Some Remarks on the Analysis of the Culture Concept

A. L. Kroeber and Cl. Kluckhohn are entitled to the credit of first having stated the problem of defining the culture concept, and of having prepared a further analysis of this problem by a comprehensive survey of a great number of remarkable definitions coined before 1950 (1).

In Anglo-Saxon countries the importance of such an inquiry is easily understood, since "culture" is a key-concept in *cultural anthropology*, a science, which originated mainly in these countries, and which has become more and more important during the last few decennia, amongst other things because of its relations with personality psychology and psychopathology. On the Continent, where the interest in social or cultural anthropology is of quite recent date, the culture concept has nevertheless been given considerable attention in a branch of philosophy called *philosophical anthropology*: it has proved indispensable to everybody wishing to make a serious investigation into the nature of man (2). Moreover, Neo-Kantian philosophers also have regarded the culture concept as a means to bridge over the strongly marked dualism of *"Natur"* and *"Geist"*. Already with *Rickert* (1898), *"Geisteswissenschaften"* have become *"Kulturwissenschaften"*; and *Cassirer*'s philosophy (1923) is a manifest attempt at finding in this notion a new view upon man and his works; according to him culture is "man's place in nature" (3).

We are convinced that, sooner or later, interdisciplinary research in the social sciences and the more theoretical philosophical anthropology will result, by a process of convergence, in a *unified science of man* which will

(1) Kroeber, A. L., & Kluckhohn, Cl., *Culture, a critical review of concepts and definitions.* New York, Vintage books, 1952.

(2) Cf. e. g., Gehlen, A., *Der Mensch, seine Natur und seine Stellung in der Welt*, 1950²; Landmann, L., *Der Mensch als Schöpfer und Geschöpf der Kultur*, 1961; Rothacker, E., *Probleme der Kulturanthropologie*, 1948.

(3) Cf. Rickert, H., *Kulturwissenschaft und Naturwissenschaft*, 1898. Cassirer, E., *Philosophie der symbolischen Formen*, 1923-1929, *An essay on man*, 1944.

replace philosophical speculations and provide a theoretical basis for the various social or behavioral sciences and even for the humanities. In this unified science, the culture concept — or at least a concept closely related to it — will play a central part. Since this notion, however, has strong connections with other ones, such as *learning, symbol,* etc., no definition can be conclusive, unless we have a theory to link these key-concepts. Nonetheless, preparatory to this unified science, it may be interesting to analyse the existing definitions, to point out which of the criteria mentioned are relevant and which not, and, finally, to propose new attempts. In this way we may hope to reach a deeper insight into the problems concerned and a better view of the characteristics necessary to an adequate definition. Therefore, the purpose of this paper is : firstly to make some remarks upon the set of definitions collected by Kroeber and Kluckhohn (I) ; secondly to examine two important articles recently published on this subject (II) ; and, finally, to suggest a solution of our own (III), which will be submitted to the same tests as the preceding ones (IV). As we have mentioned above, we do not consider it as a definite solution, but perhaps it will be better fitted to resist criticism and will enter into a unified science more easily.

I

1. a. It should be observed at the very beginning of our investigation that the culture concept we intend to analyse and to define, is restricted mainly to the meaning of this term in cultural anthropology and does not include the very divergent uses of it in literature and everyday language. There are many reasons for this restriction. Firstly, the authors mentioned above are also chiefly concerned with this meaning of the term ; secondly, we are not interested here in descriptions of *language use,* but in the search for a concept that should be sufficiently important to provide one of the corner stones of a *science,* and, thirdly, we will try to prove that some of the other meanings of this term can be clarified starting from our point of view.

The first man to introduce this clear scientific meaning of "culture" was Tylor in his famous book "Primitive Culture" (1871), where we find the following definition : "Culture, or civilization,... is that complex whole which includes knowledge, belief, art, law, morals, custom, and any other capabilities and habits acquired by man as a member of society." The great merit of this definition lies in the fact, that it points to a series of phenomena which are important and interdependent enough to become

the objects of a separate science. As a first definition it may be called excellent because it indicates a direction for research without imposing too arbitrary limitations: the criterion "acquired..." is sufficiently vague, and the list of phenomena does not claim to be exhaustive. It will be the task of the newly created science itself, to define its boundaries more precisely and to make out which criteria must be stressed.

As appears from the inquiry made by Kroeber and Kluckhohn — who collected some 160 definitions — only a faint progress in this direction was made from 1871 to 1920. From that period they can quote only 6 new definitions. For the following decades, the number increases steadily: 22 from 1920 to 1930, 35 between 1930 and 1940, and 100 from 1940 to 1950. The increasing number of attempts at formulating a definition is without doubt symptomatic for the growing interest in the subject matter, but does not necessarily imply an increase in quality of the definitions proposed. In fact, many are undoubtedly inferior to Tylor's; but, on the other hand, some reveal new points of view and new characteristics which constitute a real progress. The first thing we propose to do in this article is to analyse the heterogeneous whole of these definitions and to try to find an order or classification of the numerous items mentioned in them. It should be recognized that Kroeber and Kluckhohn have also made such an endeavor: according to the aspects stressed, they divide the whole into 14 categories. For our purpose, however, their classification turned out to be hardly illuminating, and we therefore prefer to start from an entirely different point of view.

b. To define a term which refers to a class of objects (or a part of a continuum) we have to point out the means to distinguish clearly between the intended objects (or part of the continuum) and all other objects (the rest of the continuum). From a theoretical point of view, the simplest method to do so, is to establish a criterion which permits to determine whether we are in or out of the indicated field. As for the demarcation within a continuum, this method is the only one possible.

We shall call this method "*definition by criterion*". With *classes* of objects, another method consists in summing up the objects (or groups of them), or pointing them out one by one. Let us call this an "*enumerative definition*".

It is important to remark that we do not mention definitions of individual entities in this context; the simple reason is that we do not consider culture as an *entity*. In accordance with Tylor's views, and with a great number of later definitions, we prefer to speak about culture as a *whole* of phenomena which we shall call "*cultural objects*". This is not a philosophical or arbitrary point of departure, but a necessary condition for

anyone who wishes to begin this analysis with a minimal number of presuppositions. Indeed, the conception that culture is a single entity, takes for granted that the various components of it, such as religion, art, custom, etc., are so strongly and invariably connected with each other, as to form a single existing thing, much like the cells constitute the body of a living being. This may be a true hypothesis, but it still is a *hypothesis*, and consequently it is not suitable as a basis for a definition because it excludes the possibility that these strong relationships among the components may not exist. On the other hand, the assumption that culture is a whole of cultural objects *does not* exclude the possibility of finding these strong relationships if they really occur.

If culture is not an entity we have to ask ourselves whether it is a *part* of a *continuum* or a *class* of *entities*. This distinction should not be overlooked, for, while it is possible, in the case of a continuum, to give an adequate definition by providing only a criterion of demarcation, this is not true with a class of objects. In this case we also need a "*principle of individuation*", i. e. a second criterion by which the objects are shown to be distinct from each other.

For example after having *circumscribed* the class of languages (which answers the question: "when is something a language?") we are confronted with the problem of how to *distinguish* them ("when do languages differ?" e. g. "Are English and American different languages?"). Consequently, when we do not consider culture as a continuum we shall have to ask: (i) "when is something a cultural object?" (definition of the class) and (ii) "when are cultural objects *distinct* objects?" (principle of individuation). Obviously, a complete enumerative definition cannot be given unless there is such a principle; on the other hand a "definition by criterion" is possible in both cases.

In the present inquiry we shall start with the working hypothesis that a principle of individuation exists, even if it is not possible to make it explicit for the time being. We have two reasons for this: (i) we are sure that this hypothesis is true and we will prove it in part III of our paper; (ii) we do now start with this certainty because it will facilitate our discussion of the definitions quoted by Kroeber-Kluckhohn.

c. Perhaps one can think that we are going too far with these abstract preliminary remarks on the problem of definition. A careful examination, however, of the mistakes and weaknesses of our predecessors, demonstrates that much confusion is due to a lack of adequate insight into the logical status or type of the concept they want to define.

If it were explicitly stated in every definition that the culture concept concerned, is to be understood as "*the class of cultural objects* (entities,

phenomena)", it would be impossible to begin the definition with terms such as "culture is the *process* by which..." (Radcliffe-Brown, 1949), "culture .. is a *statement* of the design of the human maze..." (Miller and Dollard, 1941), since these terms denote without doubt an entity. (4) The neglect of another distinction has caused even more confusion and disagreement. When speaking about language, we can use this word in a *general sense*, e.g. when we say: "real thinking is impossible without language", or, "language is an important characteristic of human beings", or we can use it in a more *restrictive* sense; e.g.: "French is *a* beautiful language", or, "I do not understand *that* language". With regard to culture an analogous distinction must be made: I can speak about culture in a general way, e.g.: "culture distinguishes men from animals", or "anthropology is the science of culture", but also about *a particular culture*, e.g.: "The Hopi Indians have *a* very interesting culture", "Ruth Benedict studied *Japanese* culture". In what follows we shall speak about the *general concept* of culture when we are concerned with the first meaning, and about the *individuative concept* when the second sense is meant; in the first case we use the word "culture" without article, whereas we use the expressions "a culture" or "a particular culture" in the second case. Although the difference between the two notions seems clear, and is undoubtedly important, few authors have realized that it should always be made explicit, with relation to the problem of definition. To give one example among many; compare the following definitions by Kluckhohn: "By "culture" anthropology means the total way of life of *a people*, the social legacy the individual acquires from his group" (1949); "culture designates those aspects of the *total human* environment... that have been created *by men*." (1951). (italics ours).

The reader will have understood that the purpose of the present article is mainly to provide an analysis and definition of the *general* culture concept, i.e. *the class of all cultural objects*; only afterwards it will be possible to define the individuative concept in terms of the general notion.

d. As one would expect after the foregoing analysis, the definitions collected by Kroeber and Kluckhohn can be divided into three categories: enumerative definitions, definitions by criterion, and definitions using a combination of both methods. On a first view of the matter, definitions of the third kind seem most satisfactory, because they are more adapted to an adequate expression of what the author has in mind. Indeed, what

(4) In the following text will give no references to the definitions we quote, since all of them can be found easily in Kroeber and Kluckhohn's book.

is obscure and incomplete in one approach may be clarified and completed in the other. Tylor's definition is of the third kind : first an enumeration and then a criterion (acquired by man...). As a more recent example we may quote Wilson and Kolb (1949) : "Culture consists of the patterns and products of learned behavior — etiquette, language, food habits, religious beliefs, the use of artifacts, systems of knowledge, and so on." In this case the enumeration follows the criterion. The disadvantage of such a combination — didactically useful as it may be — lies in the uncertainty about its status : should it be classified with the first category or with the second, or with both? In each case it must meet the requirements of the category referred to. From a strictly formal point of view one category cannot possibly counterbalance the imperfections of the other. So it suffices to make a separate analysis of enumerative and criterion definitions to see whether any definite results have been achieved.

2. a. *Enumerative definitions* are always in danger of being incomplete and, consequently, inadequate. It is nevertheless instructive to have a survey of a great number of them, in order to determine what kinds of phenomena the different authors consider as cultural objects and which of them are mentioned frequently. Of course, enumerative definitions never sum up all particular cultural objects, but rather indicate sets of them, subclasses of the general class which we will call *components* of culture. Though these subclasses of phenomena are referred to in an extremely variable terminology, we believe that it is possible and useful to classify them into a small number of groups. In the following survey we give the most important and most current terms in italics, and between brackets we add some related expressions which are also commonly used.

1) First of all, a large group may be described as "mental states and processes". These are entities present (or postulated) in the minds of people and detectable only in as far as they influence overt behavior or are expressed in language. These states of mind may be of cognitive, emotional, or evaluative (normative) kind : — *knowledge* (science, communicated intelligence), *ideas* (concepts), *beliefs* (thought) — *attitudes* (feelings, tastes, preferences), — *values* (ideals, goals), *morals* (codes, standards).

2) A number of terms refer to regularly repeated patterns of behavior of individuals or groups, whether or not connected with definitive times or situations : — *habits* (habit patterns), — *customs* (mores, usages, ways of life). In this group should also be classed less accurate but often used terms such as : — *behavior* (repetitive -, learned -, behavior patterns, conduct), *acts* (actions, activities), *responses* (repetitive -, response sequenses).

3) The third group consists of a series of part mental, part material acquisitions, which enable man to achieve some specific aims. They may

be classed under two headings: (a) *methods of communication, language*; (b) *skills* (techniques, abilities, capabilities, industries, crafts); important examples are often mentioned: *use of tools* (of shelter, of weapons), *art.*

4) The products of human activity can be divided into: (a) *material products* (equipment, goods), *tools* (implements, utensils, instruments), *artifacts* (books, buildings, ornament, paintings); (b) *non-material products*, which are, trangely enough, almost never mentioned explicitly; examples: would be: songs, stories, pieces of music, etc..

5) The fifth and last group includes everything related to the concept of *institution.* This is a notion which is not easy to define; it refers to a conglomerate of standardized behavior patterns and mutual attitudes of a group of people. The examples mentioned are: *organization* (social and political), *law, marriage, property system, religion.*

These five groups cover practically everything which, up to now, anthropologists, (but also sociologists, economists, psychologists, archaeologists and philosophers) have regarded as belonging to the class of cultural objects. Yet none of the existing definitions has enumerated them all; there are even authors who utterly refuse to accept some of them (e. g. artifacts) into their definition. Other weaknesses will be revealed further on, but in spite of them it will be indispensable to keep the above survey in mind, especially when we will check further attempts at definition.

b. At first sight it is possible to distinguish two kinds of *definitions by criterion*: empirical and theoretical. Empirical criteria are those which can be established by observation. The setting forth of theoretical criteria presupposes knowledge of the objects, sufficient to build up a theory by which the characteristics of these objects, and the relations between them, can be explained. In cultural anthropology this theoretical basis is far from being developed; consequently, empirical criteria should be preferred, unless one finds a really new criterion, permitting to construct a reliable and adequate theory. Up to now, such a criterion does not seem to exist. Although empirical criteria too have proved unsatisfactory, they are less dangerous from a methodological point of view, because they imply less hypotheses, and hence can be changed more easily.

Our attempt at classification of the criteria to be found in Kroeber-Kluckhohn's collection, should not be considered as the only one possible: the interpretation of the terms meant as criteria is not always easy. Therefore, while following the same method of quoting as much terms as possible (some in italics, others between brackets), we will also give examples of definitions, for each kind of criterion, in order to prevent misinterpretation.

1) The first group consists of expressions which stress the fact that cultural objects belong to more than one individual at the same time and also to individuals of successive generations ; we could call this a *social* and *historical dimension.*

(a) The social dimension is reflected in a series of definitions which attribute the adjectives *shared* or *common* to cultural objects : they are always proper to a *group* of men. An often added normative aspect appears in expressions such as *group accepted, standardized, regulized.* Examples : "The general term for these common and accepted ways of thinking and acting is culture." (Young, 1934) ; "... culture : the ideas and standards they have in common." (Benedict, 1934) "... a summation for all the ideas for standardized types of behavior." (Kluckhohn and Kelly, 1945).

(b) The historical dimension (which always includes the social one) is no doubt the criterion set forth in the greatest number of definitions. It stresses that cultural phenomena "are *acquired by man as a member of society*", and that they are *handed down* (passed down), from one generation to another. They are *traditional, group-transmitted, received* from previous groups. The class of these phenomena is often completely identified with *social heritage* (heredity, inheritance, legacy).

Exemples : "This social heritage is the key concept of cultural anthropology. It is usually called culture." (Malinowski, 1931) ; "... the social heredity is called culture." (Linton, 1936) ; "Culture means the whole complex of traditional behavior..." (Mead, 1937).

The social dimension is certainly an empirical criterion : it can easily be found out whether some ideas, habits, etc. are common to the members of a given group. The historical dimension can be established if we possess a number of data on the group at different periods, and if we know how the younger people are educated and in how far they adopt the habits of the older members of the group.

2) The second group contains characteristics of a more *theoretical* kind ; it is however, not always clear whether they should be attributed to the general or to the individuative culture concept.

(a) It is widely held that the notions *adaptation* and *adjustment,* which apparently come from biology, can be used in the science of culture as well. Cultural objects then become *ways of adjusting* (men's adjustments), *adaptive, useful* behavior. The influence of psychology is apparent in some kindred expressions claiming that these objects are ways of *solving problems,* ways in which *needs* are *satisfied* (gratified). Examples : "The sum of men's adjustments to their life conditions is their culture or civilization." (Sumner,1927) ; "Culture consists of traditional ways of solving problems." (Ford, 1942) ; "The culture of a people may be defined as the

sum total of the material and intellectual equipment whereby they satisfy their biological and social needs and adapt themselves to their environment." (Piddington, 1950.)

(b) According to some authors, culture always forms an *integrated whole.* The component parts of a culture are then called *interrelated* (intercorrelated, interdependent, interlinked); they are in constant *interaction* and are *integrated* into a *system* (an organisation, a structure, a configuration, a pattern). Just once it is added that they are *functionally* interrelated, but in all other cases no specification is given as to what kind of relations are really meant. Examples: "A culture consists of inventions or culture traits, integrated into a system, with varying degrees of correlation between the parts..." (Ogburn and Nimkoff, 1940). "A culture is a system of interrelated and interdependent habit patterns of response." (Willey, 1929).

(c) In striking contrast with the great number of passages where the traditional character of culture is stressed, we find only a few instances where the *dynamic* aspect is referred to: *dynamic order, dynamic process.* Cultural change is indeed a phenomenon which should be studied in anthropology, but it is much too general to be used as a criterion. Examples: "... human culture in general may be understood as the dynamic process and product of the self-cultivation of human nature..." (Bidney, 1947); "As a sociologist the reality to which I regard the word "culture" as applying is the process of cultural tradition,..." (Radcliffe-Brown, 1949).

(d) It was sometimes attempted to elucidate the meaning of the culture concept by comparing it to the notion of *personality.* Examples: "Culture is to society what personality is to the organism" (Katz and Schank, 1938); "Culture is the collective side of personality; personality the subjective aspect of culture." (Faris, 1937).

(e) For the sake of completeness we have to mention one more theoretical criterion, whose importance should not be overestimated, viz. the *psychoanalitic* definition, as we find it e. g. with Roheim (1934): "By culture we shall understand the sum of all *sublimations,* all substitutes, or reaction formations, in short, everything in society that inhibits impulses or permits their distorted satisfaction."

The opinion that the five instances of this second group are of a more theoretical nature, could not easily be challenged. Firstly, the empirical import of them is dubious; in a lot of cases it would be very difficult to make out by observation whether cultural phenomena are adaptive, interrelated or dynamic, and their relation to personality and sublimations is even more obscure. Secondly, the present state of research does certainly not admit a definite decision as to the truth of statements which

ascribe the characteristics of integration, adaptation, etc. to cultural objects ; consequently they are no more than hypotheses.

3) Unlike the purely extrinsic space and time dimensions and the theoretical attributes, a third group seems to point to the right direction. It consists of criteria which lead to a better insight into the conditions which determine the creation and the survival of cultural objects. In this way, intrinsic qualities may be got nearer to.

(a) The answer to the question how cultural objects are created, is used in several definitions as the only criterion of cultural objects : they are *created* (or modified) *by man, man-made, produced* (invented) *by man, artificial.* Examples : "The term culture is employed in this book in the sociological sense, signifying everything that is man-made,..." (Bernard, 1942) ; "A short and useful definition is : culture is the man-made part of the environment." (Herskovits, 1948) ; "The term culture is used to signify the sum total of human creations,..." (Reuter, 1939).

(b) The question how cultural objects survive, how they are transmitted, is first answered in a negative way : they are transmitted *independently* of *genetic inheritance,* (non-genetic transmission, - communication). E. g. : "Humans, as distinct form other animals, have a culture — that is, a social heritage — transmitted not biologically through the germ cells but independently of genetic inheritance." (Jacobs and Stern, 1947). The same way of thinking also appears in the following phrase : "Culture might be defined as all the activities and non-physiological products of human personalities that are not automatically reflex or instinctive." (Kroeber, 1948).

(c) Under the influence of psychology, many anthropologists have thought it possible to answer the preceding question in a positive way. Culture then becomes : *learned* behavior (activities), everything acquired by *learning* (conditioning). Examples : "... culture... may be defined as all behavior learned by the individual in conformity with a group..." (Davis, 1948) ; "... culture is the sociological term for learned behavior, behavior which in man is not given at birth,..." (Benedict, 1947).

These few quotations, chosen from a large number of similar ones show how many American anthropologists have been influenced by the behavioristic learning theories ; but also, how superficial and uncritical this influence has often been. In the first place it should be stated that not all learned *behavior* is a cultural phenomenon. Who would agree to accept as separate cultural objects, all particular bits of behavior, all particular response sequenses, e. g. every performance of the "Beatles"? In this way cultural objects would not only be innumerable but even quite uninteresting for a science. In the second place, it cannot be said that all *learned* behavior is cultural, since animals also *learn* ; even to such an ex-

tent that almost all learning theories are based upon experiments with animals.

(d) Some scholars solved the first difficulty by introducing the notion of *pattern*: they speak of *patterns* of learned behavior, patterns of habit (action), *patterned* ways of behavior, *forms* of action. Sometimes this pattern-criterion is used without mentioning the learning aspect. Anyway, this is a considerable improvement, because for the first time an intrinsic quality of cultural objects is discovered: they are patterned. Examples: "Culture: the behavior patterns of all groups, called the way of life" (Bennett and Tumin, 1949); "Culture... consists in those patterns relative to behavior and the products of human action which may be inherited... independently of the biological genes." (Parsons, 1949); "Culture is the sum total of learned behavior patterns which are characteristic of the members of a society." (Hoebel, 1949).

(e) Only few scholars seem to have noticed the second difficulty; they come near to a solution by specifying the kind of learning involved: cultural objects are *learned from other persons*, by *imitiation, instruction, teaching*; they are developed under *guidance*. E. g.: "... the sum total of ideas, conditioned emotional responses, and patterns of habitual behavior which the members of that society have acquired through instruction or imitation and which they share to a greater or less degree." (Linton, 1936); "Culture is those habits which humans have because they have been learned (not necessarily without modification) from other humans." (Hocket, 1950).

(f) Another improvement upon the "learning" criterion is set for by those who state that cultural entities are *mediated by symbols, dependent upon the use of symbols*. This could be considered as a further explanation of the notion "learned from others"; yet, the authors in question do not seem to make this connection. Examples: "As cultural ideas are said to be "those whose possessors are able to communicate them by means of symbols", *symbollically-communicable* should be substituted for *cultural* above." (Blumenthal, 1937); "Culture... includes... habitual attitudes of mind transferable from one person to another with the aid of mental images conveyed by speech symbols..." (Bose, 1929); "Culture is all behavior mediated by symbols." (Bain, 1942); "Culture is an organisation of phenomena... which consists of or is dependent upon the use of symbols." (White, 1943).

(g) In the first two quotations above appears another aspect which might pass unnoticed if it were not specially stressed: cultural objects are transfer*able*, communic*able*; which does not mean that they are actually transferred, but that they *can be transferred*. In this way more

prominence is given to an intrinsic quality, the existence of which does not depend on its already having manifested itself. With Bose, the insistance on this point seems to be well-considered ; in another definition he writes : "... we may describe culture as including such behavior as is common among a group of men and which is capable of transmission from generation to generation, or from one country to another." (1929). Other examples are : "Culture is communicable intelligence..." (Marett, 1928) ; and the definition of Parsons quoted above.

The way in which we have presented these last series as successive specifications of the notion of non-genetic transmission, is somewhat misleading : one might get the impression that, in this way, the definitions of culture have been gradually improved. This, however, is not true. Nuances introduced by one author have been neglected by another. This goes especially for the last four aspects, which are mentioned by a few authors only and never all at a time.

Although we do not agree with the choice of most of the criteria quoted above, we are convinced that the present survey — which we hope to be exhaustive — can be very useful in order to understand intuitively what anthropologists have in mind when they are talking about culture and to check further attempts at definition.

3. Whoever would submit the definitions referred to in our surveys (enumerations and criteria) to a *critical analysis*, would distrust from the very beginning their number and variety. Moreover, as this variety can be instanced even in recent works, there seems to be little progress made : uncertainty and dissatisfaction are the first impression one gets from this study. In defence of this kind of definitions it might be argued that they are unfairly censured since the criticism is based on their being understood too literally. We are willing to accept that the authors did not really made these mistakes and that their intention was better than their wording. But, after all, we do not intent to accuse them of a lack of insight : we are only concerned with the definitions themselves. Our aim is to show that they do not fulfill the strict requirements of scientific definitions, and one of the most important of these requirements is that they *can be understood literally* ; otherwise they remain vague and cannot be used for a verifiable theory (5).

a. The criticism on *enumerative definitions* and their components can be very short. Firstly they are almost necessarily *incomplete* and the

(5) Criticisms analogous to ours can be fond in Kroeber and Kluckhohn's work and in the articles by L. A. White, and Anderson-Moore, which are analysed in part II, of the present paper ; cf. also : Cafagna, A. C., *A formal analysis of definitions of "culture"* in : Essays in the science of culture in honor of L. A. White, New York, 1960.

examples quoted by Kroeber-Kluckhohn do not deviate from this rule. Secondly there is *no unanimity* with regard to the question which components are to be included in the definition; e. g. some authors stated explicitly that the products of human activity are not cultural objects. Finally, a number of terms used in the enumeration of the components are themselves in need of being *clarified* (what are institutions?) and others can *certainly not* be accepted without some restrictions ("behavior" and "feelings" are too general to be included without reserve).

b. In what follows, the *definitions by criterion* are dealt with somewhat more extensively because these criticisms may give us a better insight into the intuitive meaning of what is to be defined and will prepare in this way our own tackling of the problem.

1) Definitions emphasizing the *social* and *historical* dimension have the advantage of mentioning aspects the meaning of which is relatively clear; these characteristics can be easily detected in most cases. A further advantage of these definitions is, that they draw the attention to the fact that the study of culture is mainly interested in phenomena with a social repercussion: events, ways of behaving and ideas which are of a strictly unique character, which cannot be repeated and which have no social response or consequence should not be considered cultural objects. They also stress the role of inheritance as an important phenomenon in the science of culture. It cannot be maintained, however, that cultural objects should be shared by all the members of a given community. This would lead to the elimination of many objects characteristic of either a subgroup (e. g. a religious caste) or a single individual (e. g. a king, a genius). Yet some of these objects are so important to the rest of the group that they have always been considered as cultural phenomena. Moreover, what is at one time familiar to one individual only, may later become common property. Saying that culture must be identified with social heritage leaves no room for innovations: a newly invented cultural object would be unexisting because not based on tradition.

2) The criteria we have called *theoretical* are the most difficult to maintain. Most of the time they rest on two errors: (i) what is still a hypothesis about cultural phenomena is considered as something already proved, or even as a means of detecting them; (ii) what is characteristic of a few objects only, is extended to the whole class.

(a) It is probable, for instance, that some cultural objects play a part in the satisfaction of needs, but it has not been proved and it is rather apparently false that *all* cultural objects do play such a part. There would be no sense in eliminating everything maladaptive, since this would not at all further the examination of the interaction and development of all

kinds of phenomena. If an institution, which has for some time been a means of adjustment, becomes the opposite as a result of changing circumstances, it would suddenly lose its cultural nature.

(b) The statement about integration and interrelation of culture is a very trivial one when the meaning is somewhat vague : it would be completely uninteresting to do scientific research in a field where the elements would not have any relation with each other.

When the meaning of this statement is specified in the way that cultural objects are so strongly interconnected that a change in one part would necessarily imply a change of the totality, we would answer that this is a hypothesis. It may be true for some parts of culture (e. g. the phonetic structure of language) but it cannot be applied to all other classes of cultural objects (e. g. the vocabulary of a language). At any rate, the integration aspect is so very open to gradations, that it cannot possible be used as a criterion.

(c) The same remark goes for the concept of "dynamic process". This criterion even has a second disadvantage : it cannot easily be said about a class, but rather about an entity.

(d) The explanation of the culture concept by means of the notion of personality has one drawback : the second concept is a construction as theoretical as the first one, and needs no less elucidation (6). Perhaps we can say that this notion is used for inquiring into (i) the way in which the elements that make up a human individual are integrated into a whole, and (ii) the differences between human individuals. If this is true, it appears that the analogy only serves when the *individuative* culture concept is dealt with, and not the general one. Even in the former case the comparison will rarely hold good, since the differences between personalities are in part biologically (genetically) determined, whereas those between cultures are not. Nevertheless, from this comparison an empirical criterion might be deduced ; the criterion of *variation* : different communities are characterized by different subclasses of cultural objects ; ways of behaving, thinking, etc. are cultural phenomena if they differ from one community to another.

(e) Finally, the concept of sublimation is based too much upon a peculiar and dubious theory about culture, ever to be used as a criterion.

3) Those who have tried to find the criterion by inquiring into the *creation* and *transmission* of cultural objects, seem to have tackled the problem at the right end. If such an inquiry could lead to the discovery of intrinsic qualities which may be empirically determined, a great progress would be

(6) G. W. Allport, in *Personality, a psychological interpretation*, (N. Y., Holt, 1937) distinguishes no less than 50 types of definition of personality (pp. 27-50).

made. Indeed, from the intrinsic qualities other characteristics could be deduced, so that it would be possible to build up a theory from this basis. Up to now, however, nothing of the kind has been achieved.

(a) The first two instances of this group of criteria are undoubtedly of great importance. It cannot be denied that cultural objects are man-made in a sense, or, at least, modified by man. They do not come into existence somehow or other, by chance ; we do not receive them simply from nature : they are created or directed in some way by *human activity*. Hence, every definition will have to take the factor of human creation into account. This idea, however, remains vague : it does not make sense to consider as cultural object everything produced by man, unless we would agree to apply this predicate to every piece of coal or wood cut by a man. Thus it can be said that culture is included in the class of man-made things, but not the reverse.

(b) The second aspect we have quoted — non-genetic transmission — is more proof against criticism. Indeed, none of the phenomena which are studied in the science of culture are *genetically* inherited ; if ever the opposite would be proved in some particular case, all anthropologists would agree to remove it from their field of study. Moreover, this criterion also points to the fact that culture can be *transmitted*, a remark which is doubtless true since all components mentioned above (ideas, customs, skills, etc.) can be communicated from individual to individual, or from group to group. For all its simplicity this seems to be the first really useful criterion : since, (i) all cultural anthropologists will accept it as a minimum condition, (ii) it is possible to establish empirical methods to make out whether it does or does not occur, and (iii) consequently it enables us to define with certainty at least one boundary of the class of cultural objects. On the contrary, even this criterion has serious limitations. Firstly, it is mainly negative, and though it may be practically useful, it does not offer any possibility of constructing a theory. But secondly, the class so circumscribed does not coincide exactly with the one we are searching for ; cultural objects can be transmitted non-genetically, but many other things are also transferable in this way : stones, branches of trees, etc... Thus we can say that the criterion of non-genetic transmission constitutes a necessary but not yet a sufficient condition.

(c) A first attempt to add some positive characteristics was made by those who introduced the notion of *learned behavior* : non-genetic transmission would be transmission by learning. But, as we have already pointed out, this phenomenon exists with animals as well ; furthermore, some kinds of human behavior which are actually learned would not easily be included in the culture concept : walking, e. g., and our sense of orientation in three-

dimensional space, are certainly not innate, they must be gradually learned by children, but they are never reckoned with cultural phenomena.

(d) A further specification to "*patterns* of learned behavior" is, of course, a creditable improvement, since, in this way, particular behavior sequenses are excluded. Nonetheless, the preceding criticism remains : animals are also capable of learning patterns. Finally, a restriction to behavior is not to be desired : ideas and beliefs cannot be regarded as behavior, and artifacts are then sure to be excluded.

(e) It seems thus that we have made no progress with regard to the criterion of non-genetic transmission. In order to get out of this embarassing situation, we shall obviously have to rely on one of the following two improvements : "... *learned from* other people" or "... *dependent upon symboling*" (b., 3), (e) and (f)). These criteria are minutely discussed and defended in two important articles published recently, the first by Anderson and Moore, and the second by White ; we deal with them separately in part II of our paper.

4. Perhaps it is interesting, after having analysed the impressive list of definitions so carefully collected by Kroeber and Kluckhohn, to find out what the conclusions of these authors themselves are. As they say, it is not their intention to add a new definition to the existing ones, but to pick out the valuable aspects and to enrich them with some original observations. The latter often give evidence of a sound insight, but some are confused and even obscure. Moreover, the authors seem to be interested in problems of a more metaphysical nature (e. g. the question of the "reality" of culture) of which we can see neither the meaning nor the relevance.

Much of the confusion in this matter is due to the fact that the distinction between the general and the individuative culture concept (cf. I, 1, c.) is not consistently maintained. Of course, they admit that this distinction is important, but nevertheless they continue to use the term "culture" without specifying in each case which of the two meanings is intended. If this precaution has not been taken, and if besides one does not guard against metaphysical questions, it is quite understandable that there is always a danger of speaking about culture as about some mysterious entity ; and it is likewise understandable that Kroeber and Kluckhohn try to warn us against this. Time and again they emphasize that culture is an *abstraction*. E. g. "One of the reasons "culture" has been so hard to delimit is that its abstractness makes any single concrete referent out of the question..." (p. 80) ; "Remember that culture is an abstraction. Hence culture as a concrete observable entity does not exist anywhere..." (p. 172) ; "... a culture is inevitably an abstraction". (p 120) (7).

(7) Cf. also : pp. 87, 120, 212, 262, 359, 375.

Neither this problem nor its solution are in fact very important: it can easily be avoided by translating the concept each time into the exact meaning needed, and such a translation is always possible in all sentences with real scientific import. Moreover, what is actually meant by "abstraction" remains obscure. If the term has its usual meaning, the sentence "the concept of culture is an abstraction" sounds utterly trivial: each science, even all genuine thinking works almost exclusively with abstract concepts. Out of the multiplicity of concrete individual data we isolate some general characteristics by means of "abstraction", thus enabling us to speak about classes and relations. The predicate "cultural" with which we build up the class of cultural objects, is apparently such an isolated characteristic or cluster of characteristics, and hence "abstract".

But perhaps we must attribute some deeper meaning to the repeated remarks of the authors. There is a passage where this meaning seems to appear more clearly: "As a general category it (culture) is both substantive (or classificatory) and explanatory. That is, it may be asked: to what main natural category is to is or that phenomenon... to be ascribed? If the phenomenon is, for example, the religious system of the Haida, the answer is clearly "cultural". ... Or the query may be: *why* do the Chinese avoid milk and milk products? The only possible shorthand answer is: because of their culture...".

As a "classificatory" category the concept seems to tally with our view of culture as a class. As an "explanatory" category — and this is probably what they mean by "abstraction" — the concept of culture seems to be viewed as a "hypothetical construct". The latter is an non-observable entity or class of entities to which some characteristics and laws are ascribed, and whose existence is assumed as a working hypothesis; from this hypothetical construct some observable phenomena can be deduced, and, hence, explained. The concept of "magnetic field" in physics, and those of "id", "ego" and "superego" in psychoanalysis are such constructs (8).

We cannot a priori disapprove the use of such notions in the study of culture, but it is suspicious that a concept should be "classificatory" and explanatory" at the same time. Moreover, the eternal source of confusion is coming up again: is it the general or the individuative concept which is a hypothetical construct? As the above passages show, Kroeber and Kluckhohn are not very clear on this point. Quite irrespective of this

(8) Cf. e. g. Cronbach, L. J., & Meehl, P. E., *Construct validity in psychological tests*; and Carnap, R. *The methodological character of theoretical concepts*; in Feigl, H. & Scriven, M., (ed.) Minnesota studies in the philosophy of science, I, 1956, pp. 174-204, and 38-76.

criticism, the expression "because of their culture" is a very weak and unilluminating explanation : a hypothetical construct is only useful and acceptable if some laws or characteristics are established for it. It does not seem that Kroeber and Kluckhohn have made any definitive contribution in this work towards a further insight in such laws and characteristics. Their great merit lies in the fact that they have tried to demonstrate the complexity of the problem and the incompleteness of the solutions proposed thus far.

II

Since the publication of this study two articles on the same topic have appeared which have real importance, firstly because they give evidence of a greater familiarity with methodological problems, and, secondly, because they present a thoroughgoing analysis and defence of those two criteria which we considered up to now as the most maturely pondered. (3), (e) & (f)).

1. a. The article of *L. A. White* (9) starts from a criticism of the above quoted "solution" of Kroeber-Kluckhohn ; this gives him the occasion to advance some important methodological remarks. In his opinion, the reason why one has recourse to the notion of "abstraction", lies in the fact that anthropologists were trying to prove that their science had a subject matter of its own. Indeed, if culture is defined as "*behavior*" it becomes clearly the subject matter of *psychology*. Therefore Kroeber and Kluckhohn proposed the notion of "*abstraction from behavior*" as the proper subject matter of *cultural anthropology*. White is no more happy with this simple solution than we are, but he takes the opportunity to point out that the definition of the culture concept is not an isolated problem, but has to be viewed as the search for the *subject matter of a science*. It is indeed a very important thought that we have only a sufficient reason to consider a whole of phenomena as a really distinct class when it is possible to build up a theory or a science about them.

b. White believes to have found a clear criterion to distinguish a class of phenomena which are not studied in the natural sciences (physics, chemistry, biology, etc.) viz. "the class of things or events consisting of, or dependent upon symboling". By "symboling", he means : "bestowing meaning upon a thing or an act, or grasping and appreciating meanings

(9) White, Leslie, A., *The concept of culture* ; in : American Anthropologist, *61*, (1959), pp. 227-251.

thus bestowed". (10) Such things and events, depending upon the ability to symbol — *symbolates* — may be considered in a number of contexts; when they are considered and interpreted in terms of their relationships to human organisms, i. e. in a *somatic context*, they are called *human behavior*, and the science which studies them is *psychology*; but, when they are considered in terms of their relationships to other like things and events, — in an *extrasomatic context*, — they are called *culture*, and the corresponding science is *culturology*. To clarify this distinction, he compares it to the one De Saussure made between "*langue*" and "*parole*", language and speech. The former is the subject matter of linguistics, the latter that of the psychology of language. It follows that, according to White, *culture* is to be defined as "*a class of things and events, dependent upon symboling, considered in an extrasomatic context.*" In this way the difference between psychology and culturology is made much more explicit than with Kroeber-Kluckhohn, and also the subject matter consists of real things and events existing in time and space, not of untangible, unreal "abstractions".

c. 1) Before we critizise this new attempt, it must be stated that it contains several really positive elements. (a) For the first time, perhaps, it is explicitly stressed that the definition of culture has to be formulated as the definition of the *class* of cultural objects. (b) This class is duly defined by means of *criteria*: in each context the predicate "cultural" may now be replaced by these criteria. (c) Culture is defined in relation to the *science* which studies it and the definition indicates the way in which this science will approach its subject matter.

2) From a purely formal point of view a negative aspect already shows: no intrinsic property of cultural objects is mentioned, only the extrinsic fact that they are dependent upon man's ability to symbol.

As regards the contents, two essential questions should be asked: (i) does the criterion enable an exact delimitation of the class, and (ii) does the class so defined actually coincide with what we should like to call cultural phenomena?

White seems to assume that his criterion is neat enough, as he does not give any further operational definition of "dependent upon symboling". Admittedly he explains that the typical feature of *symboling* is "to originate and bestow meaning upon a thing". This definition, however, — as is so often the case — makes use of a term which itself has not yet been properly defined: despite countless attempts it cannot be said that the problem of the "meaning of *meaning*" has found a definitive solution.

(10) a. c. p. 230, and p. 248 (note 6); cf. also: White, L. A., *The evolution of culture*, N. Y., 1959, p. 3.

In an article published in 1940, White elaborated his views on the "symbol" for the first time ; there he seems to identify meaning with value. "A symbol may be defined as a thing the value or meaning of which is bestowed upon it by those who use it." (11) It is specified that this meaning is not derived from the properties intrinsic in the physical form of these things, but that it is determined by the organisms who use them : "the meaning of a symbol can be grasped only by non-sensory, symbolic means". Furthermore, he makes a distinction between *symbol* and *sign*. The latter is "a physical thing or event whose function is to indicate some other thing or event", after this relationship between the two items has been established, the meaning of the stimulus is as if it were inherent in its physical form, so it becomes perceivable with the senses (12).

On the contrary, in the symbol context the latter is impossible : there we find "the creative faculty of freely actively and arbitrarily bestowing value upon things". It is added that this faculty constitutes the main difference between man and all other animals : "it is a difference of kind, not of degree".

We must confess that this explanation is not at all clear to us. Let us suppose for a moment that we understand what a *sign* is ; a symbol would then be different in that the meaning of the latter is "arbitrarily bestowed". Yet, though it is true indeed that man possesses this faculty (he *can* bestow arbitrarily meanings), it is not at all proved that this active aspect is present in all symbolic behavior. It could very well be argued that we *learn* that words and sentences designate objects and events without being conscious of the arbitrary and active aspect involved. This appears very clearly from the well known experience of Helen Keller when she learned her first words, — curiously enough this very experience is instanced by White for elucidating his definition of the symbol — She, however, states explicitly that the core of this experience was the insight that "everything *has* a name" ; this is not an insight that one can *arbitrarily give* names to things, but rather that names are an intrinsic quality of things ; therefore she says also "If left the well-house eager to *learn*". (13) She wants to learn from somebody which symbols are proper to each thing, and there is no indication that she is aware of the fact that these symbols can be arbitrarily given to things by man. Consequently it does not appear that an insight in the arbitrary character of symbols is needed for the use of them ; on

(11) This article has been reprinted in : White, L. A., *The science of culture*, N. Y., 1949, pp. 22-39. For the definition quoted, cf . p. 25.

(12) Cf. o. c., pp. 26-27.

(13) Quoted by White, o. c., pp. 37-38.

the contrary, we are of the opinion that this insight occurs only in a rather advanced stage of ontogenetic and phylogenetic development. It follows that neither "symbol" nor "symboling" are notions which can be adequately defined in terms of "bestowing meaning of value". Still, we do not argue that it is impossible to find a satisfactory definition of the terms "meaning" and "symbol", but this would require an entirely different approach on which we cannot expatiate here.

3) Supposing even that the notion of symboling has been clearly defined, there remains the problem of what is to be understood by "everything dependent upon". If this means everything that could not exist without the symbolic activity, it amounts to quite a lot of things! Without the use of symbols, mankind would not have come into existence, according to White. So everything for which man is responsible, is "dependent upon symboling", including all particular things and events which have ever been somehow related to man. Yet some scholars have repeatedly — and rightly — insisted on *particular* things and events to be excluded from the class of cultural objects. Admittedly, White has a second criterion, viz. that they should be considered in an extrasomatic context: in terms of their relationships to one another; but even this does not bring us much further: history too studies events in terms of their mutual relationships and we cannot call all these events cultural phenomena without doing the same for activities and events concerning individuals, described in biographies "in an extrasomatic context". Finally, we would be forced to call cultural phenomena everything resulting from man's spreading over the earth; if we discuss them as regards their relationships with each other, phenomena such as the creation of deserts as a result of deforestation, or the extinction of certain species of animals due to human expansion, etc., would become cultural phenomena.

To this it could be objected that the criterion must be interpreted in a more *restricted* sense, e. g. as "directly dependent upon". There are, however, quite a lot of things which are traditionally — and not without cause — considered as cultural objects, but which we *can* and often *do* learn by means of imitation, *without* the help of *symbols*. We may mention e.g. the way a mother feeds her children, the way she carries them, (these are things of which the importance must not be underrated) and furthermore, all kinds of expressions, gestures, intonation, etc.. No doubt, this strong interpretation of "dependent upon symbols" would prove much too narrow.

4) Finally there is a third point on which we would like to comment critically. White's definition is in fact based upon the *hypothesis* that everything typically human depends on the use of symbols. In "*The evolution of culture*" he writes: "we may assume that culture came into being

in the following way: Neurological evolution in a certain line, or lines, of anthropoids culminated eventually in the ability to symbol. The exercise of this ability brought culture into existence and then perpetuated it." He even adds that the whole cultural evolution relies on "articulate speech"; language would have emerged first of all, followed by all other cultural phenomena, including the "progressive, cumulative tool-using of man". (14)

This is an assumption as yet unproved; on the contrary, we do not think it probable that a primitive being would first attach value to articulated *sounds*, the utility of which is not directly clear, rather than to *tools* which offer such direct and obvious advantages. The assumption of a symbolic faculty with an "all or nothing" character (which it necessarily has when it is identified with articulate speech) leaves no room for the description of a gradual evolution, wich would be much more understandable and acceptable than a sudden leap.

The article White refers to: "*On the use of tools by primates*" (15) is not convincing. It is true that tool-using among apes is not the cumulative and progressive phenomenon which it is among mankind. It is equally true that man has a language and that animals have none (at least none of the same kind); also that language may to a great extent further this progressive tool-using. Nevertheless, there is nothing to prove that the latter is *impossible* without language, and that language existed first. It is possible, and even more probable, that progressive tool-using is one of the most elementary forms of human (cultural) behavior and that it existed prior to language.

For all that, we do not want do deny the enormous impact of symbols, and, above all, of language, on the development of mankind and culture. Before White, it was already stressed by Ernst Cassirer, and no cultural of philosophical anthropologist could neglect the essential importance of language and symbols in the study of the individual and of society. But the assertion that all cultural phenomena are directly dependent upon the "symbolic faculty" (whatever this may be), and that the use of language is the first cultural and human performance, seems to us exaggerated, or, at least *hypothetical.* Hypotheses, however, of this kind — like all statements concerning emergent properties — are not likely to further scientific inquiry.

5) At any rate, since debatable hypotheses are not suitable as a basis for definitions, and since the meaning of the important terms "dependent"

(14) Cf. *The evolution of culture,* p. 6-7.
(15) Reprinted in *The science of culture,* pp. 40-48.

and "symboling" has been proved insufficiently clear, we do not belief that White's definition can be considered as a definitive one.

This does certainly not mean that we underestimate White's contribution to the elucidation of this problem. We have gone so far into the matter because we regard it as a very important step. Moreover, his general methodological remarks will be very useful when we will try to find a new solution.

2. The last attempt at formulating a definition which we want to discuss is the one by *Anderson* and *Moore* in their interesting and entertaining article of 1962 (16).

a. They too begin by stating some methodological principles that must guide us in our quest for a definition of culture. According to them the essential conditions an adequate definition of a concept must satisfy are: "how can we define (this concept) in such a way as (a) to get an interesting formal theory of the ground, while (b) minimizing conflict with informal usage !". More specifically, for the definition of culture, they propose some very interesting *"conditions of adequacy"* (17) which every definition will have to satisfy in order to be acceptable as a basic concept of the science of culture. (i) We must be able to speak of *cultural change*: cultural objects must be of such a kind that they can be said to change in the course of time (such changes are studied e. g. in the case of languages). (ii) Some cultural phenomena do not change in the course of time, so we should be able to discuss the *persistence* of cultural objects. (iii) Cultural objects can move from one society to another, so it must be possible to deal with *cultural diffusion.* (iv) Since cultural objects may be created in a particular society or may disappear and be rediscovered, we want to be able to study *cultural innovation, disappearance* and *reappearance.*

b. After a critical comment on some of the criteria already used by anthropologists, the authors propose a new one, which would point to a common characteristic of all cultural objects, without coming short of the conditions of adequacy: "they are all things that people can learn from each other". Consequently a cultural object is *"a learnable from item"*; it belongs to the class:

$\alpha\ (\exists x)\ (\exists y)\ [(x \neq y)$ and $\Diamond$ (x learns α from y)]

(the class of those things α, such that for distinct x and y, it is possible that x learns α from y) (18).

(16) Anderson, A. R., and Moore, O. K., *Toward a formal analysis of cultural objects*, in *Boston studies in the philosophy of science*, Dordrecht-Holland, 1963, pp. 117-143.

(17) a. c. pp. 119-120.

(18) a. c. pp. 131-132.

This definition, formulated in the language of symbolic logic, with a modal operator ($\Diamond$: it is possible) is apparently a combination of the above mentioned criteria : (e) and (g), (p. 167). Like that of White it offers the advantage of taking an unambiguous stand by defining "culture" by means of a criterion which delimits the *class of cultural objects.* Such an approach makes it immediately possible to define also the notion of "a particular culture" (the individuative concept) : "the culture of a society A is the set of things α learned by someone from some member of A :

$\hat{\alpha}$ ($\exists$x) ($\exists$y) [(x ε A) and (x learns α from y) and (x $\neq$ y)]

In the same way we can define "the culture of an individual" and "the culture of mankind".

Another advantage of this definition is that it is expressed in an exact language, so that one knows precisely what one is saying : even a slight variation in the expression gives a different result ; it follows that the pros and cons of other like formulations can easily be checked.

As an argument for their definition, Anderson and Moore point out that a great number of the phenomena traditionally studied by anthropologists, belong to this class. Languages, methods of counting, raising families and crops, fishing, singing, praying and all kinds of beliefs, are things that can be learned from others. Furthermore, it is not said that cultural objects *are* (actually) learned because we have to build up a theory about all cultural objects without excluding those that have not yet come into existence. This is why the modal operator is needed. Another argument could be that this is to be considered a further explanation of the notion of *non-genetic transmission,* a criterion which all anthropologists accept.

c. It is not easy to criticise these authors because they themselves have a clear insight into the shortcomings of their approach : "we offer... definitions... which, while not satisfying our own standards of rigor, seem at least to be steps in the right direction." (19).

1) A first criticism they have anticipated is one of those we have made in connection with White. The criterion is extrinsic and does not tell us anything about inherent properties of cultural objects. Therefore they do not exclude the possibility of a more intrinsic definition from which the notion "learnable from" might be deduced.

2) The second objection — also foreseen by Anderson-Moore — seems to us much more fundamental : the notion "to learn something from another" is obscure. About learning in general, psychology provides us with a sufficient (more than sufficient) number of theories ; hence the concept of *learning* has a real operational and even theoretical meaning. Nowhere,

(19) a. c. p. 119.

however, do we find a definition of "to learn *from*", neither do these theories specify what a *learnable item* is (i. e. we have no principle of individuation). (20). It follows that this criterion is of a rather intuitive kind and can certainly not be sufficient very accurately to circumscribe the class in question. The authors themselves clearly apprehend this defect but they are convinced that in a great number of cases, a sharp distinction between cultural and non-cultural objects has nevertheless become possible.

The notion "to learn from" is further explained in the following way. The meaning of this expression is so stipulated as to include e. g. « learning from other persons *via* books etc.", but *not*: "learning *because* of another person's activity". In other words, we cannot use the expression "x learns a from y" unless we assume that y knows something about a, but we do not require y to give formal instruction. For the time being the variables x and y are understood as ranging over human beings, more in particular: individuals. Yet the possibility is not excluded that some day we might speak of animals, computers and groups as learning from one another (21).

3) It is in connection with these topics that the actual problems emerge. When reducing cultural objects to items learnable from human beings, one precludes the possibility to study problems such as whether *australopithecines* deal with cultural objects; — by definition of course not, but this is a hardly illuminating approach to the problem —. But if the variables x and y are allowed to range over animals it becomes very difficult to keep the class of cultural objects within reasonable limits. It is a matter of fact that e. g. some kinds of birds have to learn their songs from their congeners; are these cultural objects? (22)

It is equally difficult to understand what the meaning of this *learning* would be in connection with *groups*. Yet, learning by individuals will not suffice if we want to include *institutions* into the class of cultural objects: marriage and government systems are not learned by individuals. Anderson and Moore try to meet this difficulty by arguing that *rules* for running marriages are learnable things. This may hold good in some cases;

(20) In the general survey of learning theories and problems by Hilgard and Marquis: *Conditioning and learning* (revised by G. A. Kimble, 1961) we could not find any indication about "to learn from", nor about an individuation principle, though a whole chapter of this book is devoted to the examination of definitions of learning. Other important and recent works in the field are no more explicit about this matter: cf. e. g. Hebb, D. O., *The organisation of behavior* (1949), Broadbent, D. E., *Behaviour*, (1961); Deutch, J. A., *The structural basis of behavior*; 1960; Barnett, S. A., *A study in behaviour*, 1963.

(21) Cf. o. c., pp. 135-136.

(22) Cf. Thorpe, W. H., and Zangwill, O. L., (ed.), *Current problems in animal behaviour*, Cambridge, 1961, pp. 209-210.

but, in general, we cannot agree to consider the process by which institutions are transmitted from one generation to another as sufficiently explained by saying that individuals *learn rules from* other people.

On the contrary, the new individuals, who have to ensure the continuation of the system, learn their respective *rôles* much more *because* of the activities of other persons than *from* other persons. Indeed, this *rôle* is determined above all by the *expectations* of other people, and, consequently, it is learned by an ordinary conditioning process (with reward and punishment) rather than by a kind of "*learning from*". Moreover, the total system of rules of a given institution is normally not known by any separate individual, yet we would like to consider it also as a cultural object.

4) The criticisms we advanced up to now are intended to show that the concept of "learning from other people" is (i) not yet scientifically defined, and (ii) is even as an intuitive concept subject to limitations. There is, however, a more important objection to the point of view of Anderson-Moore ; viz. the way in which they have to deal with the *products* of human activity : tools and other artifacts. Since these products are not "things learned", they do not consider them as cultural objects, although they admit that they are "intimately tied to cultural objects". On the other hand, the methods and rules to make these products *are* considered cultural. Even at first sight, this kind of approach seems somewhat cumbersome ; up to the present artifacts have been regarded as cultural objects by many anthropologists, and countless anthropological studies deal with e. g. the plough, the wheel, masks, totem poles and other objects of art. It could be argued that these inquiries are more concerned with the methods and rules of producing these artifacts, but *this is not true.* Methods to make like things can be widely different, whereas the same method can be used to manufacture very different products.

In pottery, for example, the number of methods and their use is fairly limited ; the external shape, on the contrary, shows an endless scale of variations which can be highly characteristic of a particular society and era. It cannot be challenged that anthropologists and archaeologists are chiefly interested in these shapes or forms, and, to a far lesser degree, in the production methods. Hence, it would not make sense to refuse the predicate "cultural" to these forms of objects ; but this is exactly what follows from the definition of Anderson-Moore ; indeed, we do not (and sometimes cannot) *learn* these shapes of objects *from* other persons : we have to examine the objects themselves !

Hence the weakness of the criterion mainly lies in the fact that it would draw an arbitrary line of demarcation between cultural and non-cultural objects. Poems, tragedies, songs and pieces of music are learnable from

others, whereas cathedrals, sculptures and paintings are not; why should some products of human activity be cultural rather than others ! The way in which they are produced and their impact on man are in many respects analogous; why then should rules for making poems *and* poems themselves be cultural, whereas in the case of paintings only the rules would be cultural objects, *not* the paintings themselves?

5) It appears clearly from these examples that the notion "learnable from", though very useful in many cases, has such serious limitations that it is impossible to say that the class of cultural objects is coextensive with that of "learnable from items".

Again, it must be observed that we do not want to call in question the really valuable aspects in the approach of Anderson and Moore. They too have made an important step towards the elucidation of the problem. We have tried to find some counterexamples in order to prove that this criterion is not fully adequate either; for, as the authors themselves say "Counterexamples, even if they seem farfetched, *are* counterexamples, and should be taken as seriously in discussions of culture as they are in other areas of scientific inquiry" (23).

III

1. a. The criteria formulated in the two articles discussed above have some aspects in common which might indicate the way to a satisfactory definition. Both draw our attention to the fact that cultural objects somehow presuppose man's creative activity. As they are *learned from other people*, it seems reasonable to think that, ultimately, they are created by one or more individuals and then transmitted to the others. White's point of view is still more explicit in this respect: cultural phenomena are dependent upon *symboling*, which clearly assumes human activity (cf. "to *bestow* meaning..."). These aspects of their definitions remind us of the already mentioned criterion: "everything that is *man-made*".

There is another way of looking at these criteria: both may be regarded as an explanation and a specification of that other important notion: "non-genetic *transmission*". Indeed, "to learn from" presumes communication from man to man, whereas the important rôle of symbols obviously lies in the fact that they enable the transmission of beliefs, customs, etc.

b. If these fundamental intuitions of the authors mentioned are right, it seems expedient to examine *which kind of entities* can be *created* and

(23) a. c. pp. 130.

transmitted by man. To these two aspects we should like to add another very important one : cultural objects may to a great extent be *spread* in space and time : they may be common on to a great number of people at the same time, and to different generations. This property constitutes a decisive difference between cultural objects and all other products of human activity ! Material goods and energy may be transmitted, but not indefinitely, as the *use* of the latter is at the same time a *consumption* (i. e., an annihilation). Foodstuffs and utensils are produced and transmitted, but the one who transmits them cannot use them himself at the same time : he has *lost* them forever ; and he who uses or consumes them can no longer transmit them (in the same condition). This is not at all the case with cultural objects : not only can they be spread indefinitely in space and time, but they can retain the same meaning for those who transmit them as for those receive them. When one communicates beliefs, skill knowledge, etc., to another, *one does not lose them oneself!*

c. There is one kind of entities, capable of being thus transmitted indefinitely ; we shall call them *forms*. The concept of form is one of those notions that are used in all kinds of contexts without anybody trying to define them accurately. All the same it is possible to find a formulation which, though staying close to everyday language use, has all the characteristics of a good definition : neatness and usefulness for building up a theory.

A form we call *every class of states of a material or energetic substratum which (states) are identified with one another and discriminated from other classes of states.*

It goes without saying that such states are identified and discriminated only by systems capable of doing so, e.g. animals, men, and some machines. Consequently, when talking about *forms* we shall always have to know for which kind of systems this form character exists.

d. This definition may sound somewhat abstract and therefore it may be illuminating to give some concrete examples first.

Since Lorenz and Tinbergen, *ethologists* have been speaking about *Releasers* ; these are particular visual, auditive or olfactive signals of a stereotype kind, to which animals of a given species always respond with a particular behavior pattern. Instances of this phenomenon are the "courtship rites" in connection with the copulative behavior of some birds, also some warning cries, which induce escape behavior, and the smell of an animal (or of its excrements) which stakes out its territory and so keeps off other animals ([24]).

(24) Cf. e. g. Scott, J. P., *Animal behavior*, Chicago, 1958, pp. 141-145.

Such *Releasers* are clear instances of what we call forms: they are a well-defined set of states (or combination of states) of a substratum e. g. a visual image (which is a combination of states of light rays), or an auditive signal (which is a state of air waves), which, whenever it occurs, causes a particular kind of behavior in a particular kind of animals. The equivalence class of those configurations that always evoke the same response — and are thus identified with each other — is clearly discriminated from other configurations in the animal's visual field; this is proved by the fact that the latter never cause the same response. This equivalence class is a *form* to the animal.

e. The same can be said about man: every state of a substratum which is identified with a number of other states (i. e. considered as the *same*) and yet sharply discriminated from other states (which are considered as *different*) is an instance of a *form*. For example, on this page there are a lot of inkblots that are identified with the following one: "a", and distinguished from other classes of inkblots like "b" and "c". Thus one may speak of the form "a", "b" etc... The same holds good for states of energy substrata likewise identified and discriminated, such as the "C", "D", etc. on a piano, the phonemes of languages, the colors of traffic lights etc... The definition can also be applied in the case of *combinations* of states or forms, in so far as they are identified and discriminated as such. Thus, visual patterns (*Gestalten*), melodies and words are also to be considered forms, as well as states of material objects which are identified with each other: the plough, the bough, etc.. Finally, in most contexts where traditionally the term "form" is used, (e. g. in art and literature) our more explicit concept will prove equally applicable.

Thus, the question whether a set of states of a substratum will be called a *form*, depends on the extent to which these states are identified with each other and distinguished from other states. Whether this identification and discrimination occurs, can be inferred from the *overt reactions*, and, with men, also from their *verbal utterances*.

For example, the question whether two specimens of the bow or plough are to be considered as the same form can be answered by examining whether clear differences appear in the construction, the use, the results or the name of these objects.

2. In this context it would be impossible te give a full elucidation and analysis of our form concept in all its aspects. At a first approach, however, we should like to make some remarks mainly concerning its scientific meaning and relevance. We shall comment (a.) on the main concepts used in the definition, and (b.) on the most interesting properties of forms;

so it will be made clear in which ways and with what kinds of methods forms are to be studied (c.).

a. (1) The analysis of forms presupposes a certain knowledge of their *substrata*. If a form is a distinguishable state of a substratum, the number of *possible* forms will be restricted by the properties of the substratum. E. g. within a given time limit, air vibrations can take only a limited number of states (frequencies) ; the same applies to light rays, radio waves, and electromagnetic waves in general. Material substrata as wood, plaster, iron, etc. are subject to analogous limitations.

(2) The study of forms presupposes to an even more considerable degree knowledge of the discriminating faculty of the *receiving organism*. Man can only distinguish a restricted number of sound pitches and light frequencies. Moreover, it rarely occurs that the physiological discriminating faculty is fully used : there are psychological limitations dependent on learning processes. A person who knows Spanish only, does not consider the sounds "b" and "v" as different forms because he does not distinguish between them.

(3) The notion of *discrimination* we introduced in our definition is not haphazardly chosen ; it has a scientific meaning. To prove this, it may be pointed out that it constitutes one of the most important topics studied in the psychology of learning (25). We may also refer to the recent researches into the "amount of information in absolute judgments" by Garner, Pollack, Miller and others, who are precisely inquiring into man's discriminating faculty (26).

(4) The notion of *identification* has not so explicitly been dealt with, but it is obvious that the concept of generalization in learning psychology is related to it (27).

Our concept of identification is nevertheless a broader one than that of generalization, since in animal psychology generalization often amounts to a *lack* of discrimination : an animal reacts identically to a square and a rectangle because it has not learnt to distinguish them. Man, on the other hand, can, according to the situation, identify some forms (consider them equivalent in reference to a given criterion) which he discriminates in other situations and according to other criteria. A Spaniard who also knows English, does not discriminate "b" and "v" when speaking his na-

(25) Cf. the above quoted work by Hilgard and Marquis, chapter 12, pp. 361-394.

(26) A good survey of this research may be found in : Garner, W. R., *Uncertainty and structure as psychological concepts*, London, 1962.

(27) Yet the notion of " *identity* is explicitly treated by Hebb ; *Organisation of behavior*, pp. 26-37.

tive language, but he does when speaking English. Analyses of this kind of identification may be found in the inquiry into the notion of "category" by Bruner and his associates ([28]).

Considering that the complexity of the world picture, by which man so clearly distinguishes himself from animals, is mainly based on his quasi-unlimited ability to extend his discriminating capacities on the one hand, and to classify and order this multiplicity by the process of identification on the other hand, it is easy to understand the importance of a thus defined *form* concept for the scientific study of man.

b. Some important *properties* of forms can be made clear without any difficulty by a simple analysis of the foregoing notions.

(1) Forms can be *learnt*, since one can learn to distinguish one class of states from another class, and to identify the states within one class with one another. So it appears that a precise definition of "to learn *something*" is very well possible : for the first time we are provided with a "principle of individuation" : two things we learn are *different* if they are different *forms* ; and they are different forms if they are discriminated from one another. Since we can learn to discriminate, we can learn forms. In the same way it can be explained what it means" to learn something *from* another".

We can learn from other people, because they can help us to introduce new discriminations, and new criteria to identify things with each other. This learning from other people can occur directly, through instruction or imitation, but the most important way of discrimination learning is an indirect one : we learn to distinguish and identify things like other people by learning their *language!*

Further research into the relations between forms and the receiving organism, would enable us to define a sub-class of forms, viz. "symbolic forms", of which language represents one of the most important instances. So it is at once clear that the form concept shows strong relationships with the notions introduced by Anderson-Moore and White and can even help to define them more exactly.

(2) A second important property of forms is that they can be *transmitted.*

(a) In a trivial sense this means that states of matter and energy can be conveyed unaltered to other places and points of time. Objects made of a strong material can be kept unchanged for a long time and transported over great distances, without losing their form. Similarly, sound waves and electromagnetic rays may be transmitted over distances without considerably changing their frequency.

(28) Bruner, J., Goodnow, J., Austin, G., *A study of thinking*, New York, 1962.

(b) In a more important sense, it may be pointed out that forms can be transferred from a given object to an indefinite number of other objects and even to another kind of substratum.

In order to make this clear we have to introduce the very important notion of "*one-to-one-correspondence*". Two classes are in a *one-to-one-correspondence* when every element of the first class corresponds to one and only one element of the other. We shall speak of *structural identity* between two classes if there is also a one-to-one-correspondence between the relations defined on them ([29]).

Now then, forms may be multiplied in two different ways.

(1°) With some mechanical or other technical means one may bring about in another quantity of the same or another matter a state of such a kind, that the component parts, and the relations between them, are in a one-to-one-correspondence with those of the original object; the new formed object is then spontaneously, or after a short process of learning, identified with the original one, and hence integrated into the same equivalence class. Consequently it is part of the same *form* (or, if one does not like an extensional language, it *has* the same form). The possibility of thus multiplying forms is restricted only by the nature of our techniques and the quantity of the matter (or energy) at hand.

Copies from works of art, buildings, utensils and instruments are good examples of such multiplication and transmission of forms (the new formed objects can be preserved in time and transmitted in space). The transmission of the *form as such* is, of course, incomplete unless the criteria enabling to identify and discriminate this form as such are available too. The transmission of a bow from one society to another, is not a real transmission of the form "bow", if the latter society does not succeed in learning, spontaneously or by instruction, the essential properties of a bow, e. g. how to shoot with it! Hence, as follows from our definition, the appropriate discrimination and identification play an essential part when answering the question whether a *form* is really transmitted.

(2°) Besides this "*analogous*" kind of reproducing forms, they can be related to each other and transmitted in another way. When we have a class of forms, (e. g. the class of distinguishable speech sounds (phonemes) in a given language,) it is possible to bring — by a mere *conventional* rule, a code — another class of forms in a one-to-one-correspondence with the

(29) This notion of "structural identity" is derived from that of "ordinal similarity" introduced by Russell and Whitehead, *Principia mathematica* II, pp. 310-319. We may speak of one-one-correspondences between relations because a relation is a *class* of pairs, triads, or n-ads.

first class (e. g. the class of written letters in the same language). Of course, it is also possible to realise a similar connection between the class of spoken *words* of a language and a class of written symbols (e. g. Chinese writing). In this way, each form may be related to another one by pure convention : it is not at all necessary that the two are analogous or similar. As the code may be used in the reversed order, the original form may always be obtained again. In this way too, forms can be indefinitely multiplied. Indeed, this does not only go for writing, but for every method of mapping — by a fixed code — states of matter or energy into states of another substratum. The most striking example of this process is the conversion of all kinds of forms (sound, visual images, etc.) into forms of electromagnetic waves (in radio, television, etc.). The essential condition of this transformation is that both classes of states be distinguishable to a sufficient degree and that there be a code (and technique) to convert the one class of forms into the other and vice versa.

c. The potentialities, restrictions and properties of this transmission of forms constitute the subject matter of the *information theory* (30). It can indeed be said that the communication of information is a transmission of forms ; therefore, some important concepts of this theory (e. g. *redundancy* and *noise*) are also applicable and useful in the theory of forms.

Information theory also provides us with the insight that transmission does not always occur in ideal circumstances : the one-to-one-correspondence may be reduced to a one-to-many, or a many-to-many correspondence which can be measured as the "*amount of transinformation*". It will be interesting to keep this in mind if we want to understand how, to what an extent and in what conditions, forms remain constant, and are subject to changes.

It follows that information theory, as well as the above mentioned psychology of learning, enable an inquiry into the *intrinsic* properties of forms and their relations to one another. The remarks we have made here are of course far from satisfactory. In our opinion, the problem can only be adequately studied by constructing a model of a system which would be able to deal with forms in the same way as man does (31).

3. Despite the provisional nature of our analysis of the form concept we consider it sufficiently clear, and we think that it shows enough intrinsic properties to serve as a basis for a definition of the culture concept.

(30) Cf. Shannon, C. E., Weaver, W., *The mathematical theory of communication*, Urbana, 1959. A useful introduction to the related problems is : Cherry, C., *On human communication*, New York, 1961.

(31) In our doctoral dissertation "*Epistemologische inleiding tot een wetenschap van de mens*" (epistemological introduction to a science of man) (not yet published) we have tried to make a first step towards the construction of such a model.

a. *The class of cultural objects is the class of forms determined by man.* With "man" we mean the *individual* (who may invent a new kind of plough), as well as the *group* (which determines the use of language and social organisation).

b. The most delicate part of this definition is obviously the expression "determined by man". By this we mean (i) that it would not exist without man, and (ii) that the *form as such* is determined by man : the process of discrimination and identification must accompany the creation or change of the form in question (they are necessary, and, sometimes, sufficient conditions for it). This specification is intended to exclude the (not very important) class of forms which are inevitable results of the existence on earth of man as a living organism. E. g. the consumption of foodstuffs, materials and energy have certain effects, which may appear, among other things, as forms of the landscape (such as deforestation and the extinction of some species of animals). Forms of this kind are not cultural objects since they are a necessary result of human activity, and hence, cannot be considered the aim or even the conscious product of individual or group activities. If, however, deforestation takes place according to a well defined plan, in order to *get* a certain form of the landscape we shall regard this form as a cultural object. Indeed, forms of deforestation, irrigation etc., designed by individuals or groups can be transmitted to other societies and they may therefore certainly be called cultural phenomena.

Although this specification does not yet entirely satisfy our standards of rigor, we hope that is neat enough to make a further argumentation possible. In our opinion, a precise definition of the notion "determine actively" would only be possible if we had a model of man as a form-creating-system. Instead of entering into detail on this point — which would remove us far from culturology — we shall try to explain and defend our concept of cultural object (also called "cultural form") by comparing it with the notions discussed in section I and II of this article. In this way it may more directly become clear whether it is useful and tenable or not.

IV

In this section we so intend to test whether our definition will resist the scrutiny of criticism more than the foregoing attemps. We shall examine (1.) the above mentioned groups of "components" of the culture concept, to see in which manner they can be considered "forms determined by man". (2.) We put the question whether our concept will meet the "conditions of adequacy" proposed by Anderson-Moore. And (3.) we shall compare our definition with most of the criteria found in the existing definitions.

1. a. The first group of cultural objects we have mentioned (p. 162) is that of *states of mind*, indicated by the terms : knowledge, ideas, beliefs attitudes, values, morals. Whatever may be the exact meaning of these terms, they indicate things that are (i) *identified* with each other, even if they are found in different persons e. g. *knowledge* of the structure of the atom, the *idea* of a world government, *belief* in the superiority of the white race, *attitude* of hostility to communism, *values*, as life, freedom, *moral standards*, like the approval or disapproval of homosexuality. — (ii) There are also enough criteria to *distinguish* these ideas, beliefs, etc. from others. Consequently they are distinguishable equivalence classes of entities, and, hence, *forms.* ; since it is clear that these forms are determined by man, it follows that according to our definition they are cultural objets.

What now is the substratum of these forms, and how should we conceive the differences and similarities in this substratum? This a problem that cannot as yet be solved, since our knowledge of man is still very superficial. The assumption that the substratum is of a neurological and endocrinological kind, is a plausible one, though for the time being it can be no more than a working hypothesis. The only supposition indispensable for our definition to hold good, is that there really *is* a substratum and that there are enough methods — if necessary indirect ones — to identify and discriminate its states. These criteria seem to be sufficiently present in overt and verbal behavior.

The form concept permits to draw attention in this context to a very important class of forms that are rarely mentioned, though they certainly are cultural objects. We mean the *forms of perception* of our environment i. e. the way our world picture is conceived. It is notorious that *J. von Uexküll* already noticed that each animal has its own *Umwelt* (world), which is determined and restricted by the potentialities of its receptor organs, and by its needs. ; this *Umwelt* of an animal is for the greater part genetically inherited ([32]). Man, on the contrary, has also a *cultural Umwelt* : a great deal of his discriminations and identifications in the outer world are not genetically determined, but have been learnt from other persons, directly, or with the help of other cultural forms (e. g. language), and also with the help of discrimination techniques and instruments (microscopes, telescopes) which are themselves cultural objects. These forms of perception are seldom mentioned explicitly by cultural anthropologists when summing up the components of culture, whereas in philosophical anthropology they are stronly emphasized, especially by *Erich Rothacker* ([33]).

(32) Uexküll, J., von, *Theoretische Biologie*, Berlin, 1928.

(33) Cf. e. g., Rothacker, E., *Probleme der Kulturanthropologie*, Bonn, 1965, pp. 103-124.

Thus, a possible classification of cultural objects in this area would be : (a) forms of perception (b) forms of thought, with which should be ranged (i) concepts, and (ii) propositions. (c) forms of attitudes (d) forms of objects of attitudes : values, (e) forms of attitudes made explicit and accepted : morals.

b. The second group of cultural objects is that of *habits* and *customs.* They are patterns of behavior of individuals (habit) or groups (custom) that regularly occur in certain specific situations or periods. The very notion of behavior pattern presupposes a kind of stereotypy ; so it is obvious that the notion of identification is quite applicable here (whenever a *potlatch* occurs, it is in a sense always the *same* phenomenon). This stereotypy also makes discrimination possible (*potlatch* is clearly distinguishable from *kula*, and both are different from "lending at interest" and "barter") (34). Hence these are *forms*, viz. distinguishable sets of states of *overt behavior.* That they are determined by man as well as states of mind, appears clearly from the fact that they may vary from individual to individual (without genetic interference) and from society to society : also they must either be invented by an individual, or learned from others.

The form concept makes it also possible to decide to what extent "behavior", "activities" and "responses" may be considered cultural phenomena. Particular behavior sequencies may be part of an equivalence class of activities but separately they do not themselves constitute such a class. Only those aspects that give rise to identification and discrimination (what is usually called the pattern) may be considered as a *form.* Therefore we can fully associate ourselves with the legitimate censure of the unconsidered use of the terms "behavior" and "learned behavior" : only their *forms* are cultural objects.

c. Within the group of *skills* we have made a distinction between "methods of communication" : spoken and written language (and all other symbols) on the one hand, and then the whole of techniques for the production, transport and preservation of alle kinds of goods, and for self-defence.

We have explained above that communication of information always relies on *forms* of a great number of substrata (air waves, written symbols, gestures, electromagnetic waves). It requires no further argument that these forms as such are determined by man in order to increase his discrimination and identification capacities and to facilitate the transmission

(34) Cr. White, *Evolution of culture*, pp. 240-242 ; Linton, R., *The tree of culture*, pp. 628-632.

of them. On the other hand, if some forms of this kind would prove to be genetically inherited (e. g. some modes of expression of the human body), they would naturally be excluded from the class of cultural objects.

The other abilities, crafts, etc. form in fact a subclass of "habits and customs" which are mentioned separately because they play an important part in assuring the subsistence of individuals and groups, and because they are frequently associated with the "use of tools". Since skills are patterns of behavior or combinations of them, they are evidently cultural phenomena according to our definition. This does not exclude that there may be border cases where it is difficult to find out whether they are determined by man or not. The advantages of a precise definition, however, lie in that it indicates the origin of the uncertainty and allows to introduce new conventional criteria if we want to solve the problem conclusively.

We might e. g. ask ourselves whether standing and walking upright, swimming, sexual intercourse, etc., belong to human culture. Of course, they are forms of behavior, but the second question is whether they are determined by man. This means: not determined by external factors, or bodily constitution, but by a *choice* from a number of possibilities offered by these factors. If biologists can prove that the upright standing and walking of an adult person is intimately connected with his morphological structure, we shall not call it a cultural phenomenon. Indeed, if this is true, there is no possibility for choice and, consequently, this behavior form is not determined by man. (The fact that it requires an individual learning process and often even imitation of other persons is not decisive). The same goes perhaps for those aspects of sexual intercourse that are essential to procreation; but we do call cultural phenomena the presence of absence of intercourse at certain points of time, and the various positions adopted, as they vary with other aspects of culture and may be characteristic of particular groups or classes of individuals. In the same way we shall have to regard the different methods of swimming as cultural; whether swimming in general is a cultural phenomenon is a question that biologists must solve in accordance with the above mentioned criteria. Yet the use of language in general, and independent of the existence of differences between languages, is always a cultural phenomenon, because it always works with forms presupposing very specific choices from the possibilities of the vocal cords, which cannot be explained or predicted from their anatomical structure.

d. More than other components, the group of *products* of human behavior has been especially subject to discussion. Many authors unhesitatingly classify them with cultural objects whereas others exclude them

— above all the material products — very explicitly ([35]). The criticism of Anderson and Moore is particularly interesting: they indicate some awkward consequences of the assumption that all products of human activity would be cultural phenomena: "But it now develops that we must consider the element einsteinium as a cultural item, owing to the historical circumstance that it is not found in nature, but *has* been made in laboratories .... We would have to consider two kinds of lakes — those which are cultural items (being man-made) and those which are not — and similar for radio waves, light waves, and so on » ([36]).

This is a very important remark; it clearly shows that it does not make sense to consider products of behavior as cultural objects, without further ado. On the other hand, the solution of Anderson-Moore leads to equally awkward consequences, since it excludes Greek temples and French cathedrals from the class of cultural objects, but not the Iliad of Homer and the tragedies of Racine! In our opinion, a satisfactory solution would exclude entities like einsteinium, chemical compounds, etc. but not artistic creations of whatever kind they may be: architectural, pictural, musical, literary, etc.. Starting from our definition, the problem is not very embarrassing. There is indeed an important difference between e. g. the element einsteinium and the Parthenon of Athens! The *form* of the element is wholly determined by the laws of nature and not at all by man, whereas the form of the Parthenon is to a great extent determined *by man*. Russians and Americans cannot produce two different kinds of a certain isotope but they can build different kinds of cathedrals (if they want to). Man can produce light rays, the properties of which are determined by natural laws only; but when he makes a choice from the possible light rays and decides to consider some of them as distinct and others as equivalent, this choice is not determined by nature (instead of green-and-red traffic lights he might have chosen yellow-and-blue ones), the equivalence classes resulting from this choice are therefore *cultural* forms.

Every choice between possible forms of material objects no matter whether they be statues, buildings, tools or masks, creates a "form determined by man" and, hence, a cultural object. It follows that artifacts are cultural objects, not as particular entities but in so far as they represent a form created or modified by man. Not each particular specimen of the plough is a cultural item, but *the plough* as an equivalence class, and also each distinct *kind of plough* is a cultural form. Elements and

(35) They are included by e. g. Herskovits, Kroeber, Kluckhohn, White; excluded by Slotkin, Murdock, Forde, Rouse, Anderson and Moore.

(36) A. c. p. 129.

chemical compounds made by man cannot possibly be regarded cultural since their *form* is *not* determined by man. But what about artificial lakes? Like sky-scrapers, boats and airplanes, artificial lakes and their dams have to conform to some physical laws, and in this respect they are not cultural; yet we must call them cultural phenomena *in so far* as these laws allow an ample margin for choice between several possible forms. A particular choice among these forms may be distinguished as such and imitated by other people, hence it is a cultural form, as much as the irrigation systems of Incas and Egyptians.

Our approach also shows why some *individual* objects — especially in the domain of the arts — may be regarded as cultural (e. g. the Parthenon of Athens and the Venus of Milo). Indeed, discrimination has here been carried so far that each temple which has not exactly the same form as the Parthenon and each Venus statue that differs in the least from the one of Milo must be regarded as distinctly *different forms.* Objects of this kind are identified with perfect copies only. Such individual creations sometimes obtain a considerable influence in society — e. g. on artistic norms, — or they may become important in religion. It is therefore reasonable to consider them as separate forms and, consequently, as separate cultural objects, since all depends on how far discrimination is carried.

It so seems that we can agree on one hand with those authors who stressed that artifacts should not thoughtlessly be included in the culture concept, but, on the other hand, that the latter can be kept within the subject matter of culturology in a very significant way: they are cultural in so far as their form is determined by man.

Immaterial products (literary, musical, etc.) are to be treated in the same way: they too are considered different forms in so far as they are indeed felt to be different within a given society.

e. Finally our definition must also include *institutions.* This concept has not been clearly defined yet, but, anyway, it refers to the organisation of a group of people, mainly based on the fact that there are some constant relations between the members of this group (depending on specific attitudes and behavior patterns of them) which do not change when the individuals are replaced by others. Within the frame of the institution, the rôle of the individuals is determined, not by their personal qualities, but by their place in the whole. It follows that here also, we are concerned with *forms*: a network of relations may be mapped on another similar network, and so constitutes an equivalence class. The substratum of these forms consists mainly of human individuals with their variable habits and attitudes, but materials objects too may be involved in this whole of re-

lations (e. g. instruments, symbolic objects and buildings). As these forms vary from society to society, they are evidently determined by man.

There is, however, one problem left : in many cases the form of an institution as a totality is not surveyed (hence, not identified and discriminated as such) by the individuals belonging to it. It may nevertheless be argued, that in a sense the form does present itself as such to this group of people, since changes of it have clearly distinguishable *consequences* for the individuals, or for the achievements of the institution as a whole. The experience of these consequences may induce the group to create or reject changes of the form. Therefore it is not senseless to say that an institution is determined by man. A more precise treatment of these problems would require a preliminary examination of the exact meaning of the concepts of institution and social organisation.

For the time being, our inquiry into the relationships between our definition of culture and the components mentioned by anthropologists, has proved that the form concept does not lead us to the exclusion of any important group of phenomena considered so far as cultural objects, and that it even offers a clear solution and a precise and reasonable criterion in a number of difficult or controversial cases.

2. The definition also meets the "*conditions of adequacy*" suggested by Anderson and Moore.

a. Forms determined by man are subject to *cultural change.* Two forms may indeed be identified in spite of the fact that there are some slight differences between the two specimens, e. g. a copy (b) from a picture (a) may be considered identical with (a) even if this is not so ; similarly, the language of a generation (b) may be regarded identical with that of the preceding generation (a) ; the same may go for (b) and (c), (c) and (d), etc. In the long run, however, slight changes may create great differences so that identification is no longer possible : at that moment the *change of form* is noticed : e. g. (a) is different from (d).

To put it in an abstract way : change of form (and cultural change) is possible because the relation of identification is not necessarily *transitive.*

b. Cultural *persistence* is possible as well, since some forms can be so *redundant* that they are, to a great extent, proof against distortion (noise). This may be due to a great many reasons, e. g. because all important aspects or elements can be very accurately discriminated, because the form is included in a whole of forms, etc..

c. Cultural *diffusion* occurs because some substrata of forms (e. g. material objects) are transmissable, and because forms can be transferred to other substrata as we have explained above. Moreover, since individuals and societies can learn to discriminate and identify in the same way as

others, cultural forms can be transmitted as such from individual to individual and from society to society.

d. *Innovation* is based on the fact that man can create new forms or make a choice among forms originated at random, and multiply this choice. Reappearance of cultural objects in a given society may depend on similar processes. Disappearance follows from the fact that change can lead to entirely different forms without the previous ones being preserved. Furthermore, in the case of complex forms (e. g. difficult techniques) a special system of transmission may be needed (e. g. schools, writing techniques) so that the former are lost when the latter are not yet or no longer available.

It would be very interesting to expatiate on the problem how these important characteristics of cultural phenomena are to be studied, but that would remove us far from our topic. It may be presumed that the form concept, not only enables a more exact definition of these « conditions of adequacy », but also — because of its links with psychology and information theory — indicates new directions for research.

3. The last inquiry of this section will be concerned with the relationships between our definition and the "criteria" for the class of cultural objects we have analyzed and discussed above.

a. We have already criticised the criteria stressing the importance of the "social and historical dimension" of cultural objects (common, accepted, traditional) ; the form concept may perhaps help to make the pros and cons of this approach more intelligible. Forms determined by man *can* be shared, etc. ; this is an intrinsic property of them, since men can identify and discriminate in the same way. Moreover, it is true that most of the discriminations of an individual are determined by those of his environment and, consequently, by social heritage ; it is even true that social spreading and historical continuance are among the criteria which indicate whether some cultural objects are important enough to be studied. It does not follow, however, that *only* shared or traditional forms are cultural phenomena, or even important ones : this point of view excludes the possibility of studying the creation of new forms and neglects the importance of some forms which play a significant rôle in society, without being common or accepted (e. g. revolutionary ideas).

b. Although we have rejected the "theoretical" and "evaluative" criteria, and continue to reject them, this does not mean that the notions proposed in these definitions would not be interesting. On the contrary, since culturology is the science of forms determined by man, it will have to inquire into the significant relations between these forms. One of the most important questions will then be how cultural forms *come into existence.* It is clear that the notions of *adaptation* and *gratification of needs* will be

indispensable here. Furthermore, cultural forms are subject to change, as we have already pointed out, and so we understand that the *dynamic process* stressed by some will remain an important topic of study. But it should not be forgotten that the subject matter of culturology is much broader: besides the dynamic aspect, that of *persistence* of cultural objects is equally real, and the factors influencing such invariability are not necessarily of the "adjustive" kind.

The problem of the "*interrelation*" and "*integration*" of cultural objects may also be stated more clearly. The form concept draws attention to the fact that these relationships and interactions between cultural phenomena are at least of two different kinds. (i) There is the functional way of interaction by which the creation of new forms in one of the domains of culture may have considerable consequences in other fields (e. g. the invention of the plough may cause a greater food supply and so give rise to a greater general activity and other inventions). (ii) Another kind of relationships between cultural objects would consist in the structural similarities between forms within the same domain, and even of different domains. From our definition of the form concept the hypothesis may indeed be deduced that perhaps the criteria by which we discriminate and identify such an enormous amount of forms, depend on a limited number of simple operations we apply always when we are confronted with a new class of phenomena. If this is true, it would be possible to find *one-to-one-correspondences* (and structural identities) between forms of very different domains. If we are not mistaken, this is precisely the core of the approach of Levi-Strauss, called "structural anthropology". So, the definition of cultural objects as forms provides a new rationale and perhaps new methods (including learning theory and information theory) for this interesting and fascinating branch of cultural anthropology, without denying the importance of other points of view ([37]).

c. Our definition is without doubt related to those criteria that refer to the fact that cultural objects are man-made and transmitted by man. It is nevertheless instructive to point out in which aspects the "form-approach" is different, and, perhaps, better than the other ones.

1) The notion "*created by man*", which is found in many definitions, is preserved in ours in the expression "determined by man". Most authors however, had formulated it in so broad a way (*everything* that is man-made) that it cannot stand up against criticism as that of Anderson-Moore. By stating more precisely that we are concerned with *forms* that are man-made, it is possible to retain this important notion without the class of cultural

(37) Levi-Strauss, C., *Anthropologie structurale*, Paris, 1958.

objects being extended too much. The intrinsic properties of forms also make understandable *why* they can be made and modified by man.

2) It has already been shown that the criterion of *learned behavior* — as an improvement of *"non-genetic transmission"* — is too broad as well. The same can be said of *"patterns of learned behavior"*. The latter specification, however, has a considerable advantage : it makes clear that cultural objects are no particular phenomena, but aspects common to different phenomena which can be learned as such. Though this criterion is obviously related to ours, it must be pointed out that there are some differences.

(i) The notions of *pattern* or *form* are always used intuitively by these authors, and no attempt is made to define them explicitly. (ii) A survey of the contexts where these terms occur, shows that they have not such a general meaning as our form concept : they always refer to forms of *behavior* (habits) ; it is never mentioned that the notion is applicable to all the above mentioned components of culture.

3) The improvement by Anderson and Moore comes very close to our views. Indeed, forms determined by man, are *learnable from others* since we can learn to discriminate and identify in the same way as others and under the influence of others. Yet our definition seems to have several advantages. (i) It provides us with a "principle of individuation" (a learnable item is a *form*). (ii) It enables a further inquiry into the *intrinsic* properties of cultural phenomena. (iii) It does away with some awkward restrictions connected with the criterion by Anderson-Moore. In addition to the above discussed problem of the artifacts, it should be stressed that, as soon as we live in a cultural world (*Umwelt*), there are a lot of things that are rightly considered as cultural items, which we *do not* and often *cannot* learn *from others*. We learn them through our *contact with other cultural objects*. In this way, a great part of our perceptive as well as our mental "world" is *not* taken over *from others* but directly built up under the influence of language and other cultural items surrounding us. Furthermore, there are a number of skills that we cannot learn through instruction, but only by an active contact with certain instruments (learning to drive a car and to flie a machine is not only a question of instruction, it always requires an individual learning process).

The modal operator (it is *possible...*) which was rightly introduced by Anderson-Moore is not needed in our definition, since the possibility of transmission is inherent in the notion of form.

4) *Symbols*, as we have mentioned already, constitute an important subclass of cultural forms, and it must be admitted that few can be transmitted otherwise than by symbols. Yet, for the following reasons we

prefer the present approach to that of White and others. (i) We have the impression that a satisfactory definition of the symbol concept has not yet been given. (ii) As the form concept is more general and precise than the notion of symbol, we think it possible and desirable to define the latter in terms of the former. (iii) Whether *all* cultural phenomena are dependent upon symbolling seems to be an empirical question rather than a matter of definition. (iv) Finally, the notion "everything dependent upon symbolling" is a vague and merely extrinsic characteristic that does not give much information about the essential properties of cultural objects.

It so seems that the form concept retains some of the most important aspects of the previous criteria (man-made, non-genetic transmission), and offers the possibility of detecting the valuable aspects of other ones (social heritage, learnable from, patterns, mediated by symbols). It also enables us to animadvert on the rest of the criteria and to make understandable why they have been introduced. This first examination has not revealed any conspicuous gaps and a number of objections to the preceding definitions seem to have been avoided. We do not mean to say that there are no weak spots in our approach, but, for the time being, we must leave it to others to point them out.

V

We shall now subject our definition to a last test by asking whether it is theoretically fruitful ; i. e. whether it can be used as a basis for dealing satisfactorily with some problems.

1. To begin with, there is the problem of how culture has come into existence, and, related to it, the question how and why some cultural objects have acquired a cumulative nature.

a. 1) It is indeed well-known that some higher species of animals, e. g. monkeys and apes, show certain behavior patterns that vary from group to group (within the same species). These behavior patterns are invented by some individuals and then adopted by the other members of the group ([38]). We are thus concerned here with *forms* capable of non-genetic transmission and invented by members of the species. They have much in common with cultural objects, except that they are not man-made, but rather monkey-made or ape-made. Owing to this similarity we could call them *protocultural* forms ([39]). Consequently, the problem of the transition from

(38) Cf. e. g. Kawamura, Syunzo, *The process of sub-culture propagation among Japanese macaques*, in : Southwick, C. H., *Primate social behavior*, New York, 1963, pp. 82-90.

(39) Our notion of "protoculture" is inspired by that of A. I. Hallowell in his very interesting article : *The protocultural foundations of human adaptation*, in : Washburn,

the early *Hominidae* to man, may also be put in this way : how did protocultural forms develop into cultural ones, or, in other words, what is the specific property of those forms which could render possible the origin of man.

2) It is generally agreed upon that the *cumulative* aspect is one of the distinguishing properties of human culture as opposed to protoculture (40). So we have to explain why some protocultural forms have become cumulative.

First of all, however, it is important to realize that the cumulative aspect, which some human forms surely have, *cannot* be used as a *criterion for defining* cultural phenomena.

It would not make sense to call cultural only those forms that are cumulative (i. e. the forms that are not only preserved, but that are open to progressive improvement and development), since this would exclude from the concept some very important phenomena that vary from one society to another, without being cumulative (e. g. the way a mother feeds her children, carries them, etc.). On the other hand it remains true that human culture and man himself would not have come in to existence if at least some cultural forms had not been cumulative. Hence, even if the cumulative property is not a criterion to delimitate the class of cultural entities, it is an indispensable characteristic of a proper subclass of these entities. Neglecting this subtle distinction might lead to all kinds of supplementary problems.

b. As to the question how cultural phenomena of the cumulative kind originated, in our terminology it may be translated as follows : how is it possible that some *forms* are cumulative or — more abstractly — how can forms have a high degree of redundancy (resistance to noise) and, at the same time, be open to progressive improvement !

1) We know for certain one kind of forms that meet these requirements, viz. the genetically determined forms of living beings as they are codified in the chromosomes (in chains of DNA). The substratum offered by these chromosomes apparently has the property of reproducing the same forms on a very large scale without significant alterations. In this way redundancy is secured, and hence, the subsistence of the forms. On the other hand the latter are also sometimes subject to random variations, of which some

S. L. (ed.), *Social life of early man,* London, 1962, pp. 236-255. In the same lines of thought it would be possible to introduce a notion of ' quasi-cultural forms ' which would include also forms produced by computers.

(40) An excellent discussion of the problems concerning cumulation may be found in the article of M. Mead : *Cultural determinants of behavior,* in : Roe, A. and Simpson, G., (eds.), *Behavior and evolution,* Yale, 1958.

cause a better adaptation to the surroundings, others, a worse one. As the inadequate forms are eliminated in the "struggle for life" a cumulation possibility has been created. Indeed, better forms may again be multiplied and enhance the liability of new improvements. That biological evolution works so slowly is explained by the fact that the environment does not intervene in the *creation* of new forms, but only in the *elimination* of the less adequate ones. Cultural evolution proceeds more quickly because the environment plays a part in the creation as well as in the elimination of forms.

2) With many kinds of animals the environment does influence the development of behavior forms, viz. by a *learning process.* The latter, however, does not lead to cultural forms because it is an *individual* learning process which every individual of the same species must go through ; hence it is not capable of transmission to other individuals. Cumulation of course is impossible here since it assumes construction and improvement of new forms on the basis of those existing already. This implies that, first of all, these forms should be transmissable (not each time again discovered by trial and error), and that, once transmitted, they should be open to further improvement.

3) *Protocultural forms* are a first step towards cumulation as they can be learnt *from* other congeners. Yet even these forms need not be cumulative, and it is easy to understand why.

If e. g. a young ape imitates the behavior of the older members of the group, part of the result will consist of some really adaptive forms (e. g. the best way to climb a tree ; how to get food, etc.). Yet these will never be very complex behavior patterns acquired in complicated problem situations because, (i) such a situation rarely presents itself, so that there is only a slight chance of having the opportunities of learning by imitation ; (ii) a high degree of intelligence is needed to imitate a complex behavior pattern that can only a few times be looked at. (iii) Even if a second individual could ever, by an extraordinary coincidence, take such a behavior pattern over from its inventor, the chance of transmitting it to a third individual would remain very small, etc.. Therefore, imitation of complex behavior forms cannot provide a satisfactory basis for the cumulative aspect of form transmission. Protocultural communication of forms cannot go beyond a certain level of complexity.

c. The only possible solution of this problem seems to be that complex behavior forms should be somehow *encoded* in *simple fixed forms.* The simplest form in which problem solving behavior can be "petrified" is, we think, *the tool.* Tools have the advantage over the above mentioned behavior patterns, in that they can become familiar to us, — in that we can

practice them — independently of the problem situation in which they must be used.

Let us suppose that one of our brilliant ancestors had discovered that throwing stones or striking with sticks meant a considerable help when fighting with animals; let us also suppose that this use had been spread throughout his group as a kind of protocultural phenomenon. Then it is not so improbable that also the younger members of the group became acquainted with that use and began to practise it by imitation, irrespective of the problem situations. In this way they could easily acquire a greater skill than the preceding generation. The result was that these tools were more and more used, which led, after new learning processes, to a preference for certain particular stones or sticks, and, finally, to certain manipulations for adapting defective forms to the ideal one. In this way we do not think it impossible that people gradually became attached to objects of a well-defined form (especially since they played with them in early youth) and that they constantly carried them. At the very moment the real tool is created: an object that is used in the right situations, but that is also considered valuable outside them. It is our opinion that the stage of (human) culture is reached as soon as certain forms of sticks, stones, etc., are valued higher than others. An animal capable of so determining (preferring one form to another is already a kind of determining) *forms* of a *durable material* is a man. Indeed, forms of such material are invariably *transmissable* and can be *improved* by others; so, cumulation is possible; this means that a subclass of the forms created by this animal are cumulative, and thus that we pass over from protoculture to culture.

The essential point we want to make is that *tools* have been the first forms capable of progressive, cumulative improvement. They are open to *improvement*, because, by an ordinary learning process (trial and error) one can learn to choose from a group of objects those that are most suited. They are capable of *transmission* for the following reasons: (i) because of the material of the substratum, they are almost imperishable and therefore have much chance to be taken over by the following generations (which is *not* the case with forms of *behavior*); (ii) the use of simple tools can *easily be learnt* if one has the tool at one's disposal. Complex behavior patterns cannot be learnt by imitation but the use of a stick to strike and a stone to throw or to cut, can be. Moreover, the use of *improved* forms of tools is generally not less learnable than that of primitive ones so that progressive improvement needs not make transmission more difficult.

d. 1) White is probably right when thinking that cultural evolution (i. e. the creation and progressive increase of the class of cultural objects) depends on the ability of bestowing value upon things — although he

should rather say "upon *forms* of things" — Yet we cannot agree, when he considers this as a "symbolic faculty" with an "all or none" character. In the light of the foregoing hypothesis it seems still more improbable that the use, and transmission of tools would not be possible without language. As already mentioned above, by introducing the "symbolic faculty" as a whole, we deprive ourselves of the possibility to inquire into the causes and mechanisms by which it *gradually* developed. The study of *forms* and the possible modifications of them enables us to examine these transitions.

2) This study is moreover illuminating, when one discovers that the invention of new substrata, and hence, new classes of possible forms, has had time and again a tremendous influence on further evolution. (e. g. bronze, iron, electric current, electromagnetic waves, etc.).

That the ways of behavior connected with the use of tools must also be learnt, goes without saying, but, in fact, transmission and *cumulation* are not so much caused by improvement of the ways of behavior as by the forms of the tools themselves. Though some people may be better at ploughing than others it is not easy to teach this better method to others, because it is often connected with talent and individual learning; yet it *is decisive* that some have made better *ploughs* than others, better *forms* of this tool.

3) Parallel to biological evolution the cumulation aspect is here secured by the great redundancy of forms caused by their being encoded in a very durable substratum. Cumulation, however, occurs more rapidly in this case because the environment intervenes not only in the *elimination* of bad forms but also in the *creation* of good ones. The same object may be progressively improved and adapted while it is used, and it is even possible for forms already existing in nature to be a direct source of inspiration (an animal's teeth may serve as a model for a knife).

e. The inquiry into forms and their various kinds of substrata appears to be revealing as to the examination of how protocultural objects changed into cultural ones, i. e. the problem of how man came into being. The same kind of inquiry is applicable to further evolution: the decisive steps that heightened the possibility of cumulation are often related to improved *methods* of *encoding forms*; spoken language, written language, drawings, plans, and above all, the mathematical methods in science, are evident instances.

Though we have put the main emphasis on the evolution of forms, we do not intend to neglect the neurological aspect of the evolution towards mankind. On the contrary, it seems plausible that by using more and more "forms" individuals and groups with a greater brain capacity and

hence with a greater capacity for learning to distinguish and identify forms, will have acquired more and more survival value.

2. By way of conclusion we shall now examine the relations between our culture concept — which coincides with the one in cultural anthropology — and the meaning given to this term on the continent, especially in *philosophical anthropology.*

a. Contrary to what is generally believed, these two concepts do not differ so very much. Aims and methods of research are of course different. Cultural anthropologists are mainly interested in the various characteristics by which human societies differ from each other, and patiently rely on empiric inquiries. Philosophical anthropologists, on the other hand, try to find the essential properties of man, to determine his place in the universe and in the whole of living beings; they sometimes use far-reaching extrapolations based on a restricted number of empirical data. Yet this divergence of aims and methods does not prevent the views on the culture concept from being strikingly resemblant.

Already in 1898 the Neo-Kantian *H. Rickert* tried to introduce the notion of culture, with the view of replacing the traditional antithesis "*Natur-Geist*" by "*Natur-Kultur*". "*Natur*" is then defined as "*der Inbegriff des von selbst entstandenen*" (the whole of what originated of itself) and "*Kultur*" as "*das von einem nach gewerteten Zwecken handelnden Menschen entweder direkt hervorgebrachte oder, wenn es schon vorhanden ist, so doch wenigstens um der daran haftenden Werte willen absichtlich gepflegte ...* (that which is directly produced by man, acting on the basis of aims that are considered values, or, if it existed before, that which is kept and looked after because of the values attached to it) (41).

The two criteria mentioned ("created by man" and the value or meaning-aspect) also occur in definitions of cultural anthropologists; moreover, it may be pointed out that our criterion of discrimination and identification is related to that of "attaching value or meaning", although it is somewhat more comprehensive, and more exactly defined. At any rate there are certainly no decisive differences between our conception of the subject matter and that of Rickert. It may further be interesting to observe that he — in striking contrast with the earlier concept of e. g. Burckhardt — interprets the notion so widely that *economic* phenomena and even the products values, etc. of *primitive* peoples belong to it (42).

A similar view is to be found with another Neo-Kantian philosopher: *Ernst Cassirer*, whose "Philosophy of symbolic forms" in fact constitutes

(41) Rickert, H., *Kulturwissenschaft und Naturwissenschaft*, Tübingen, 1926, p. 18.
(42) O. c. pp. 22-23.

an attempt at building up a general philosophy of culture. These "symbolic forms" correspond with what we have called "components of culture". On the basis of a so circumscribed culture concept he then tries to define man. "Man's outstanding characteristic, his distinguishing mark, is not his metaphysical or physical nature, but his *work*. It is this work, it is the system of human activities, which defines and determines the circle of "humanity". Language, myth, religion, art, science, history, are the constituents, the various sectors of this circle." (43) Here also the culture concept appears not to be restricted to "high cultures", though the absence of the terms "tools" and "technology" shows that the influence of the old "nature-mind" opposition still lingers.

This influence has been definitely eliminated with *Moritz Schlick*, one of the founders of Logical Empiricism. In the small work "*Natur und Kultur*", which was published after his death, it clearly appears that the invention of tools, and also agriculture and cattle-breeding, are very substantial components of culture. They even provide the basis for it: "*Alle Kultur ist technisch begründet...*" (all culture has a technical foundation...). This work is interesting not only because of the wide interpretation of the culture concept, but also because of a deep insight into its fundamental aspects. As the most important characteristic of culture he mentions: "*das Zusammenfassen, Organisieren der Naturvorgänge nach einem Plan*" (the bringing together and the organisation of natural processes according to a plan) (44). That means that the quintessence of our own criterion, viz. the importance of human activity, and the form-aspect, comes very close to Schlick's intuitive view on the matter.

We have mentioned these authors to show that also in *philosophy* since the beginning of this century a culture concept has been developing which moves away from the humanistic interpretation, approaches that of American anthropologists and even coincides with it. This may now he said without reserve of the most outstanding philosophical anthropologists of our time. Whoever reads *A. Gehlen, E. Rothacker, M. Landmann*, or others, will see that the classes of phenomena which these authors include with culture, and the components we have examined above, greatly overlap. Here too the active part of man and the form aspect of cultural objects come more and more into prominence (though the form notion remains intuitive and is never precisely defined). This appears e. g. from a definition by Landmann: "culture is the form in which man's creative achievements are

(43) Cassirer, E., *An essay on man*, New York, 1956, p. 93.
(44) Schlick, M., *Natur und Kultur*, Wien, 1952, p. 30, p. 26.

spread and preserved" (45). As to Rothacker, the whole of cultural objects is a class of "... *Handlungsformen, Ordnungsstile, Denkformen, Schauformen...*" (forms of acting, styles of ordering, forms of thought, of perceiving) (46).

These few examples will suffice to prove that our definition — and the criteria we have chosen for it — is not one-sidedly connected with the concept in cultural anthropology. It is just as applicable to philosophical anthropology, and may even contribute to a synthesis of both branches in that it draws attention to the fact that some important items like the forms of perception, imagination and thought, which are neglected by the former and emphasized by the latter, are essential components of culture.

b. It would be equally possible and interesting to comment on the other meanings of culture in literature and everyday language. Since, however, this would require an extensive survey of the history of the concept, we cannot expatiate here on this subject. We should only like to remark that, perhaps, starting from our definition, the analysis and criticism may be much easier. E. g. the problem of definition of the *individuative* culture concept (a particular culture) may be reduced to the problem of circumscribing a *particular* class of cultural forms. For this specification each science may introduce its own criteria : cultural anthropologist will perhaps say that a particular culture is a class of forms identified and discriminated by the members of a given group ; e. g. the Hopi indians. Archaeologists, on the other hand, who do not come into contact with human groups but only with remains, will perhaps introduce other criteria such as form correspondences between objects and their place in space and time, in order to be able to speak about Maya, Mousterian, Hallstatt culture... (47).

In the same way it may perhaps be proved that the other meanings of culture are also concerned with some subclasses of the class of cultural forms, and the historical context may help to explain why people like Herder, Burckhardt, and others were interested in this subclass rather than in the whole of cultural phenomena (e. g. when excluding technology from culture).

Finally, inquiries of this kind could make it possible to find a definitive answer on problems like that of the meaning of *progress* (i. e. are there

(45) Landmann, M., *Der Mensch als Schöpfer und Geschöpf der Kultur*, Basel, 1961, p. 104.

(46) Rothacker, E., *Probleme der Kulturanthropologie*, Bonn, 1965, p. 34.

(47) Cf. the definition of Gordon Childe : "The totality of recognized types current simultaneously in a given area..." ; in : *What happened in history*, (Penguin), p. 26.

irreversible cultural forms?) and that of a possible distinction between *culture* and *civilization.*

It was not our aim to answer this kind of questions here, but only to introduce a concept of *form* and of *cultural object* with a definite and clear meaning which would provide a means to deal more exactly with all problems concerning culture and the science of culture.

Summary

Instead of a usual summary the reader may find more helpful the following plan of our article.

Introduction

I *Survey and criticism of the definitions quoted by Kroeber-Kluckhohn*
- 1. general remarks concerning definitions : a - d
- 2. analysis of Kr.-Kl's survey
  - a. enumerative def. : 1) - 5)
  - b. def. by criterion
    - 1) social and historical ; 2) theorical (a) - (e) ; 3) creation and transmission : (a) - (g)
- 3. criticism of these def.
  - a. enumerative def.
  - b. def. by criterion : 1) - 3)
- 4. solution of Kroeber-Kluckhohn ; criticism.

II *Recent approaches to the problem*
- 1. L. A. White
  - a. general remarks
  - b. White's definition
  - c. criticism : 1) - 5)
- 2. Anderson-Moore
  - a. general remarks
  - b. definition and arguments
  - c. criticism : 1) - 5)

III *Definition of the culture concept*
- 1. def. of the form concept : a. - e.
- 2. properties of forms
  - a. analysis of the fundamental notions : 1) - 4)
  - b. properties : 1) - 2)
  - c. conclusion
- 3. definition of culture
  - a. definition
  - b. explanation

IV *Testing of the definition*
- 1. the components : a. - e.
- 2. the conditions of adequacy

3. the criteria
   a. social-historical
   b. theoretical
   c. creation and transmission

V *Theoretical usefulness of the definition*

1. The origin of culture
   a. the notion of cumulation
   b. non-cultural form creation
   c. cultural form creation
   d. comparison with other opinions
   e. conclusion
2. Comparison with other meanings of the culture concept
   a. in philosophical anthropology
   b. the individuative concept and others.

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