Basic Tasks of Cultural Semiotics

Roland Posner, Technical University of Berlin

1. Terms and questions

The English word "semiotics" (Greek *sēmiōtiké epistémē*) designates the science (*epistémē)* of signs (*sēmĕíon*, *sēma*). Signs are objects that convey something – a message (see Jakobson 1975); they presuppose someone who understands them – an interpreter. The processes in which signs and interpreters are involved are called "sign processes" ("semioses"; see Morris 1938, Deely 1990: 32, and Koch 1998: 707-718). A set of interpreters together with the signs and the messages interpreted by them, as well as the further circumstances relevant to the interpretation (see Prieto 1966: 47f) is called a "sign system". Thus, semiotics studies signs with respect to their functioning in sign processes within sign systems.

The English word "culture" (Latin *cultura*, 'cultivation', 'refinement', 'education') can be traced back to the Latin verb *colere*, 'to cultivate', 'to refine', 'to venerate'. Johann Gottfried Herder (1784-91) used it thus to designate the process of self-education of the individual and of society (which is to say, of all humankind; see Wefelmeyer 1984). Since Edward B. Tylor (1871: 1), the word has also been applied to the *means* of this self-education: "that complex whole which includes knowledge, belief, art, morals, law, custom, and all other capabilities and habits acquired by man as a member of society".

The term "cultural semiotics" has been used since Ernst Cassirer (1923-29) suggested describing certain kinds of sign systems as "symbolic forms" and claimed that the symbolic forms of a society constitute its culture. Cultural semiotics is that subdiscipline of semiotics which has culture as its subject. According to Cassirer, it has two tasks:

a) the study of *sign systems in a culture* (in the sense of Herder or Tylor) with respect to what they contribute to the culture,

b) the study of *cultures as sign systems* with respect to the advantages and disadvantages which an individual experiences in belonging to a specific culture.

If one designates the totality of all sign systems in the world as the "semiosphere" (Lotman 1990 and Posner 2001=2003: 80 ff), one can say that cultural semiotics studies cultures as parts of the semiosphere. This raises a series of questions:

(1) How do the signs, sign processes, and sign systems of a culture differ from non-cultural (i.e., natural) signs, sign processes, and sign systems?

(2) How do the interpreters of cultural signs differ from those of natural signs?

(3) What determines the identity and boundaries of a culture?

(4) What relations do different cultures have to each other within the semiosphere?

(5) How does cultural change originate?

Cultural semiotics offers the theoretical foundations required for answering these questions. It provides a scientific framework for the empirical investigation and comparative description of all cultures in the world (see Winner and Umiker-Sebeok 1979, as well as Schwimmer 1986).

The semiotic approach to culture competes with the traditional procedures of the humanities, the social sciences, and the normative disciplines (see Posner 1991: 371). It tries to explicate their results insofar as they can be rendered theoretical. Within this framework one can analyze cultural phenomena without relying on problematic concepts such as 'human soul', 'social role', or 'norm', and also without resorting to theory-less listings of incompatible phenomena, as often found in cultural histories (see Reckwitz 2000). Having too often been associated with a particular nation, social class, ethnic group, or animal species (see for example the contrast between "German culture" and "Western civilization"; Elias 1939: I, 2-10), the word "culture" is now becoming a theory-based general concept which no longer obstructs a rational analysis of cultural phenomena in humans, animals, and machines.

2. Sign systems in a culture: processes, codes, and media

Until recently, the idea that the concept of culture could be explicated with the aid of sign theory was by no means evident. It is therefore advisable here to begin with a number of conceptual distinctions. They will make this idea plausible and, at the same time, provide the means to answer questions (1) and (2) above.

2.1 Processes

As stated above, any process in which something functions as a sign (i.e., is interpreted as a sign) is called a "sign process" (see Posner and Reinecke 1977). Sign processes, like

all processes, are causally determined. They can be distinguished from one another and from other processes by the specific factors involved in them. Some of these factors have already been mentioned: Each sign process includes at least a sign, an interpreter, and a message which is conveyed to the interpreter by the sign. The interpreter's response, which amounts to construing a message in perceiving the sign, is called an "interpretant". There are signs which occur by themselves, such as smoke, the perception of which makes someone (the interpreter) assume (interpretant) that a particular fire (referent) is burning nearby (message); here the interpreter functions as a recipient. There are also sign processes which are carried out by a sender, such as the utterance of the word "fire", by which the utterer (sender) indicates a particular fire nearby (referent) or gives the command to shoot the gun (message). The hearers of such a message can be divided into addressees (i.e., those whom the sender wants to believe that he or she wants to reach them with his or her utterance), bystanders (i.e., those whom the sender wants to reach with his or her utterance without them believing that he or she wants to reach them), and all other recipients (of whom the sender does not even need to have any knowledge whatsoever). Senders, addressees, bystanders, and other recipients are all called "sign users".

The interpretation (possibly intended by a sender) of a sign by the recipients can be facilitated and standardized if the sender and recipient both apply a code (in this case the English language) which associates a signifier (here: the product of oral articulation in the phonological form /faɪər/) with a signified (here: a meaning of the semantic form 'combustion process releasing light, warmth, and energy'); see Saussure 1916. The use of shared codes allows the senders and recipients to carry out parts of the interpretation process (the association of signifier and signified) automatically, so that they can concentrate their attention on the circumstances which make them articulate a signifier in a particular manner or understand a signified in a special way, respectively (see Prieto 1966: 47f as well as Blanke and Posner 1998). Just like the perception of smoke, the perception of the utterance "fire" can trigger a sometimes highly complex inference process leading to more specific messages (such as the predicates 'smolder', 'burning cable', 'burning dust', 'meadow fire', 'forest fire'; or the directive 'shoot the pistol/gun/ cannon').

These two examples (smoke and "fire") are only the extremes of a broad spectrum of types of signs, i.e., sign processes, which extends from indicators without a sender through codeless indicatings (with a sender), coded indicatings, and indicatings of indicating up to (codeless or coded) communication and verbal interaction (see Posner 1993). Between these extremes lies, for example, the habit of historical commanders at

the end of a battle to light a certain type of fire at the peak of a mountain so that their scattered troops could connect the type of smoke (signifier) with a particular signified ('victory') and complete it to arrive at a certain message ('we have won') – a communicative sign process with a sender and a code, but without language.

Explaining the differences between the possible types of sign processes has been one of the central tasks of semiotics since antiquity (see Hülser 1997 and Manetti 1997). To this end two opposing strategies have been followed. Certain semioticians, from Augustine to Peirce (1931-58) and Eco (1976) attempt to cover the entire spectrum of sign processes in its full diversity through a coherent conceptual system; others postulate one or more divisions in it and accept only coded sign processes (Lévi-Strauss 1958 and Barthes 1953 and 1964) or only communication (Buyssens 1943, Prieto 1968, and Mounin 1970) as the subject matter of semiotics. The present article, as is the case with most introductions to semiotics (see Morris 1968, Sebeok 1979, Krampen et al. 1981, and Schönrich 1999), utilizes the broader conception of semiotics and applies it to cultural processes.

2.2 Codes

Which types of sign processes, then, are to be seen as cultural, and which as non-cultural? Relevant to this is the question of whether codes are involved, and, if so, what kind of codes these are. A code consists of a set of signifiers, a set of signifieds, and a set of rules which determine the relation of these to each other (see Nöth 1990: 206-220). A code is either innate, such as the genetic code, is learned in interaction with the social environment, as is the case with many behavioral codes, or may be created through an explicit decision by one or more individual(s). Consequently, one distinguishes between *natural*, *conventional*, and *artificial* codes (see Keller and Lüdtke 1997).

The natural codes of a living being are transferred via biological mechanisms by means of heredity to future generations; within this process evolutionary modifications (mutations) are possible. The conventional codes (and conventionalized artificial ones), by contrast, are not necessarily transmitted from one generation to the next. Should they be, however, the result is the establishment of traditions (Cavalli-Sforza and Feldman 1991; see also Nyíri 1988). Groups of living beings with the same anatomy and extensive similarity in their natural codes are classified biologically as belonging to the same species. Groups of living beings of the same species with extensive similarity in their traditions (i.e., conventionalized codes passed on over several generations) are said by the human sciences to belong to the same culture.

Generations of living beings belonging to the same species, but to different cultures, can gradually become so different from each other that one may speak of "pseudo-speciation" (Erikson 1966; see Eibl-Eibesfeldt 1979: 47f). Combined with geographical isolation, cultural differences can lead to the members of the different cultures having fewer and fewer common offspring, so that their gene pools become increasingly differentiated. This is how different subspecies of the same species develop. If this development continues long enough, the phenomenon of generations of living beings of the same species belonging to different cultures can eventually result in the formation of different species (see White 1978, Gould 1980: chap. 17, and de Winter 1984).

It is worth emphasizing that not only humans, but also living beings of other species establish traditions. This is true for mammals as well as birds (see Bonner 1980 and Becker 1993). The important thing is not which biological descent a living being has, but rather whether or not it is endowed with the cognitive equipment that enables it together with its fellow beings to develop group conventions for the structuring of signifiers and signifieds. It follows that some machines, namely systems of artificial intelligence, are theoretically also in a position to develop cultures.

2.3 Media

Individuals who use more or less the same conventional codes in their interpretation of signs are considered to be members of the same culture. The use of the same conventional codes in different sign processes makes these processes similar to each other, and thus creates constancy in the interactions between the members of the same culture even when messages vary greatly. This constancy increases when additional factors remain the same over a wide range of different sign processes. The term "medium" is used to designate a constellation of factors which remains the same over a wide range of sign processes. One can therefore say that two sign processes belong to the same medium when, in their reception, they either rely on the same sensory apparatus (for example, the ear), or utilize the same contact matter (physical channel; e.g., air), or operate with similarly functioning instruments (technical channel; e.g., the telephone), or occur in the same type of social institution (for example, in a fire department precinct), or serve the same purpose (such as calling for help), or use the same code (for instance the English language). In order to distinguish between these types of conditions, one speaks of a biological, physical, technological, sociological, functional, or code-related media concept (see Posner 1985: 255ff). Since all sign systems in a culture are media, the various media types are now illustrated by means of examples.

The *biological media concept* characterizes sign processes according to the bodily organs (sensory apparatus) which are involved in the production and reception of signs. With respect to humans, one differentiates between the visual medium, whose signs are received with the eyes; the auditory medium, whose signs are received with the ears; the olfactory medium, whose signs are received with the nose; the gustatory medium, whose signs are received with the taste buds in the mouth; and the tactile medium, whose signs are received through the skin's sense of touch.

The *physical media concept* characterizes sign processes according to the chemical elements and their physical make-up (contact matter) which are used in establishing a connection between the signs and the receptor organ of the recipient, and, where available, the production organ of the sender. Visual sign processes are dependent on electro-magnetic fields which carry photons (optical medium); auditory sign processes are dependent on solid, liquid, or gaseous bodies capable of acoustic transfer to serve as a physical connection between the sign and the recipient (acoustic medium); olfactory sign processes utilize chemical substances in gaseous form (osmotic medium); gustatory sign processes use certain liquid and solid substances (culinary medium); tactile sign processes are dependent on the skin to transmit stimuli (haptic medium). The biological and physical aspects of human and animal sign processes are extensively treated in Posner et al. (1997-2004: Vol. 1, Articles 6-12).

The *technological media concept* characterizes sign processes according to the technical means used to modify the contact matter involved. In visual sign processes these means include paper and pencils, canvas and brushes, as well as glasses, binoculars, and telescopes; they include typewriters and typescripts, cameras with darkrooms and celluloid reels cut at editing tables, as well as projectors, screens, and paper prints; and they make use of computers with monitors, keyboards, and mice, as well as printers and print-outs. With respect to the utilized apparatus, visual sign processes can be divided into print media, projection media, screen media, etc.; with respect to the production of such apparatus, one speaks of typescripts, printed texts, photos, transparencies, films, and video-cassettes as different media. In auditory sign processes, the technical means include musical instruments, microphones and loudspeakers, radios and receivers, as well as vinyl records, reel-to-reel tapes, cassette tapes, and CDs, which is why one speaks of records, reel-to-reels, cassettes, CDs, and so forth as different media. Within olfactory sign processes dispensers, aerosol cans, or perfume bottles are used as a technical medium, depending on whether a scent is to be constantly present, disseminated throughout a room at a particular moment, or attached to a particular part of the body. Gustatory sign processes are classified both on the basis of the techniques of food

preparation and on the basis of the devices used in consumption; this is why not only soup kitchens, bakeries, and sushi bars, but also corn on the cob, fondue, shish-kebab, ramen noodles, and ice-cream cones are regarded as gustatory media. Tactile sign processes tend to be prepared with the help of soap, powders, creams, massage oil, and lipsticks, and are then carried through by striking, punching, grappling, stroking, dabbing, rubbing, pinching, poking, massaging, applying water or radiation to the skin, which can involve another's skin, as well as gloves, brass knuckles, brushes, showers, and sunbeds; this is why people conceive of boxing and wrestling matches, of massages, saunas and solariums as tactile media.

The *sociological media concept* characterizes sign processes according to the social institutions that organize the biological, physical, and technical means involved in producing signs. Social media for visual sign processes include galleries, museums, and libraries promoting exhibitions; press syndicates, book publishers, and book stores releasing printed products; as well as film distributors, movie houses, and rental stores providing films and videos. Social media for auditory sign processes include concert halls, jazz clubs, and piano bars, as well as record companies, radio stations, and telephone centers. Social media for olfactory sign processes include perfume stores, drugstores, and launderettes. Gustatory sign processes are socially mediated by hotel dining rooms, restaurants, cafés, and tea salons, as well as snack bars, hot-dog stands, and ice-cream parlors. Tactile sign processes are organized by sports clubs, bath houses, and massage salons. Most of these social media organize more than one type of sign process; just think of theaters and opera houses, sports arenas and fitness centers, churches, broadcasting companies, and websites (see Giesecke 1988 and Baltzer 2001).

The functional media concept characterizes sign processes according to the purpose of the messages which are transmitted by them. We are here dealing in a generalized form with what is known as "styles", "genres", or "discourse types" in literature, art, and musicology (see Morris 1946=1971: 203-232). The purpose of the communication gives the messages similar structures regardless of the biological, physical, technical, or social medium in which they occur. Not only in newspapers, but also on the radio and on television, one distinguishes between news, commentary, criticism, reportage, feature stories, and advertising. The distinction between serious art and entertainment products appears in cinema as arthouse films versus Hollywood movies, in music as classical versus pop, and in fiction as literary fiction versus airport novels. In the field of entertainment there are once again multiple parallel divisions, for example when a book is presented as a comic novel, a detective novel, or a historical novel; when a film is presented as a comedy, a detective film, or a historical feature; and when a television pro-

gram is presented as a sit-com, a detective show, or a "historical portrait". This raises the more general question of how the limitations to which a message is subjected differ when one publishes it in the context of a news item, a commentary, criticism, a reportage, a feature story, or an advertisement. The fact that such limitations are fairly stable justifies speaking of news, commentary, criticism, reportage, feature reporting, advertising, and so forth as functional media (see Hempfer 1973 and Rolf 1996).

The code-based media concept characterizes sign systems according to the types of rules by means of which the sign users manage to assign messages to the signs. We are dealing with a code-related division when an institution such as a radio network differentiates between departments for broadcasting spoken texts versus music, or when an international publishing house organizes itself into sections for English, French, German, and Spanish. A code-related differentiation in Western music is the distinction between monophony and polyphony, as well as that between tonal and atonal music; in art, the distinction between representational and non-representational paintings; in architecture, the classification of a building as Romantic or neo-Romantic as opposed to Gothic or neo-Gothic and Functional or neo-Functional, etc. A publisher's decision to publish a book in English, French, German, or Spanish, a composer's decision to compose tonally or atonally, a painter's decision to paint representationally or non-representationally, or an architect's decision to build a house in a neo-Romantic, neo-Gothic, or neo-Functional style can be understood as a choice between various media of publishing, composition, painting, or building, respectively.

Each medium determines the types of messages which can be transmitted in it. Therefore, it is often referred to as a "channel": It lets messages of a particular kind pass and excludes others (see Posner 1985: 257 and 264, note 32). However, the biological, physical, technical, social, functional, and code-related limitations usually function together. Thus, a pop music concert simultaneously utilizes the sensory modality of the eye and the ear, the contact matter of air, the technical apparatus of spotlights and projection screens as well as musical instruments, microphones, and amplifiers, the social institutions of the promotion agency as well as the venue or arena, the text format of pop songs, and as codes the English language, Western gestures, and tonal music. This special constellation of media predisposes it for an emotionally-laden, generally understandable message, which can provide every individual in a large audience with a feeling of belonging. Someone who, on the other hand, is more interested in following from a distance a small group discussing serious issues should, instead of attending a concert, listen to a debate on National Public Radio.

Examples like these show the wisdom of applying the cited media terminology in the description of a sign process. A medium in this comprehensive sense is a sign system endowed with a certain constellation of properties in its constituent factors over a particular period of time, thus subjecting the sign processes occurring in it during that period to constant limitations.

Of interest to cultural theory are the high level of specialization, the significant differences of prestige of various media, and their division of labor in the organization of sign processes within a culture (see §4 below). These givens also shape the dynamics of media change within cultural history (see, among others, Böhme-Dürr 1997 and Thread-gold 1997, as well as Gumperz and Hymes 1972).

3. Cultures as sign systems: society, civilization, and mentality

Traditional cultural studies in the universities and academies of the West were organized in such a way that their research was restricted to particular media:

– *philology* and *history* concentrated on visually receivable, optically transmitted sign complexes contained in writing on paper and utilized in religious and/or political institutions (literary works and historical sources);

– *art history* and *architectural studies* concentrated on visually receivable, optically and haptically transmitted and spatially experienced sign complexes contained in pictures, sculptures, and buildings and utilized in religious and/or political institutions (painting and mosaic, memorials, churches, castles, and palaces);

– *musicology* concentrated on auditorily receivable, acoustically transmitted sonic sign complexes produced with the human voice and/or musical instruments and performed in religious and/or political institutions (pieces of music).

This media-centered organization only grew stronger with the arrival of new technical media in the 19th and 20th centuries (photography, film, television, video, computers) and the introduction of their respective study programs.

The only disciplines which even before modern semiotics were geared towards a systematic study of cultures in their entirety are *anthropology* (see, among others, Herder 1784-91, Klemm 1843-52 and 1854-55, Tylor 1871, Boas 1908, Kroeber 1923, Thurnwald 1936-37 and 1950, Bidney 1953, Turner 1967, Harris 1968, Geertz 1973, Leach 1976, Vivelo 1978, Moore 1997, and a general survey in Kroeber and Kluckhohn 1952) and *archaeology* (see Leroi-Gourhan 1964, Chang 1967, Binford 1972, Renfrew 1973, Schiffer 1976, Clarke 1972 and 1978, Frerichs 1981 and 2003). It is worthwhile for cultural semioticians to review the research questions posed by anthropology and

archaeology and to restate them in semiotic terms, because these questions offer a trans-medial perspective on the world's cultures.

In the second half of the 20th century, an extensive agreement was reached within the latter two disciplines about the central subject areas which are to be investigated and about the most important questions which must be posed within the study of culture (see Singer 1978 and 1980). Based on these subject areas, anthropology can be structured (see Posner 1989: 249ff and Hansen 1993) into the subdisciplines: *social anthropology* (see, among others, Alfred Weber 1920 and 1935, Radcliffe-Brown 1940 and 1952, Evans-Pritchard 1962, and Cohen 1971); *material anthropology* (see, among others, Thurnwald 1932, Bidney 1953, and Clarke 1978); and *cultural anthropology* (see, among others, Kroeber 1923 and 1952, Kluckhohn 1951 and 1962, and Lévi-Strauss 1949 and 1958).

a) The subject area of social anthropology is social culture, i.e., *society*. Each society consists of institutions and the rituals performed by them. Examples include religious institutions, such as a Christian church and the rituals of the church service.

b) The subject area of material anthropology is the material culture of a society, i.e., its *civilization*. The civilization of a society consists of artifacts and the skills of producing and using them. Examples of artifacts used in religious institutions are crosses, hosts, rosaries, hymnals, and bibles.

c) The subject area of cultural anthropology is the mental culture of a society, insofar as it is manifested in its civilization, i.e., its *mentality*. The mentality of a society consists of mentifacts (that is, the ideas and values) and the conventions governing their use and expression (for a definition of "mentality" see Raulff 1987: 11 and Posner 1991: 68, note 2; the concept can be traced back to the tradition of the French journal *Annales E.S.C.*, established in 1929 in Paris by L. Febvre and M. Bloch; see also Duby 1961, Le Goff 1974, Tellenbach 1974, Hutton 1981, Sellin 1985, Dinzelbacher 1993 and Werlen 1998). Examples of religious mentifacts are the Catholic saints and their emblems, the classification of sins with the corresponding terminology ("mortal sin", "venial sin", etc.), and the gestural codes of priests.

The subject areas of these anthropological subdisciplines can be studied not only separately from each other, but also in relation to one another. Thus, one can ask of a given society which civilization and mentality it is capable of developing, one can ask of a given civilization which social structures and mentalities it permits, and one can ask of a given mentality which social structures and which civilization it enables.

Equally relevant for all three subject areas is the question of how social culture (institutions and rituals), material culture (artifacts and skills), and mental culture

(mentifacts and conventions) are transmitted from one generation to the next. It is this mechanism of transmission (see Mead 1912, Thurnwald 1936-37 and 1950, and Lotman and Uspenskij 1971 as well as Lotman et al. 1975) which is generally called "tradition".

To summarize, one can say that a culture in the anthropological and archaeological sense is nothing other than a society which has developed a particular civilization in accordance with a certain mentality.

The question of central interest to the cultural semiotician is now: Which relationship exists between society, civilization, and mentality on the one hand, and sign systems on the other? Can the notions of institution, artifact, mentifact, and cultural transmission be explicated with the aid of semiotic concepts such as "sign", "message", "interpreter", "code", and "medium"? In other words: Can the objects studied by anthropologists and archaeologists be understood as elements of symbolic forms in the sense of Cassirer?

3.1 Social culture (society): sign users

A society is a set of individuals. Its structure is determined by the groups of individuals who are regularly connected by sign processes. These groups are what we usually call "institutions". Which institutions exist in which society is characteristic of their social culture (see, among others, Homans 1950, Bourdieu 1970, Lehmann 1984, Smuts 1987, Giesecke 1988, Alexander and Seidmann 1990, Cole 1996, Kashima 2001, and Baltzer 2001).

Every society develops its own material and mental culture. But the geographical boundaries between two societies do not necessarily coincide with the boundaries between their respective material cultures and between their respective mental cultures (see Clarke 1978, Posner 1990, and Berry et al. 1997):

- Individuals from one society can be accepted within the social context of another society and bring with them their artifacts, ideas, and values. This happens in cross-cultural marriages as well as in the immigration of foreign skills (e.g., craftsmen, merchants, tax collectors).
- Artifacts from the material culture of one society can be acquired by members of another society; they may be put into use and imitated without changing anything in the social relationships. The acquisition, use, and imitation of Chinese porcelain ("china") by Europeans and of European automotive technology by the Japanese are generally recognized examples of such civilizational overlap.

– Mentifacts which determine the behavior of the individuals in one society can be adopted by members of another society and can come to determine their behavior. One such case is the adoption of African-American music (at first referred to as "*Negergedudel*," 'nigger droning') in Germany after World War II and its independent development into local forms of music (e.g., *krautrock*) in the following decades: The mentality of jazz fans today connects individuals from otherwise very different societies and civilizations.

So who is it in a society who determines its material and mental culture? Who are the carriers of its culture? An answer taking into account the overlappings sketched out above is as follows:

1. Each individual in a society has a specific set of artifacts and mentifacts and can therefore be considered an individual carrier of culture.

2. Each society as a whole has a specific set of artifacts and mentifacts and can therefore be considered a collective carrier of culture.

3. Certain (again, possibly overlapping) groups of individuals in a society are characterized by their artifacts and mentifacts and can therefore also be considered collective carriers of culture. Examples include institutions such as the Catholic Church, the Protestant Church, and other religious affiliations.

Now, it so happens that individuals, societies, and institutions also act as sign users. Concerning individuals, it may well be asked whether they are not called "individuals" (in the sense of 'undividables') precisely because they are capable of playing the roles of a sender, addressee, bystander, or recipient of conventional messages: Individuals function as users of conventional signs, and they lose this ability when they are divided into pieces.

The same is true of a society as a whole: In the form of a political state it can conduct negotiations, declare war or peace, and ratify or break treaties.

This also holds of institutions, such as a church, a hospital, a school, a theater, or an administration: For example, anyone can address a German university as an institutional unit, and it will reply as such ("On behalf of the University President, Smith").

It follows that *carriers of culture are sign users*. As ethology has established, the considerations above apply to animals as well. Not only individual primates but also entire groups of primates can articulate their will by producing and addressing conventional signs (such as, for example, the groups of females in a pack of chimpanzees, who by collective performance indicate to a male his social role in the pack; see de Waal 1982 and 1989).

Even in the still-utopian (or dystopian) conception of machines as carriers of culture it seems evident that machines will form societies and be accepted as members of the same society to the extent that they will develop collective conventional codes, produce signs interpretable with the aid of these codes, and address them to each other (see Posner 1993: 262-267 and 2000).

3.2 Material culture (civilization): texts

A civilization was characterized above as the totality of a society's artifacts, including the skills of producing and using them. Civilization in this sense gives rise to many kinds of sign processes. In seeking to describe them, one must examine what an artifact is conceived to be (see Folsom 1928, pp. 15, Bernard 1942, pp. 699, and Kluckhohn 1951, pp. 86, as well as Thompson 1979 and Warnier 1999).

3.2.1 Artifacts

"Artifact" can be easily defined if one accepts that the behavior of an individual can be distinguished from its results and intentional behavior can be distinguished from unintentional. An artifact is then everything which is a result of intentional behavior, whether this particular result is itself intended or not (see Herskovits 1948, Rossi-Landi 1968 and 1975, Becker 1993, and Scholz 2002).

Artifacts can be of short duration, such as the sounds a woman produces when her high heels click on the pavement, or they can be longer-lasting, such as the imprints of the woman's shoes in mud. A distinction is therefore to be made between instantaneous and persistent artifacts.

Artifacts are most often produced in order to fulfill a particular function. Persistent artifacts which have a function are called "tools". Something can be a tool in one culture and a functionless artifact in another (see Posner 1989: 255). All human cultures classify their tools according to their functions, which is illustrated by the majority of English terms for tools: a "hammer" is a device for hammering, a "drill" is a device for drilling, and the same can be said about "chisel", "file", "saw", "hoe", "winch", "pump", "eraser", "hole-punch", "typewriter", etc.

3.2.2 Texts

When something is an artifact that not only has a function in a culture but is also a sign that carries an encoded message, it is designated by cultural semiotics as a "text of this culture". Texts are always a result of intentional behavior, even if not all of their characteristics need to be intended (see Beardsley and Wimsatt, 1946, Hirsch 1967, Grice 1975, and Danneberg and Müller 1983). Since they are artifacts, texts can be not only produced but also reproduced. In this way, one arrives at several tokens of the same artifact type. Industrial products, such as pieces of plastic furniture, off-the-rack dresses, and cars produced on assembly lines are cases in point. When a text is reproduced as such, its coded properties (its signifiers and signifieds) remain unchanged. This is especially true for verbal texts. That is why I can say that your Bible is the same text as my Bible (if they are both the result of an off-print from, say, the first edition of the King James Authorized Version). In this case, we distinguish between your text token and mine and contrast them with the text type of this edition (see Posner 1989: 284, note 16).

The broad concept of text used here was first developed in the second half of the 20th century in the context of cultural semiotics; it stands in opposition to a much more constrained concept of text which has been in use in philology since the 18th century. The cultural-semiotic concept of text emerged from the philological one in a series of generalizations (see Posner 1989: 257ff). In philology, for a long time only visually receivable (i.e., written) verbal sign complexes were accepted as "texts". The first generalization, which gained ground in the 1950s, had the result that all linear chains of verbal signs were regarded as "texts" (see Saussure 1916: Introduction), which gave auditorily receivable chains of verbal signs (speech) the status of "texts" as well. A second generalization, which took place in the 1960s, led to the inclusion of chains of non-verbal signs (i.e., discrete linear sign complexes), such as mathematical and logical formulas, in the concept of text. A third generalization resulted, finally, in the removal of the constraints of linearity and discreteness, so that today any more-or-less complex sign token can be called a "text", be it a single traffic sign, a series of traffic signs on a street, a painting, a sculpture, a piece of music, a dance, or a verbal utterance.

The concept of text, and along with it most results of the theory of texts, was thus rendered applicable across media. It can help clarify the complex conditions within the various media: Since coded sign tokens are, generally, reproducible, every replica of a painting and a sculpture, as well as every performance of a piece of music, is a text, and, moreover, it may be called "the same text" as the original, since the reproduction makes it a token of the same text type. One can also formulate texts *about* text types, and so musical scores are also texts, and when they are duplicated there are several text tokens

of a text type determining a type of musical performance (see Goodman 1968). Described with the generalized concept of text, the various sign processes involved in multimedia communication cease to appear incompatible, and this can make decision processes transparent which are otherwise carried out intuitively. Theater, opera, and film directors find themselves faced by the question of whether an intended message should be conveyed by a verbal utterance, a mimed expression, a gesture, scenery, or even background music. The integration of messages from all these media into a complex whole can be described and explained by the theory of texts.

The general text concept used by cultural semiotics is suitable to be used by all disciplines involved in the study of cultural phenomena. It is equally applicable to the subject matter studied by philology, history, architecture, art history, musicology, and the new media disciplines. Its utilization contributes to the bridging of disciplinary boundaries and to the formation of a non-metaphorical conceptual basis for research into the structure and function of sign complexes in all media.

It is therefore advisable not only to understand a civilization as a set of artifacts, but also to regard it as a set of texts in the broad sense of cultural semiotics. Archaeologists might find this proposal problematic, because their central research objects are the persistent artifacts of earlier cultures which are called "tools", and the treatment of tools as texts has remained unusual until today. However, one can easily demonstrate that tools also fall under the text concept of cultural semiotics (see Posner 1989: 261ff): Tools are normally produced to serve a particular function (their standard use), and the producer ensures recognition of the tools by encoding their intended function into them. This is why each tool conveys the function for which it was created. We have here the simplest example of a text in the sense of cultural semiotics. The form of the tool is the signifier and its function the signified. Signifier and signified are connected by means of a (more or less well-motivated) conventional code. In this way, the form of the knife (grip with a blade) signifies its cutting function, the form of the pump (grip with a piston) signifies its pumping function, and so forth. Tools, therefore, are artifacts which have a function in a culture and carry a coded message – and are thus texts.

The result of these considerations is the realization that civilization in the anthropological sense can be explicated semiotically as a set of texts. With this we have shown that the research objects of the second subdiscipline of anthropology, material anthropology, can also be reconstructed on the basis of semiotic concepts.

3.3 Mental culture (mentality): codes

The mentality of a society is composed of its mentifacts, that is, of its ideas and values and the conventions that determine their use and expression. "Ideas" here means all categories with which a society interprets itself and its reality. Notions such as "person", "animal", and "plant" belong to these categories just as do "heaven" and "hell". Examples for the values of a culture include "freedom", "equality", "fraternity", "sense of responsibility", "honesty", and "love of truth". How can the semiotic status of such mentifacts be determined? This question, too, can be easily answered within our theoretical framework. If a mentifact is to play a role in a society the latter must have at its disposal a substrate which makes it transmittable. This means there must be a symbolic form which expresses it (to use the approach of Cassirer 1923-29; see above section 1; see also Schwemmer 1997: 143ff), which is to say there must be a signifier whose signified is the mentifact. Note that pairs of signifiers and signifieds occur only in systems (see Saussure 1916: chapt. II, iv). Since systems of correlation between signifiers and signifieds are called "codes", this consideration leads to the conclusion that any mentality is to be understood as a set of codes. The codes in question are based on conventions. Mental culture is, therefore, nothing but a system of sign conventions which the members of a society share. They control the members' social behavior and determine the function and meaning of their artifacts.

With the explication of mental culture as a set of conventional codes we have shown that the subject area studied by the third subdiscipline of anthropology, cultural anthropology, can also be reconstructed on the basis of semiotic concepts.

3.4 The semiotic relationship between social, material, and mental culture

One of the benefits of this semiotic analysis of social, material, and mental culture is that it provides a non-arbitrary way of relating the subject areas of social anthropology, material anthropology, and cultural anthropology to each other. If a society is definable as (a set of) sign users, a civilization as (a set of) texts, and a mentality as (a set of) conventional codes, then these three domains are systematically related, since sign users are dependent on codes if they want to understand texts.

The semiotic approach thus offers a basis for the demonstration of the unity of the subject areas of anthropology, archaeology, and the other culture-related disciplines. It does so by claiming that cultures are special sign systems. This thesis, formulated in the introduction above, can now be made more precise as follows: Culture as a sign system consists in individual and collective *sign users* producing and receiving *texts*, which use conventional *codes* to convey *messages* which enable the sign users to solve *problems*.

This explication of the concept of culture applies not only to human cultures, but also to those of animals, and even to those of machines, as well as to cultures in which humans, animals, and machines operate together and regulate their interactions through shared sign conventions. Within human cultures, this conception of culture holds not only for tribal cultures, language communities, or nation-states, but also for parts of them. In this sense, a person can simultaneously be a member of Western, European, German, Bavarian, and of Munich culture, and understand him- or herself as such (see Baumann 1999). Also, discourses of aristocratic, bourgeois, and proletarian culture, or of managerial, clerical, and workers' culture, even of corporate and business culture and of student sub-culture can be reconstructed and justified with the help of the semiotic concept of culture.

In summary, cultures are highly complex yet unified structures. More precisely, the complexity of a culture as a sign system consists in it containing

(1) a society including many sign users organized into diverse (and often overlapping) groups which are capable of behaving as collective sign users (e.g., when they form a social institution),

(2) a civilization comprising many texts which belong to diverse media and can therefore be categorized in various text groups, and finally

(3) a mentality made up of many codes which can be variously categorized into code types according to the rules used and the properties of the signifiers and signifieds correlated by them.

Due to this highly differentiated structure, all cultures can also be treated as systems of sign systems. Each culture organizes itself into systems of sign systems, and since this puts into play competing organizational principles, there is constant disagreement about their relative significance. This is the origin of cultural dynamism, which causes culture change.

4. The mechanism of culture and cultural change

If one examines the principles that have been proposed to explain cultural change, one finds on the one hand that a culture is shaped by its members, and on the other hand that its members are shaped by the culture. Cultural semiotics has the task of explaining how both can be the case at the same time. We are dealing here with the question of the mechanism of culture (see Thurnwald 1936-37 and 1950).

Should it be possible to achieve this task with the aid of the semiotic concepts which were used in the explication of the concept of culture, this could be taken as proof of these concepts' theoretical validity.

In the past few decades, the most significant contribution to the search for an understanding of the mechanism of culture has been made by Jurij Lotman and his colleagues at the Moscow-Tartu school of semiotics. Their conclusions are most succinctly summarized in the "Theses on the Semiotic Study of Culture (as Applied to Slavic Texts)", presented by Lotman, Uspensky, Ivanov, Toporov, and Piatigorsky at the Moscow Congress of Slavicists in 1973. According to Lotman and his colleagues (1975: 73), "culture may be regarded as a hierarchy of particular semiotic systems, as the sum of texts and the set of functions correlated with them, or as a certain mechanism which generates these texts". In what follows, the mechanism of culture will first be treated on the basis of its conception as a totality of texts and their functions, which will enable us to answer question (3) raised in section 1 above. Then the conception of culture as a hierarchy of sign systems will be presented, serving to explain cultural change and thereby to answer questions (4) and (5).

4.1 Culture as a system of texts

The claim that a culture is a system of texts is accepted by many cultural semioticians. Among these are Lévi-Strauss (1958), Barthes (1964), Winner (1979), Galaty (1981), and Fine (1984). Under debate is the structure of this system.

Lotman (1970: 64-77=1981: 34-48) bases his approach on the broad concept of text according to which every artifact with a function and a coded message can be regarded as a text; he notes, however, that every culture selects from the set of these texts a small subset which its members consider important for their cultural identity. He maintains (1970=1981: 38): "The selection of a certain number of texts from the mass of […] messages can be considered as indicating the emergence of a culture as a special form of self-organization of society", and vice versa: "A situation in which all texts have equal value amounts to a liquidation of the culture."

The criteria according to which the members of a culture select the texts which express their cultural identity differ from culture to culture; they depend on the media utilized in the respective culture. Describing these relations is made difficult by the fact that each culture develops its own concept of text and often classifies the texts which are irrelevant for its identity as "non-texts." This was true also for the European academic tradition, which up until the 20th century recognized as "texts" only verbal sign com-

plexes fixed in writing, offering only the term "speech" to designate orally produced verbal sign complexes and remaining completely silent regarding non-verbal sign complexes (see section 3.2.2 above). In order to avoid confusion in what follows, those artifacts which a given culture i considers to be texts expressing its identity are marked with the subscript "i."

Concerning the diversity of the selection criteria for texts, Lotman (1970=1981: 36) writes with respect to verbal texts: "The text is what is engraved in stone or metal as opposed to that which was written on a less durable material. This produces the opposition 'durable/permanent' versus 'momentary/short-lived'. That which was written on parchment or silk is contrasted with that which was written on paper according to the opposition 'valuable' versus 'not valuable'. That which was printed in a book contrasts with what was printed in a newspaper and what was written in an album contrasts with what was written in a letter according to the opposition 'intended for keeping' versus 'intended for destruction'; significantly, this opposition is valid only in systems where letters and newspapers are not intended to be kept and vanishes in opposite systems." In a written culture i in which writing is discredited by social stratification or censorial practice, the non-written can also be accepted as a text$_i$ and that which is written or printed can be seen as a non-text and marginalized. Here we encounter oppositions such as "sincere" versus "insincere" or "simple" versus "complicated", as in the period of transition from nobility to bourgeoisie as the ruling class in Western Europe.

A text$_i$ thus is a sign complex which deserves to be transmitted in the *most prestigious medium* of the culture i.

– Texts$_i$ are generally considered *valuable* and are therefore preserved, for example by recitation in key rituals (i.e., in sacred contexts) or by being stored in a carefully guarded environment (e.g., in a library).

– Texts$_i$ *define what is real* for the members of the culture i; they can therefore not be regarded as false (consider, for instance, the authority which the works of ancient philosophy, literature, and art had for Mediaeval man).

– Texts$_i$ *set the standard* for generations of members of the culture$_i$ and therefore remain unchanged, even if the circumstances of the members' lives change; discrepancies between the text and the world which then arise are neutralized by specially developed procedures of interpretation (consider biblical hermeneutics as an example).

– Texts$_i$ become, over time, *incomprehensible* to members of a culture i, since their signs are retained while the relevant codes undergo considerable change; texts$_i$ there-

fore require exegesis and translation (consider the treatment of holy scripture by religious scholars, of law by commentators, or of art by art critics).

– In order to legitimize these attitudes and adjustments, *myths* about the creation of texts$_i$ are employed; particularly common is the assumption of divine origin (as in the case of the Ten Commandments given to Moses by God on Mount Sinai).

In cultures with scriptural religions, these practices can be demonstrated with respect to the relevant scripture; however, they are also involved in the treatment of other texts. Holy scripture is in each case only the pinnacle of a wide-ranging hierarchy of texts with an identity-constructing function.

In order to grasp this hierarchy of texts and to ascertain the relative cultural value of a given text or text genre, one need only examine the quantity of similar texts and their average life-span in the relevant culture. For Europe, the result is that there is only one text which is generally accepted as "Holy Scripture"; it has been the behavioral guideline for thousands of years. Alongside of it stand several state constitutions which have been valid for hundreds of years, and thousands of laws which have remained in force for decades. Analogous relations can be found in the works of literature, art, and architecture, as well as, over a shorter span of time, music.

At the other end of the pyramid lie the short-lived artifacts and ephemeral everyday utterances. One can also compare produced quantity and life-span for oral utterances, memos, e-mails, letters, diary entries, receipts, applications, employment contracts, treatises, etc.

Examining the canon of a culture's long-lived texts is, therefore, a valid approach to the study of that culture (see Fokkema 1986). It not only manifests cultural continuity, but also draws attention to times of upheaval. Characteristic of the latter is a change in the behavior of the culture's members vis-à-vis their texts; previously accepted artifacts are excluded from the canon, new artifacts are included, and entire genres of artifacts are reappraised. This upheaval may be powered by internal motivations, or it may be induced by other cultures. For instance, extensive knowledge of another culture can lead to texts of that culture's canon becoming identity-formative for one's own culture. An example is the American Constitution, which in the 19th and 20th centuries came to be one of the most oft-quoted texts in treatises on German public law. And this was so not only in the German culture, but in all cultures of the West.

As we can see, an examination of material culture provides access to the self-organization and self-understanding of a culture. It allows us to draw conclusions concerning the social and mental culture and has the methodological advantage of being based on

concrete objects, whereas the analysis of institutions and of codes must necessarily rely on indirect procedures of inquiry.

What is set out in the following, though, is a second approach to culture, which is more abstract, but which for precisely that reason provides more accurate insights into the ways in which cultures change.

4.2 Culture as a system of codes

According to Lotman et al. (1975) and Lotman (1990), the hierarchy of texts in a culture is closely tied to the system of codes which facilitate the understanding of these texts. This system of codes has a hierarchical structure as well: it is organized into a system of semiosic spheres which is surrounded by multiple layers of non-semiosic spheres. Each sphere makes available a segment of the world. The semiosic spheres consist of sign systems with codes which structure this world segment with the aid of their signifieds. The non-semiosic spheres leave their world segments unstructured.

The spheres fall into four different areas:

1. The *extra-cultural*, which lies beyond the mental horizon of the relevant society because it is entirely unknown;

2. The *counter-cultural*, which is known to the members of the society, but regarded as opposite to their own culture;

3. The *culturally peripheral*, which the members of the society recognize as part of their own culture, but not as central;

4. The *culturally central*, which the members of the society recognize as part of their culture and as essential for their own identity.

While non-semiosic spheres belong to the first area, the semiosic spheres are divided among the remaining three. Among them are the counter-cultural spheres, which fall into the second area and must be distinguished from the cultural spheres, which are concentrated in the third and fourth areas.

This division of the spheres allows us to describe the key phases of cultural change. Cultural change can be characterized as a shift in the boundaries between spheres, areas, or categories of areas. Possible shifts include

a. displacement of the boundary between what is extra-cultural (1) and what is regarded as counter-cultural by the members of a society,

b. displacement of the boundary between what the members of a society regard as counter-cultural (2) and what they regard as cultural (3+4),

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c. displacement of the boundary between what the members of a society regard as culturally peripheral (3) and what they regard as culturally central (4).

How can boundaries and boundary shifts such as these be reconstructed within semiotic theory? This question is easily answered concerning the transition from the extra-cultural to the counter-cultural, since this case coincides with the transition from non-semiosic to semiosic spheres (see Johansen and Larsen 2002: 196f). When a society discovers a new segment of the world (such as a new continent, a new type of radiation, a new mode of production for synthetic materials), it introduces a rudimentary code which transforms this world segment into counter-cultural reality: it must be identified, labeled, and set into relation with known segments of the world. When a previously known segment is obliterated, then the code for it is also lost.

Reality augmentation and reality loss are thus tied to the creation and destruction of conventional codes, and these processes are referred to in the following as "*semiotiz-ation*" and "*desemiotization*" of world segments.

4.2.1 Culture and counter-culture: intercultural code change

The semiotization of the world is culture-based. Within the framework of the semio-sphere (see section 1), cultures behave in the same manner as media behave within the framework of a culture: Each culture is a comprehensive sign system characterized by certain long-term constellations of properties, with the result that the sign processes occurring in the system are subject to certain stable limitations (see section 2.3 above). Each culture has other limitations. One can therefore expect that given messages will be easily produced and received in certain cultures, whereas in other cultures they appear inexpressible and fail to be communicated. How this functions is described as follows.

The codes at a particular culture's disposal organize their respective world segments in various ways. Some codes shape their world segments into highly differentiated structures, others only label them with superficial categorizations. Codes of the first kind provide detailed orientation, and that is why the society considers everything they cover as orderly and contrasts it with the rest of the known world. Each historical society thus separates the culturally shaped reality from the rest of the known world and tends to stigmatize the latter as "uncultured", as "uncivilized", or as "non-culture". From the point of view of a person immersed in that culture, this counter-cultural world appears to be unorganized and chaotic, whereas an outsider simply views it as differently organized. This highlights the *ideological character* of every semiotization (see Mann-heim 1929 and Ponzio 2003).

All historical examples of counter-culture are tied to the self-interpretation of a given culture. Thus, the classical Greek city-states saw themselves as being in opposition to the "barbarians", the religious cultures of the Middle Ages saw themselves as being in opposition to the "heathens", the orthodox cultures in the time of the Reformation saw themselves as being in opposition to the "heretics", and so forth (further examples in Posner 1988: 270f).

As these examples show, the labels with which a given culture stamps its counter-cultures serve not only to refer to the relevant world segments, but also to set them in relation to the ideas and values which characterize the culture itself. The relevant world-segments are excluded because they seem to neglect mentifacts regarded as essential by the culture. By this exclusion, the culture averts a potential threat to the culture-specific mentifacts and at the same time stabilizes the culture's identity. Thus, the relationship between the culture and its counter-cultures is ambivalent. On the one hand, the members of the culture evaluate their counter-cultures negatively and reject them; on the other hand, they attempt to assimilate their counter-cultures and transform them into their own culture. Each culture has the tendency to either eliminate or integrate the counter-cultures constructed by it. In the historical examples given above, this motivated attempts to acculturate the barbarians, to baptize the heathens, and to exorcize the heretics.

Where integration occurs, culture-specific codes are transferred on to the previously excluded segment of the world. This leads to a progressive elaboration of the relevant codes. In place of superficial labels, increasingly differentiated descriptions appear which can serve as a basis for increasingly specific intervention. If the first stage of the semiotization process consisted in a world-segment being discovered and described by means of a rudimentary code which established it as not belonging to the relevant culture, the second stage now consists in this code being refined and complemented by others, and the relevant reality being accepted as part of the culture.

However, in this new stage, this process of semiotization presents a problem: If every culture has the tendency to preserve an identity which is dependent on the construction of counter-cultures, and if every culture has, further, the tendency to continually eliminate or incorporate its counter-cultures, then a continuous need for new chaos arises so that the culture can set it in opposition to itself, start to eliminate or incorporate it, and so forth. Examples of this *Moloch-like function* of cultures are provided by the early high cultures of Egypt and Mesopotamia, as well as the city alliances of Greece, the Roman Empire, the colonial empires of recent centuries, and the

emergence of "terrorist" counter-cultures after the incorporation of the former Soviet empire into capitalist culture.

Present-day postindustrial societies have first become aware of the Moloch-like operation of culture through the problem of environmental pollution. This can no longer be regarded as a problem that pertains to "the environment", i.e., to counter-culture, since it clearly affects also the cultural spheres (see Posner 1998). It takes the form of "cultural pollution", for example, when a previously well-organized world-segment is affected through the invasion of more prestigious but insufficiently mastered new codes which are superimposed on the originally used ones. In this situation, neither the old nor the new signs can be utilized to structure the relevant reality. The signifieds of the old codes are no longer taken seriously and those of the new codes are not yet understood. Of the old codes' signifiers, only uninterpreted sign matter remains, and its presence increases the disorientation (see Heelas, Lash, and Morris 1996). We are dealing with semiosic debris here; it functions as *cultural rubble* and leads to a sharp decline in people's ability to orient themselves. A world-segment previously highly semioticized is now desemioticized. The society is confronted with chaos which has emerged within the boundaries of its own culture. It serves to feed the perpetual maelstrom of culture and counter-culture (see Thompson 1979 and Appadurai 1986).

When these processes occur in a culturally peripheral semiosic sphere, then the world-segment concerned is either marginalized and eventually expelled from the given culture or semioticized anew in accordance with the patterns of the more central codes of that culture (see section 4.2.2 below).

When the pollution process takes place in a culturally central sphere and the new codes that trigger it come from another culture, then this is the beginning of the other culture replacing the original one in the society concerned.

Interesting intermediate cases of this intercultural shift occur today in the context of globalization (see Robertson 1992). The attempt by all cultures, in the age of proliferating exchange to appropriate prestigious codes of other cultures leads to universal hybridization (see Pieterse 1996). The foreign codes are at first mastered only in a rudimentary manner (pidginization) and then receive culture-specific conventionalizations (creolization; see Mühlhäusler 2003). This increases the superficial similarities between the cultures of the world, but mostly changes little in the differences between their identity-forming texts and the codes they regard as central.

From this point of departure there are two further developments possible, both of which end in the existing culture voluntarily ceasing to exist. One course of events consists in the identity-forming texts being forgotten and the central codes being pushed

out by codes coming in from outside (see above). The other course of events consists in a culture's own central codes not being entirely replaced, but instead losing their original character through continuing integration of signs and sign-combination schemata coming from outside. The beginning of both developments can be seen today in many parts of the world (see Hall and du Gay 1996).

4.2.2 Center and periphery: intracultural code change

A culture's tendency towards semiotization does not end when a world-segment has been codified and made part of a cultural sphere. Each code, for its part, has the tendency to occupy a central position in its culture. This centralization leads to intra-cultural code change. It effects modifications in the code which eventually lead to its being pushed to the periphery again (see Even-Zohar 1979 and 1986). Here is a brief sketch of how this happens.

The degree to which a code is *central* to a culture can be inferred from the following properties:

(i) *wide distribution*: this code is mastered by more members of the society than other codes;

(ii) *great frequency*: this code is utilized in the society on more occasions than other codes;

(iii) *high prestige*: the utilization of this code in a given situation is more highly valued in the society than the utilization of competing codes.

Which codes are central in a culture of a given epoch is open to empirical research. It may be

– the auditory (i.e., oral) code of natural language and the genre code of the epic song, as in early Greek culture;

– the visual (i.e., written) code of natural language and the genre code of the theoretical treatise, as in European cultures of the Enlightenment;

– the non-linguistic visual code of moving pictures (in film, television, video, and computer games), as in contemporary Western cultures;

– the non-linguistic auditory code of *hausmusik*, as in the Biedermeier era;

– the plastic code of stone architecture, as implemented in the pyramids of Egypt and the cathedrals of the High Middle Ages.

When a code becomes central to a culture, this has consequences for the other codes and the media of this culture.

a) The artifacts produced according to a central code become *models* forother artifact types. Thus

– the plot of the episodes in oral Greek epics became a model for the plot in classical Greek dramas;

– the figures of argumentation applied in Enlightenment theoretical treatises invaded most other genres of Enlightenment literature;

– the montage structure of films was increasingly used in literary novels as well as in music since the late 1920s;

– the genres and patterns of *hausmusik* recurred in Biedermeier poetry;

– the architectural structure of the Mediaeval church was repeated in Mediaeval town halls and hospitals and even determined the form of scientific treatises of the time.

b) The artifacts produced according to a central code tend to have a higher degree of *elaboration* than other artifacts. This can be seen when one compares early Christian meeting places in Western Europe with Mediaeval Gothic cathedrals, where not only the building as a whole signifies its function, but also its parts have become signifiers: The main entrance is formed as a passage from earth (via Purgatory) to Heaven; the choir houses the tabernacle, which also signifies God's presence through its outer appearance; the plan of the building takes on the form of a cross oriented towards the East, thus making the entire cathedral a *Domus Dei* and an instrument of salvation. This configuration of signifiers turned the cathedral into a complex text which had to be read with close attention and in fact was given a new reading each time that the congregation convened in it to celebrate the Holy Mass. Comparable developments could be pointed out in classical European music, contemporary entertainment films, mathematical treatises of the 18th century, and Greek classical drama.

c) The increased elaboration of the artifacts requires a greater *standardization* in the underlying sign system. Most cultural codes are learned through imitation by way of examples. Thus, they need not be signified themselves through specific texts. But the more complex a code becomes, the greater the need becomes to communicate about it and to formulate instructions, directions, and regulations. This is mostly done on the basis of another code, as when the syntactic structure of sentences is laid down in phrase-structure markers, when the rules of musical composition are formulated with the help of scores, or when the meaning of traffic signs is put down in verbal descriptions. The basis for a total standardization of a code is reached when it is exhaustively described in a complete metatext such as a grammar for a language, a handbook of musical composition, or a system of laws for the regulation of road traffic. The exhaustive fixation gives such metatexts a peculiar role in the functioning

of the code in question. Originally intended only to describe the rules in use at the time of fixation, they are more and more used to prescribe which rules should be applied. In this way, the metatext becomes not only a standardization device, but also an obstacle to the further development of the code, since each item in a prescriptive metatext must be changed first before a new practice may commence.

d) Model function, elaboration, and standardization lead to a high degree of *automatization* in the use of a code. Its variants are either suppressed or semanticized and its use is increasingly restricted to standard situations and standard topics. Automatization maximizes economy in the use of the system, but this is done at the cost of flexibility. The problems which can be solved with the help of the code get stereotyped and when the overall context changes, the code may lose its applicability (see Posner 1982: 118ff).

Thus, the longer a code has been central in a culture, the greater the danger of its becoming ossified and therefore unattractive for the society in question. Other, more flexible codes will then become more prestigious, take over the role of the formerly central ones, and push them to the periphery within the cultural spheres.

The account given of the changes that occur in codes which have become central in a culture confirms the picture of the other two types of cultural change which take place in the transition from the extra-cultural to the counter-cultural and from the counter-cultural to the cultural, respectively. We are now dealing with the third level of semiotization and its continuation until the bitter end.

It is worth noting, however, that over-standardization and over-automatization in a central code can be prevented if there is interference from other, similarly central codes. Interference takes place when two codes have the same or similar domains of application and are frequently utilized in contiguity to structure a world-segment.

An example is translation. When a text is not only given in one language but circulates also in other languages within a culture, as was for centuries the case with the Bible, then each version de-automatizes the language of the other. Incongruities in the text versions or difficulties of translation reveal the presuppositions of each language and exert pressure on its users to introduce innovations that make it more adequate for the use in question (see Dusi and Nergaard 2000).

Another example is the combination of two different codes in a complementary fashion, as in Baroque emblems, where a picture, a proverbial sentence, and a philosophical treatise elucidate each other (see Henkel and Schöne 1967). The facts that pictures have a continuous structure and that language is systematically discontinuous make their combination very effective. They induce the reader to see the written text as

a picture or read the picture as if it were a written text. The result of this mutual interference is an increased awareness of the possible pictorial qualities of writing (e.g., concerning the choice of letter types, their distribution on the page, etc.) and of the possible linguistic properties of painting (e.g., concerning the division of the picture into components, their syntactic relations, etc.). In this way, code interference works counter to the tendency towards automatization (see Bal 1989 and Gandelman 1991 with regard to reading pictures and viewing texts; on the complementarity of language and music see Posner 2001:102ff; on the complementarity of language and gestures see Posner 2002).

The rich empirical evidence available for all these transitions could only be hinted at in the context of this essay. But the presentation may have been detailed enough to confirm the main thesis of this section, i.e., that the mechanism of culture consists in the *progressive semiotization of reality*. The formation of a code, its incorporation in the cultural spheres, its centralization, and its eventual replacement by newly developed alternative codes which are less semioticized and more flexible constitutes a cyclic process, which ends only when a culture ceases to exist. Processes such as this one would not have been easily describable without the concept of a code and without the explication of the concept of a culture as a hierarchically structured set of codes.

4.3 Culture as collective memory

What would the members of a society lack if they were not part of a culture, including its organization as social, material, and mental culture and including its complex system of texts and of semiosic spheres and cyclic semiotization processes? What would happen if the mechanism of culture did not exist? The answer becomes apparent when one takes into account those animals and machines which do not have a culture: A culture makes available to each member of the respective society the experiences of his or her contemporaries and predecessors, so that these can be repeated and improved on, if they were positive, or so that they can be avoided, if they were negative. Culture, then, does for the society what memory does for the individual (see Assmann and Hölscher 1988 and Erll 2003). It is a collective mechanism for the storage of information.

Collective information storage is dependent on individuals who generate information by having experiences. It would be impossible without communication, since the original experience can only be transmitted when the one who experienced it takes on the role of the sender. It would be impossible without codes, for if all communication utilized only uncoded messages, the original experience would be passed on only from the sender to his or her addressees and from them to their addressees in turn; for

individuals not present as addressees in such a chain of communication, the relevant experience would be inaccessible. And collective information storage would be impossible without the ability to include the particular circumstances of the specific communication situation, since if all communication were limited to the production of coded messages, the senders would be unable to generate code-transcending information and the recipients would be unable to draw inferences which make these messages relevant for their changing personal situation.

Collective information storage, then, is based on the creation of texts with the help of conventional codes and on their reception with the help of situation-specific inferences. This combination is what guarantees that something experienced once can influence the behavior of a society's members even hundreds or thousands of years after the death of the individual who had the experience (see Posner 1984).

But information is not only stored in *individual texts.* On the contrary, this type of storage is most vulnerable, because the information gets lost when the text is destroyed.

A way of overcoming this problem is to multiply the number of text tokens by replication and to increase the frequency of text reception by making it part of a *ritual*. In addition, text fragments may become proverbial and survive through their frequent repetition.

Frequent repetition is ensured when a piece of information becomes an obligatory part of an entire class of texts. This is the case in *genre-specific formulas* such as the introductory "Once upon a time" in fairy tales or the concluding "*Quod erat demonstrandum*" in argumentation. Schematic information is also held available in conjunctions such as the stereotypical "and then" in narratives as well as the "because" and "therefore" in debates.

The chances of long survival for a piece of information are highest when there is a *code* which requires its renewed expression with each of its applications. Such is the case with grammaticalized information in natural languages; thus, the obligation to use an inflected verb in every sentence has kept alive old categorizations of the time and modality of actions in the Indo-European languages.

An especially interesting type of information storage are *monuments*, for example the Pyramids. In the case of the Pyramids, we are dealing with texts which were created in previous sign processes using correspondingly old codes. Due to their physical durability, some monuments outlive the codes that determined their signifieds. A society which seeks to find meaning in its monuments must therefore reconstruct their codes, determine their signifieds, and translate their messages into new texts related to the new circumstances. In this way, each culture is capable of developing new sign processes on

the basis of the old codes embodied in its monuments. The monuments of a society are therefore, like its rituals, its genre-specific formulas, and its codes, carriers of a collective memory, which can always be reactivated depending on the demands of changing circumstances.

Using the procedures of text production, ritualization, genre formation, grammaticalization, and monumentalization, every culture stores certain patterns of action which have proven themselves important over the course of the culture's evolution (see Kull 1979). It is these patterns which maintain the identity of a culture and retain the structural information which determines the culture's further development.

However, compared with the wealth and variety of information which every individual is capable of directly communicating throughout his or her existence, the information that remains after his or her death as part of the culture's structural information is minimal and strongly reduced in kind. The procedures of text production, ritualization, genre formation, grammaticalization, and monumentalization function as a severe filter.

Culture, as a collective memory, is therefore not only a storage mechanism, but also a selection device: in philological terms a *dictionnaire raisonné*; biologically speaking, a survival machine.

5. Information on the institutions within which cultural semiotics can be studied

Cultural semiotics is a central part of semiotics, which can be studied in M.A. and Ph.D. programs at universities in more than fifty countries. Additionally, cultural semiotics is taught as a module in traditional humanities and social science programs (such as the languages and literatures, musicology, and art history). The situation is similar at colleges of visual art and music and at teacher training colleges. Recently, European universities have started offering "cultural studies" as a separate program which often contains cultural semiotics as a basic module. Cultural semiotics is also offered as part of the post-graduate study program in semiotics at the Technical University, Berlin, which applicants with an already-completed Master's degree in any sign-related subject can enter to obtain further qualification (a certificate of study or a doctorate).

For information about the German Semiotics Society (DGS: *Deutsche Gesellschaft für Semiotik*, e-mail dgsvorstand@aol.com), the Austrian Semiotics Society ÖGS (e-mail: ISSS-Info@MCNon.com), the Swiss Semiotics Society ASS/SGS (e-mail: chvo@ swissonline.ch) and the International Association for Semiotic Studies IASS (e-mail:

Gloria.withalm@uni-ak.ac.at), as well as about all other semiotics organizations around the world, see Article 177 in *Semiotics: A Handbook on the Sign-theoretic Basis of Nature and Culture* (Posner/ Robering/Sebeok 1997-2004); Article 178 provides a survey on semiotic reference books and periodicals around the world.

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