication takes place among people, when they are in the presence of each other, by means that are not words. He establishes three limits for the term: it is used principally to refer to people that are present, in front of each other; it is used to communicate a certain behaviour, whose meaning cannot be transmitted otherwise; it is used when the messages are the main interest, especially those without a specific formulation and can be inferred from or belong to, the behaviour of certain people (Kendon, 1981). Poyatos (1975:288) makes a triple classification: verbal vocal communication or acoustic vocal system, which includes segmental lexical structures and suprasegmental patterns (stress, pitch, juncture); nonverbal vocal communication, which are the paralinguistic phenomena; nonverbal nonvocal communication, that is, acoustic, visual, olfactory, tactile means of conveying cognitive and indexical information on interaction.

While considering communication as a whole, Laver (1972) makes perhaps the clearest classification. The vocal consists in all actions that take place in speech; the non-vocal consists in all communicative activities diverse from speech, including gesture and posture; the verbal consists in the elements used as units in language, regardless of pronunciation; the nonverbal consists in the interactive vocal and non-vocal behaviour. We may tabulate these categories as follows: Vocal verbal: words; vocal nonverbal: intonation, emphasis, quality of voice; Nonvocal verbal: written or printed words; Nonvocal nonverbal: facial expressions, gesture, posture. In any conversation, Laver says that there is interaction of the following elements:

- (a) linguistic;
- (b) paralinguistic, that is, nonlinguistic, nonverbal (vocal as well as non-vocal);

- (c) extralinguistic, which convey the indexical information (about the speaker), but that are not manipulated by him. They are nonverbal, nonlinguistic and nonparalinguistic, but can be vocal and nonverbal, *i.e.*, the quality of voice and clothing styles, respectively.

Silence can be considered as a paralinguistic element, while in kinesics stillness is the position of bodily neutrality. Silence as well as stillness can be considered signs and not simple substitutes of verbal and nonverbal expression, because they can be codified and decodified consciously. They can also be considered a zero sign (Sebeok, 1977), that is, they signify by their own absence of sound and movement (Poyatos, 1980:217 : in Evans and Helbo, 1986:198).

Nonverbal Communication: Kinesics, Proxemics and Chronemics

The human body is the main transmitter of presentational codes. Argyle (1972) makes a list of ten codes and their respective meanings: 1. bodily contact, 2. proximity (proxemics), 3. orientation, 4. appearance, 5. head nods, 6. facial expressions, 7. gestures (kinesics), 8. posture, 9. eye movement and eye contact and 10. non-verbal aspects of speech (prosodic codes which affect the meaning and paradigmatic codes which communicate information). Another aspect not included by Argyle is time. In reality, movement, space and time are closely connected; sometimes they intermingle, and the misunderstanding or lack of knowledge of any of these aspects can bring problems in cross-cultural communication. Kinesics studies gestures and body movements that convey meaning. The smallest body movement is a kine. Poyatos (1977b) defines kinesics as "the systematic study of psycho-muscularly-based movements and/or their resulting acoustic and tactile or kinesthetic perception, that whether isolated or combined with the linguistic-para-linguistic structures and with the situational context, possess communicative value, either in a conscious way or out of awareness."

The gesture is a movement which takes place simultaneously in time and space; it is synchronic. The description of a gesture, however, is decomposed linearly, in a syntagmatic and therefore

diachronic sequence. In cross-cultural communication, the selection and combination of kinesics differs from culture to culture. The introduction of a new kine can produce a new sign or change the meaning of the former one or even make it meaningless. Ekman and Friesen (1971: in Evans and Helbo, 1986: 195) classify gestures, according to what functions they perform, into five general categories:

1. **Emblems** – These are intentional gestures, generally have a verbal translation, and are socially learned. These are the main gestures to be learned by a foreigner: they convey specific meanings; as stereotypes, they are immediately identified within a known culture.
2. **Illustrators** – As the word suggests, these illustrate the verbal stream aiding either in phrasing or in gaining attention. They can complement, contradict, accentuate or repeat the verbal message. They are used by the speaker and not by the receptor. Ekman and Friesen divide them into the following categories:
 - batons accentuate words and phrases;
 - ideographs draw the direction of the thought;
 - kinetographs represent a body action;
 - pictographs recreate the shape of what is being said;
 - deictic movements point the direction;
 - spatial movements show relationships in space;
 - rhythmic movements demonstrate the timing of the event;
 - emblematic movements illustrate a verbal statement repeating or substituting words.

These categories are overlapping and in some gestures, several might act together. These gestures are important in cross-cultural communication, though not as much as emblems. They also serve to identify the cultures of their users.

3. **Adaptors** – These are gestures designed to satisfy physical or emotional needs. They are performed mostly in private situations; an example is scratching oneself. They are less controlled when an individual is under stress or feels discomfort. Such a gesture might be extended to objects, like smoking too much, chewing gum, in which case it is a substitute for other adaptors such as biting one's finger-nails or curling one's hair.

4. Affect displays – These reveal emotions and can be intentional or unintentional (e.g., laughing). They might take other forms, as in a situation in which a person must control the laughter reaction and transform it into a smile or even into a cough. Affect displays are mainly facial.

5. Regulators – These regulate the flow of the interaction; examples include head nods and eye movements that encourage the partner to continue talking or to take his turn.

All gestures are performed in space. The analysis of arrangements of subjects and objects in space and the use of space to produce nonverbal signification is studied by proxemics. The distance in which we place ourselves from the partner and the time it takes to receive the message and in answering it constitute signs. Hall (in Evans and Helbo, 1986:197) shows that spatial relations (proximity/ distance) are institutionalized and that each individual preserves his physical integrity by determining the use of his own space. This is the "hidden dimension" of culture. It is the social relationship of man with space around him. Every culture organized its space in a different way, but using two common notions of "territory." "Territory (is) an area of space which is bounded for a time in some discernible way and used by an animal or a group of animals - human animals included". (Evans and Helbo, 1986:195).

Vine (in Evans and Helbo, 1986:197) used territory in an explicit set of operational meanings:

1. home range area used for routine activities;
2. territory fixed area (all or part of the home range) controlled by the resident individual or group from intruders;
3. individual space body-centered area excluding people other than the self; social space area in which others are tolerable.

Hall (1977:50) proposed the term proxemics to designate also the representation of posture, the angle formed by the shoulders of two interactants, the distance between participants, and human heat and smell. The sensorial elements man uses to perceive the universe are classified into two categories: (1) the distant receptors are those related to the examination of objects at a distance (eyes, ears, and nose), and (2) the immediate receptors are those used to examine the

world closely (touch, sensation received by the skin, membrane, and muscles).

According to Hall (1977:108-114) there are four types of distance:

1. Intimate distance (the proximity phase): There is physical contact and we can feel the partner's heat, as well as smells (distance from 0 to 50 cm, the distance within which lovemaking occurs);
2. Personal distance (close distance, but insufficient for touching by hand): Heat and physical smells are not felt any longer. The distance varies from 0.50 to 1.20 m. Personal encounters belong to this category.
3. Social distance: There is no physical contact, only visual. It varies from 1.20 to 3.60 m, divided into a near phase (1.20 to 2.10 m) and a far phase (2.10 to 3.50 m).
4. Public distance: This is used in speeches and conferences. The linguistic register is formal and there is no individual but only collective visual contact. The limit of interaction varies from 3.60 to 30 m. Lack as well as excess of space creates problems. The reaction is shown by states of aggression that can lead to violence. That is why animals attack when their space is invaded. Therefore, proxemics cannot be isolated from other aspects of interaction.

Space is not only a physical reality, as we have seen, but an element that can be manipulated in terms of communication. The same thing happens with time. "Early," "late," "soon," and "never" are not simply linguistic units. The behaviour based on these notions may receive several interpretations. Therefore, the minute is anything but a literal measure of time. It is not a linguistic fact, but a cultural value. Time is studied by chronemics. Poyatos (1980) says it is "an area of study that deals with our conceptualization and handling of time as a biopsychological and cultural element lending specific characteristics to social relationships and to the many events linked within the communicative continuum, from linguistic syllables and fleeting gestures to meaningful glances and silences". In cultural terms, there are two ways of handling time, monochronically or poly chronically. Monochronism characterized cultures that divide time and program one thing at a time. Such peo-

ple are unable to do several things simultaneously. In a polychronic culture, on the other hand, people feel quite comfortable in decentralizing their attention and scheduling several things at once.

There are three different time systems: technical time, formal time, and informal time. Technical time is the precise and scientific way of measuring time. "It is a nonemotional, logical approach to time" (Burgoon and Saine, 1978: in Evans and Helbo, 1986:190). Formal time is the conscious way culture breaks up time into centuries, seasons, months, minutes etc. It also includes such things as the way a culture chooses to order events, the cycles it recognized, the values it places on time, its concept of duration, and the degree of depth and tangibility it assigns to time. Informal time is the unconscious way of perceiving time. Duration can be perceived in a system that varies from "immediate," "very short," to "terribly long" and "forever". Informal time includes punctuality.

A Cultural Approach

Kinesics, proxemics, and chronemics are part of a semiotics of culture that studies the functional correlations of sign systems. A system is able to transform features that seem disorganized into an organization. If we compare two different cultures, there will be two diverse kinds of organization because of the values attributed to each system. There is either an exchange value which measures cultural products of dissimilar nature or there is a comparative value in which cultural products of a similar nature are measured. Eco (1976) therefore says that culture is communication and signification, a system of structured signification: "the whole of culture should be studied as a communicative phenomenon based on signification systems".

Stereotypes belong to the cultural process, and, as such, are inseparable from communication. Cultural communication occurs interpersonally and collectively. Intercultural communication is a two-way interaction involving an emitter and a receptor, while cross-cultural communication involves a collective element in which the interaction goes one way, "from one cultural spokesperson to another or where an entire cul-

ture is interacting in some way with an entirely different culture" (Prosser, 1978). In this sense, it can be said that culture is also "the ability to control one's environment at least to a partial extent" (Prosser, 1978 : 5 : in Evans and Helbo, 1986:). The totality of contents valued by a society is the way it divides up the universe in which it exists. This is its way of understanding and conceiving reality; it is its specific language, containing both universal and particular data.

Cross-Cultural Interaction: Perception and Values

Cross-cultural interaction involves individual and collective acts. Individual acts are in fact particularized social beliefs while the cultural ones are a set of generalized individual acts (Barnlund, 1975:428-35). Every culture created for its people a form in which other people can interpret their own experience and transmit it to one another. This is the "universe of discourse" that is conveyed from one generation to the other, in part consciously, in part unconsciously. It is also a means of drawing a boundary between meaning and nonsense. This symbolic and invisible line organizes a culture in terms of similarities and oppositions and makes it comparable to other cultures.

In this sense, we can say that cross-cultural communication is an ethnosemiotic study because it includes "research on the production of culture as interpretation motivated by social differences" (MacCannell and MacCannell, 1982:71: in Evans and Helbo, 1986:196) it studied the interpretations that are generated by cultural differences. When cultures change or provoke conflict with one another there will be shocks and dissimilarities that lead to "creative activities" – argumentation, explanation, excuses, etc. Let us first distinguish intercultural communication from cross-cultural communication. "Intercultural communication can be defined simply as that interpersonal communication on the individual level between members of distinctly different cultural groups. Cross-cultural communication can be defined simply as the collective communication between cultural spokespersons of different cultural groups or between whole cultural groups" (Prosser, 1978:11-20: in Evans

and Helbo, 1986). There are fundamental issues in intercultural communication which can be transferred to the cross-cultural variety :

1. principles of similarities and differences;
2. conflict in communication and culture;
3. principles of communicative and cultural control;
4. technology taking over cultural values;
5. cultural stability and cultural change (survival of culture) – a culture must be process-oriented, stability might lead to atrophy and deterioration;
6. cultural imperialism and cultural dependency.

These issues appear both at the interpersonal-intercultural levels and at the collective-cross-cultural levels. For these features to become meaningful, they have to be perceived. "In sensation, nothing is produced . . . in perception, we have something produced" (Deely, 1982: in Evans and Helbo, 1986:189). However, a permanent link is undoubtedly maintained between the two. Only cognition will lead us to an understanding. The relation between cognition and the reality of the physical world is a thirdness. The "real" (cognition-independent) and the "unreal" (cognition-dependent) are the essential components of "the constitution of the superstructure of experience" (Deely, 1982:101-105).

According to Peirce (1955), what we perceive in any act of perception is the percept. A percept is nothing other than a physical object directly perceived in the perceptual act. Therefore it (1) contributes something positive; (2) obliges the perceiver to acknowledge it; (3) and furnishes no reason or pretext for such an acknowledgement, even though there is no way of avoiding it. "The percept, . . . is absolutely dumb. It acts upon us, it forces itself upon us but it does not address the reason, nor appeal to anything for support."

The percept comprises sensory and qualitative elements that are unconscious because it is mentally constructed. For Peirce, "there is a given element in experience which is unconsciously interpreted by unknown processes. This given element as interpreted is the percept or what we directly perceive in any act of perception" (Almeder, 1982:14). In order to perceive, we need to displace energy. This is the perceptual effort that has not only to do with the presence of the object but with the spatial and temporal proximity as well. Perception is determined by

the perceiver's position in relation to the object. "This egocentrism is not only limiting, but is also the source of systematic errors. Perception cannot retain certain elements or characteristics of the object while setting others aside" (Prosser, 1978).

When we go to another country, all the elements of our identity, all our points of stability, are withdrawn; they are then replaced by other foreign elements. These elements are not foreign, however; we ourselves are the foreigners, and have left everything familiar behind. Emotions, which are firstness, are stirred up and try to give responses. Our perception will by then have gathered enough percepts to try to interpret them; but the problem is that the host country tries to filter our perception through its vision and experience. So there is an individual perception, and interpretation, and this interpretation is reinterpreted by the other culture which provides a preconceived roster of "do's" and "don'ts". Perception is the basic element in intercultural and cross-cultural communication. If our experience is faulty, we will misinterpret and misunderstand each other and the other culture. One of the reasons we choose the percept and its features for perception is that our perception is a selective one; everyone therefore perceives something in ways others do not. These "ways" can be checking the rough perceptual feedback we can prevent perception from playing tricks on us.

Next to perception, values are the most meaningful element. The principal value of any culture is survival. Value difference causes miscommunication, especially when each party feels strongly enough about its own values so as not to be able to perceive the other's values. A great part of these miscommunications are based on trivial misunderstandings that have, nonetheless, profound effects. A trivial misunderstanding leads to a negative image; this in turn leads to social isolation, which leads to non-communication, which finally leads to the impossibility of perceiving the values which could have reversed the process of communication. In this semiotic process, the final interpretant is not the sign of the sign, but another sign without any kind of link to the first. As Gorden (1974) says, there is a "danger of the blind leading the blind". To avoid this, it is necessary:

1. to separate one's actual observations from one's interpretation;
2. to separate the concrete facts from the abstract generalization made on the basis of the information;
3. to separate objective situations from subjective states.

In other words, one must separate the facts from interpretation and conclusion. Perception plus apprehension of values lead us to adjustment in a process that involves several states, and leads to inter- and cross-cultural communication.

CROSS-CULTURAL VARIATION IN EMOTION

Cultural differences in emotions appear to be due to differences in event types or schemas, in culture-specific appraisal propensities, in behaviour repertoires, or in regulation processes. Differences in taxonomies of emotion words sometimes reflect true emotion differences like those just mentioned, but they also just reflect from differences in which emotion-process phase serves as the basis for categorization. Theories that view emotions as social constructions tend to emphasize aspects that are closely connected with the social environment: antecedent situations, overt behaviour, and culturally specific ways of thinking and talking about emotions (Mesquita and Frijda, 1992 :179-185). Theories that suppose emotions to be essentially universal on the other hand, have led to the study of individual emotion elements such as facial expression (e.g. Ekman, 1992; Ekman and Friesen, 1971: cited in Mesquita and Frijda, 1992 :179-185). Generalizing from the research studies in this area, it may be thought that there exists universality of several aspects of emotions. First, there appears to exist a universal human set of emotional reaction modes, both at the central level (modes of action readiness) and at that of specific responses (facial expression, voice intonation, more encompassing behaviour modes such as attack and flight, activation patterns, and physiological response modes). Included in the universal response modes is that of response inhibition, or the existence of some measure of emotion and expression control. Second, there

appear to be universal issues of emotional concern. Third, there may well exist event types, linked to such issues of concern that universally arouse emotion: Loss of a person with whom affective bonds exists, rejection from the social group, and rivalry threats among the candidates. Fourth, there is some evidence for similarity in appraisal dimensions appear to distinguish the different types of emotions. Cultures differ in display rules and feeling rules, and these rules may apply to emotional spontaneity and expressive display in general, as well as to the feeling and displaying of emotions in particular situations or with respect to particular types of emotion. Thus, cultural differences appear in seeking or avoiding particular kinds of events that could arouse emotion, because of the values attached to these events and to the focality in the culture. Also, particular appraisals may be suppressed because they are depreciated by the culture and may be replaced by more acceptable ones. What is considered socially desirable and undesirable behaviour may differ, as to the anticipated consequences of one's behaviour and expression, with concomitant consequences for impulse and expression control.

Cultural differences in event types form a second major source of cross-cultural emotion differences, independently of, and in addition to, the differences that are due to variations in regulation. Differences in recognized event types lead to differences in event coding and, by consequence, in the appraisal of given events. Furthermore, considerable differences appear to exist in the focality of particular event types and, thus, in the prominence of the emotions aroused by events categorized into such types; there are also differences in emotional behaviours such as inhibition and avoidance, because of the differential avoidance of events of given types. Differences in event types may lead to differences in emotional behaviour. Third, cultural differences exist in appraisal propensities such as the tendency to perceive events in terms of blameworthy agency by others or in terms of moral value. The differences appear to derive from the availability of such modes of appraisal, due to their frequency of occurrences in the social environment, or their embeddedness in, or conflict with, prevailing ideology.

Fourthly, and finally, cultural differences exist in behaviour generation. Cultural differences in the prevalence of certain behaviours may be attributed to differential availability of universal behaviour modes. Although there are universal patterns of expressive behaviour, there are also culture-specific behaviour modes, deriving from culture-specific models and from culturally based expectations regarding behaviour that is appropriate under particular circumstances. The culture-specific modes include extensions of universal expressive patterns as well as more complex and instrumental patterns of behaviour. Cultural differences that are not so relevant from the point of view of the analysis of emotions may be highly relevant from the other points of view. Many cultural differences and similarities in emotions are assessed by comparing descriptions associated to presumably equivalent emotion words from different languages. Such words from different languages are seldom truly equivalent in one way or the other, nonequivalent in other ways (e.g. Agnoli, Kirson, Wu, and Shaver, 1989; Mesquita and Fischer, 1989; cited in Mesquita and Frijda, 1992 :184-189). For instance, emotion words that are close in semantic meaning have often been found to differ with respect to their modal intensity, range of meaning, or frequency of usage (e.g. Mesquita and Fischer, 1989; Rosaldo, 1980).

A Cognitive Approach to Social Organization

The basic premise is that the collective behaviour we call "social organization" or "culture" involves the interactions of individuals with each other, and crucially that each individual's participation in the culture must be supported by cognitive organization in the individual's mind.

More particularly, the way individuals are capable of acting within a society depends on the way they are capable of internally representing the social context.

It therefore is of interest to ask what this internal representation is like – what principles determine its expressive power, what inferences and heuristics can be performed within it, how it is connected to perception, and how its principles are acquired. This inquiry parallels the standard Chomskian inquiry into the nature of language,

where it is argued that the collective behaviour involved in linguistic communication must be supported by a cognitive capacity in the communicating individuals. The investigation of this cognitive capacity is taken to be a significant (perhaps the most significant) aspect of the study of language. Chomsky (1986) makes the distinction between the study of linguistic communicative behaviour and that of the cognitive capacity supporting language by calling the former the study of "externalized language" or "E-language," and the latter the study of "internalized language" or "I-language". The terminology can be adapted here, making a distinction between "E-social organization," the external manifestations of culture, as traditionally studied by anthropologists, and "I-social organization," the human cognitive capacities that support the individual's perceptions and actions in a social context. The study of I-social organization is situated within psychology, but it must draw a great deal of its evidence from anthropological studies of E-social organization, since the capacity in question is precisely that of engaging in E-social organization. The hope, however, is that many of the universals and parameters of human E-social organization can be eventually attributed to the character of I-social organization, just as many properties of human linguistic communication have been attributed to the mental capacity that constitutes I-language.

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