In my first lecture I considered a problem arising from the sociologists' definition of education as the transmission of culture. It may appear at first that this is an obscure matter, but I believe that it is in fact a central problem in developing a satisfactory sociology of the educational process. Although some aspects of the sociology of education, for example the relation of education to social structure and social mobility, have developed rapidly in recent years, there is still, as Jean Floud has noted, a pressing need for work to be done on the sociology of the school and the classroom. Here only fragmentary and sporadic progress has been made since Willard Waller's classic *Sociology of Teaching*, first published in 1951, but significantly enough reprinted in 1978. I believe that the analysis and interpretation of the idea of the school as an institution concerned with the transmission of culture, is the most promising foundation for the sociological study of the educational process.

Our theoretical problem arose when it became clear that the adoption of the idea of education as transmission of culture tends to lead us to a view of education which stresses conformity and which sees educational institutions as part of the mechanism of social control. Within this frame of reference, there is some difficulty in accounting for innovation, creativity and freedom, all of which are highly valued in our western society. I argued that this difficulty arose from our adoption, with the term culture, of certain theoretical assumptions which have become associated with it. The term was shaped within a tradition of inquiry which was concerned to examine the social determinants
of individual behaviour. Creativity or freedom was seen as intensely individual, and hence it eluded this system of social determination.

We now face the problem of handling the idea of creativity within the conceptual scheme of sociology. If I am right in thinking that this problem arises rather from the use of our concepts than from any intractable empirical evidence, then we should be able to point a way of overcoming it by revising our theory.

The key question is: does it make sense and prove helpful to speak of the social conditions of individual creativity or freedom? I hope to show that it does, and my interpretation of the situation will be broadly within the academic tradition which is known as cultural sociology or symbolic interactionist sociology.

Culture, comprising complexes of understandings shared between minds, is primarily learned through communication. It is assimilated in this way because it underlies all communication and indeed supports it. Without the common understandings of culture there could be no communication. "We know, and we can effectively communicate with, other minds because behind us all there is the common life which holds us together as a unity in diversity..."


The ideational aspect of this common life is what we call culture, and it is this fund of common ideas which is passed on in communication and supports communication. Normally we communicate
through symbols, - most commonly language, but on occasion mathematical symbols, the symbolic forms of visual art and so forth - and all these symbols represent and grow out of common understandings in the culture.

Thus the child absorbs the culture as he learns the language, for the language is loaded with the values and understandings of the social group which uses it. This experience of adopting values as we learn language is familiar to those adults who are interested in languages other than their own. It is also part of the experience of anthropological field work, as the following passage testifies.

General behaviour, attitudes, and values are not taught by any formal training. These are inextricably bound up with life in the society and become unconsciously adopted by any one fully partaking in social life. Even a European, when speaking the language and trying to enter into their social activities, finds himself unconsciously taking for granted values that he never had before and which are certainly not to be found in European life. They seem to follow naturally from the social situation and to be bound up with language itself.

From the very earliest then children learn language for and in communication with others. Such a view of language development is scarcely novel, but it needs to be emphasized because it points a paradox in Piaget's account of the linguistic development of children. Piaget claims that egocentric speech precedes social speech, that though they learn words from others, children use them to speak as it were for themselves, before they begin to communicate with others. This seems an uneconomic and slightly illogical theory which is not really necessarily forced on us by the empirical evidence,
and Vygotsky differs fundamentally from Piaget in his account of the genesis of speech and language. Moreover, Piaget has conceded many of Vygotsky's points.

Vygotsky, having taken the position that "Speech for oneself originates through differentiation from speech for others", 2


comments:
"Our results must seem paradoxical from the point of view of Piaget's theory: The weaker the child's contact is with the group - the less the social situation forces him to adjust his thoughts to others and to use social speech - the more freely should the egocentrism of his thinking and speech manifest itself. But from the point of view of our hypothesis, the meaning of these findings is clear: Egocentric Speech, springing from the lack of differentiation of speech for oneself from speech for others, disappears when the feeling of being understood, essential for social speech, is absent." 3

3. Ibid. p. 137.

Writing of the experiments which lie at the centre of his book, Vygotsky says, "The purpose of all three series of experiments was to eliminate those characteristics of egocentric speech which bring it close to social speech. We found that this always led to the dwindling of egocentric speech. It is logical, then, to assume that egocentric speech is a form developing out of social speech." 4

4. Ibid. p. 138.
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now, since egocentric speech is for Vygotsky social speech being adapted as inner speech, it follows that those forms of thinking which make any use of language or other forms of symbol grow out of the culture. To say that social speech precedes inner speech is to say that cultural speech precedes symbolic thinking, which is indeed created from it. This suggests that culture may determine our thinking because it provides us with the tools of thought. We do not clothe our ideas in symbols, but rather learn our ideas through symbols, a point which Cooley puts rather well.

"A word (he writes) is a vehicle, a boat floating down from the past, laden with the thought of men we never saw; and in coming to understand it we enter not only into the minds of our contemporaries, but into the general mind of humanity continuous through time. The popular notion of learning to speak is that the child first has the idea and then gets from others a sound to use in communicating it; but a closer study shows that this is hardly true even of the simplest ideas, and is nearly the reverse of truth as regards developed thought. In that the word usually goes before, leading and kindling the idea - we should not have the latter if we did not have the word first." 5


In a broad sense we may say that language is a symbolic representation of culture, and this might lead us to the conclusion that the learning of language is merely a mechanism by which we are indoctrinated into culture, a means of inducing mental conformity. We may maintain our view of education as a form of social control.
and suggest that the development of language is the moulding of the mind. Cultural understandings would then dominate our behaviour, largely because they dominate our language.

Starting from Vygotsky's observation that "the meaning of every word is a generalisation or a concept", we might suggest that the learning of language is a process not merely of acquiring means of communication, but also of concept formation. Our behavioural environment and the entire cast of our thinking would then be determined, or at least deeply influenced, by our language. Such a view is sympathetic to the theories of Sapir and Whorf in linguistics, and to the movements in psychology which have studied social determinants of perception.

To assess how far language determines thought, we must consider the development of egocentric speech from social speech. Here I shall follow and comment upon Vygotsky. In his view vocal egocentric speech becomes the inner speech of thought. "Inner speech is for oneself; external speech is for others. It would indeed be surprising if such a basic difference in function did not affect the structure of the two kinds of speech. Absence of vocalisation per se is only a consequence of the specific nature of inner speech, which is neither an antecedent of external speech nor its reproduction in memory but is, in a sense, the opposite of external speech. The latter is the turning of thought into words, its materialisation and objectification. With inner speech, the process is reversed; speech turns into inward thought. Consequently, their structures must differ."

7. Ibid. p. 131
It is not possible in the time available to probe Vygotsky's position as deeply as it deserves. Basically however, it is this: egocentric speech is a stage in the process of the development of inner speech, of the "inward aspect of language, the side turned toward the person, not toward the outer world."  

This inner language is the language of thinking, and it is constructed out of the language of communication. But it is not structurally the same as the language of communication. We forge in communication the tools we use in reflection, but the process is one of improvisation. It may be compared to a problem which we solve by using a chair as a step ladder and a bicycle pump to reach out with. A chair is not designed for this purpose nor is a bicycle pump designed as an extensible reaching stick. In the same way, the language we use in thinking strains the language of communication to serve our own needs. We build a new structure from the elements of the old.

This difference of structure between the language of thought and that of communication is a vital point. Vygotsky treats it as follows:

"Inner speech is not the interior aspect of external speech - it is a function in itself. It still remains speech, i.e. thought connected with words. But while in external speech thought is embodied in words, in inner speech words die as they bring forth thought. Inner speech is to a large extent thinking in pure meanings. It is a dynamic, shifting, unstable thing, fluttering between word and thought, the two more or less stable, more or less firmly delineated components of verbal thought. Its true nature and place can be understood only after examining the next plane of
verbal thought, the one still more inward than inner speech.

"That plane is thought itself. As we have said, every thought creates a connection, fulfills a function, solves a problem. The flow of thought is not accompanied by a simultaneous unfolding of speech. The two processes are not identical, and there is no rigid correspondence between the units of thought and speech. This is especially obvious when a thought process miscarries - when, as Dostoevski put it, a thought 'will not enter words'. Thought has its own structure, and the transition from it to speech is no easy matter." 9

9. Ibid. 149.

I am not entirely happy with Vygotsky's distinction between thought and word here, but my final analysis will not depend upon it. What seems to be important is the principle of differentiating structures. Following Vygotsky for the moment, we may distinguish three planes, each with its own structure:

1. Thought
2. Inner speech.
3. The speech of communication.

To these we may add a fourth structure, that of culture. We are dubious about the relationship proposed between thought and inner speech, but this is not of vital importance to us since it is the relationships between culture and communication and inner speech which primarily concern us.

Here we find first a complex of common understandings which we have called culture. Culture has a structure of its own. It is not composed of discrete understandings but of patternings of understandings. These complexes cluster round cultural
values and institutions. Thus, for example, in our own society we have the institution of Christmas, and round it there clusters a complex of Christmas understandings. One might say that the structure of culture is psychological in principle, and not unlike the complexes of depth psychology.

Now, when these understandings are translated into the language of communication, their structure is changed, for language has its own structure, a logic or syntax. Thus even in the language of communication, we may think. Indeed, literature may be regarded as a species of thinking in the language of communication. Within the discipline and order of languages, we may establish new relationships. For example, adjectives may be attached to unusual nouns, predicates to unaccustomed subjects. We are able to talk of a golden mountain, not because we have experienced one, but because the adjective golden may be attached to the noun mountain according to the structural principles of language, and being so attached it is capable of raising in our minds a new image.

In short, the grammatical structure of language makes it capable of forging relationships not implied in the culture. Much literature achieves its effects in this way. One may say that art depends upon the use of a medium which has structural principles of its own, independent of those of the culture and capable of interacting with these. Thus language can be used as a calculus of thinking.

Now, the inner language of personal thinking seems to me to differ from the language of communication principally in achieving a compromise between psychological, cultural and grammatical structures. Words can be used in personal and cultural connotations, and the grammar of language can be adopted or abandoned at will. Whether it is possible to distinguish between inner language and
thought as Vygotsky does, I am doubtful, but the problem is not one which we need to resolve here.

For our purposes, it is enough to suggest that in the language of communication and in the inner language, it is possible to establish relationships which are not already found in the culture. Language, though created from culture and emerging from common understandings, comes to be a thing in itself with a potentiality as a calculus. Thus, it allows us to handle the ideas of our culture in an active way, and makes culture a resource rather than a determinant. Culture becomes a medium in which we work. Of course, it is clear that the possibilities it offers us cannot be unlimited. A sculptor must come to terms with his block of marble. But we cannot say that the image he will fashion is already implicit in the stone. Because of symbols, culture confronts man as the medium confronts the artist, providing him with the possibility of being creative.

Where does education enter into this picture? Well, of course, education helps to elaborate language and gives us a greater command of the structures of thinking we have just now distinguished. But the matter goes far deeper than that, for education has traditionally been concerned with a particular kind of tradition, the academic or scientific or, since English is deficient here, the Vitenskapslig.

The academic disciplines are a kind of institutionalised public thinking. In mathematics, the sciences, history and philosophy we create highly artificial structures which are from the outset designed for their effectiveness as tools of thought rather than as media of communication. These structures offer disciplined paradigms of ideal thinking. We do not think logically, rather we submit our thoughts to the discipline of logical analysis. Trial and error is natural, but scientific experiment guided by hypotheses
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is an exquisite refinement of trial and error. If the arts represent one pinnacle of the creative achievement of men, the academic disciplines, properly understood, represent the other. Barzun has called the academic tradition "intellect", and has characterized it thus:

Intellect is the capitalized and communal form of live intelligence; it is intelligence stored up and made into habits of discipline, signs and symbols of meaning, chains of reasoning and spurs to emotion - a shorthand and a wireless by which the mind can skip connectives, recognize ability, and communicate truth. Intellect is at once a body of knowledge and the channels through which the right particle of it can be brought to bear quickly, without the effort of redemonstration, on the matter in hand... intelligence wherever found is an individual and private possession; it dies with the owner unless he embodies it in more or less lasting form. Intellect on the contrary is a product of social effort and an acquirement.10


Within the culture itself there have been developed institutionalized modes of creativity, of which the most important are the arts and the sciences. Creativity is possible in these modes because they provide flexible conceptual frameworks, calculuses and logics which are not inert but on the contrary highly volatile and suggestive of innovation. That such structures are the means of enhanced freedom and individuality, Durkheim has hinted.
members does not permit individuals to judge freely the concepts that the society itself has elaborated and where it has put something of its character. Such constructions are sacred to the citizen. Furthermore, the history of scientific classification is, in the last analysis, the very history of the steps through which this element of social affect has progressively weakened, leaving more and more room for the reflective thinking of individuals. 11


This reflective thinking of individuals is the key to innovation and creativity, and in reflective thinking the individual and the cultural come to terms. If I am right in seeing academic disciplines as important modes of reflective thinking then it is clear that education has much to do with ensuring that individual and culture meet in a way favourable to creativeness. Before we examine the role of education in detail, however, we must return to the theoretical problem posed by the separation of the two conceptual frameworks, one of individual determination and the other of social determination.

Within the conceptual framework of social determination, the two principal factors in human behaviour are culture, that is the shared understandings and ideas which come to the individual as a member of the social group, and symbolic systems, which are aspects of culture with logics of their own. The symbolic systems provide calculuses of reflective thinking, and present themselves as resources for the individual.
If we now construct a model for individual behaviour, we shall find that symbolic systems enter into it and mediate between the culture as a body of ideas and the action system of the individual actor.

In this individual action system, the concept of motivation is fundamental. As Vygotsky says, "Thought itself is engendered by motivation, i.e. by our desires and needs, our interests and emotions. Behind every thought there is an affective-volitional tendency, which holds the answer to the last 'why' in the analysis of thinking." 12 Of course, motivation in the mature individual can no longer be accounted for in purely individual terms since it involves cultural values. These values, however, have themselves been filtered through symbolic systems, so that our model is preserved.

By learning is implied here the capacity to acquire information, skills, etc., the store element in the performance of the individual. By intelligence I mean primarily the capacity to adduce relationships and to make imaginative projections. This imaginative aspect of intelligence corresponds in a broad way to the creative or divergent intelligence studied by Getzels and Jackson, 13 and

is implied in the final stage of development noted in Inhelder and Piaget's *Growth of Logical Thinking*, a stage at which the thinker can handle the hypothetical as well as the actually existent.

In the individual action system, then, learning and intelligence work in the service of motivation upon the behavioural environment and in developed cultures a highly significant, or even dominant, element in the behavioural environment consists of symbols and symbol systems. Many of these symbolic systems can be used creatively as calculuses of thinking. They serve the individual as resources in learning and as media for the creative use of intelligence.

In the social action system the shared ideas or conformities of culture crystallize into symbolic systems. In so far as these symbolic systems achieve the effectiveness as a calculus we have mentioned above, they make culture a resource rather than a determinant of thinking. In so far as the symbol systems are inadequate as tools of thinking, the culture they embody will tend to work more as a determinant and less as a resource.

Of course, any tool of thinking has its limitations, and the freedom conferred by symbols is a relative one. Yet I cannot feel that it is helpful to speak of symbol systems and the cultures embodied in them as if they restricted freedom. They make freedom possible - to some extent. In a sense they place limits on us, but only in the sense that an aeroplane limits where we can fly. Although it is true that we can only fly in the part of the sky where our aeroplane happens to be, yet without it we could not fly at all. The relation of symbolic systems to creative thinking is analogous to the relationship of aeroplanes to flying. It does not seem helpful to regard them as placing restrictions on thinking.
It is now possible to marry our two schemes, the determinism of psychology and the determinism of sociology. Sociology is concerned with the social determination of behaviour, and by implication with the social determination of conformity. Conformity gives rise to symbolic systems. Thus culture may be observed in two modes, as patterns of behaviour and as systems of symbols. These systems of symbols constitute matrices or fields, which may be relatively inert or relatively dynamic systems. A dynamic symbolic field is one which readily produces creative innovation, when an individual, directed by motivation, enters into the system equipped with a capacity for learning and intelligence. The existence of such individuals can be studied within the framework of psychology. In the present state of knowledge at least, we must regard the interaction of individual intelligence with symbol system as constituting an area of freedom or indeterminancy.

Indeed, it is doubtful whether we can ever predict creative responses in any normal sense. If we are able to predict what Einstein will think before he thinks it, then we have created it, not Einstein, and he will go on from our position, rather than start afresh. To predict the creative is to make it happen.

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The time has now come to apply our findings to the practice of education. It is not possible in the time we have to follow out in detail the implications of our conceptual framework for the sociological analysis of the school and classroom, and I believe that the best way to approach the general problem of application is to present to you a series of questions.

First, there are questions which involve value judgements rather