

COMMUNICATION, GRICE, AND LANGUAGELESS CREATURES

1.1 Introduction

Language with its complex syntactic and semantic structures is perhaps the most obvious mode of communication. However, it does not follow that it is the only one. In this paper it will be shown that the possibility of languageless creatures communicating in the full sense (i.e. in the human sense) under relevant circumstance does exist. And to this end an account of the meaning of an utterance (vocal or non-vocal) will be explicated in terms of the utterer's (sender's) intention to produce an effect of a broadly cognitive or epistemic kind in an audience and the audience's recognition of this intention—a position that draws heavily on Grice's paper 'Meaning'. Further the relevant circumstances under which the languageless creatures could be said to communicate will be given. This will be done under the headings (1) communication and transmission of information, and (2) communication and intention.

1.2 Communication and Transmission of Information

The notion of communication is central to many disciplines like mathematics, biology, and ethology. Communication is generally regarded as transference of information by means of emission, conduction and reception.

However, there is variation between disciplines over the origin or destination of information, the nature of the information

and so on. Each discipline defines communication according to its own needs; this makes the nature of communicative behaviour correspondingly ambiguous. This results in disagreements over the nature of communication such that what is termed as communicative behaviour in one discipline need not be accepted by the others. For instance, communication may refer to :

- (1) interaction between A and B where A and B are not living things—for instance, interaction between pebble A and pebble B.
- (2) action of organism A on organism B—for instance, sexual activity amongst spiders.
- (3) interaction between individual A and individual B as in human action.

So, any interaction between A and B regardless of the nature origin or destination etc. might count as communication, depending on the definition relied on.

In the present context, however, I would like to draw a distinction between interaction amongst living things and interaction between non-living things. Living things are negative entropy systems¹ and are not the same as physical objects like rocks, tables and so on. A pebble and a slug are similar in that they both possess or are material bodies that exist in space and time which enables us to say that the pebble and slug have physical existence. A slug, however, is different from a pebble in that it is organised in a way that enables it to behave in a manner that is conducive to the achievement of certain ends—namely, the survival of the individual and survival of the species. Accordingly, interaction amongst organisms are such that they contribute to the achievement of certain ends. By contrast, interactions between non-living things—for instance, between pebble A and pebble B—are purely physical interactions

and are not directed towards survival or any other ends. That is, when non-living things interact with one another there is physical contact and an exchange of energy that may result in a change of state (for instance, breaking, chipping, or cracking) depending on the force with which the contact takes place. In other words, when there is a physical interaction there is an input of energy emanating from source (pebble A) resulting in an output in the terminus (pebble B) that is in proportion to the input. However, since the resulting output is in relation to the input the output may be said to carry information about the input. As a consequence, physicists may refer to such interactions as communication. To talk of communication between non-living things may be convenient in some contexts—i.e., in the context of the physical science; however, this does not lead us to conclude that non-living things may communicate in the further sense that communication is interaction directed towards the achievement of certain ends.

Interactions that are directed towards the achievement of ends like survival of the individual and survival of the species, however, are not always intentional. As just stated, all living things are negative entropy systems and survive to delay thermodynamic equilibrium by constantly interacting with their environment. The information exchanged during these interactions is such that it allows the selection of the appropriate response by the organism. However, the information-transmission and information reception are not the sort of transmission and reception that occurs in human communication in that the interacting organisms do not have an insight into the ends served by their behaviour. In other words, the behaviour exhibited by organisms during interactions, resulting in various activities like feeding, predator attack, sexual reproduction, and territorial protection is not intentional. On the contrary, their behaviour may be

drawn from a behavioural repertoire that is endogenous to the members of a species as in the case of the new born gull that responds immediately after birth to certain visual stimuli like the red spot on the adult gull's beak (cf. Alcock, 1975). Or the behaviour could be a learnt response, that is, the organism could have acquired the responses due to neural mechanisms present in its brain that allow it to store information about situations that are biologically significant—i.e., in situations that contribute to its fitness for survival—as in the case of toads that learn to distinguish millipedes from flies, ducklings that learn to recognise their mothers a few days after hatching (cf. Alcock, 1975) and so on. The transmission and storage of information that occurs in such interactions — for instance, between a millipede and a toad — however, is not an intentional exchange as in the case of x informing y that he — i. e. x — is a Sumo wrestler.

Communication in the sense it occurs amongst humans (in what I will call the full sense) is the transference of information that is intended to affect the recipient's belief system and is seen by the recipient of the information as so intended. That is to say, it is an intention-dependant activity where the transmitter (sender) means to do something by means of audience-directed utterance; that is, to produce a belief in an audience. And, communication becomes possible when the intention of the transmitter is recognised by the audience. To put it another way, communication in the full sense is an interactive process where the purpose of the sender (x) is to induce/alter the belief (b) of the receiver (y) and recognised as so intended on the part of x by y . For instance, when x informs y that nuclear weapons are hazardous to human life and the environment he is doing so with the intention of inducing belief b —namely, nuclear weapons are hazardous to human life and the environment — in y ; and communication in the full sense is an interactive process that

involves the intention to affect another whether by way of getting something done, showing approval, disapproval etc.

It follows from what has been said so far that there are (apart from the purely physical sense) two levels of communication – namely, communication in the weak sense and communication in the full sense. Communication in the weak sense refers to behaviour directed towards certain ends i.e., survival of the individual and survival of the species – where the party (parties) is (are) not aware of and so have no insight into the ends towards which its (their) behaviour (behaviours) is (are) directed. This level of communication is to be found in all living organisms that strive to delay decay by interacting with the environment and amongst animals in activities such as territorial protection, sexual reproduction etc. And communication in the full sense (as it occurs amongst humans) is an intentional activity where the parties to it are aware of the goals.

1.3 *Communication and Intention*

In the previous Section I described communication in the full sense in a manner which suggests it is possible without the use of language, the meaning of a sound or gesture being unpacked in terms of the intention of the sender. In this Section I shall give an account of the notion of meaning in terms of that of intention (a version of what is known as communication-intention theory) in order to provide a framework for communication which does not presuppose linguistic meaning or, therefore, the use of language.

Most of what follows in this Section is derived from the approach that has been developed by H. P. Grice in his paper 'Meaning'. However, before going on to present this specific theory of meaning I would like to say a little more about the

approach of communication – intention theory. Generally the communication–intention theorist presents his arguments in two stages :

- 1) an account of communication–intention is given that does not presuppose any notion of linguistic meaning;
- 2) an account of linguistic meaning is then developed which makes use of that account and which also includes other elements, including an account of convention.

Only the former account of communication–intention is relevant here. The fundamental notion in that account is the utterer meaning something on a particular occasion by an audience-directed utterance. The utterance can either be vocal or non-vocal; for instance, it could be some sort of behaviour like a grimace, shrug and so on. What is meant by an utterance is further unpacked in terms of the intention with which it was produced and is seen as being seen as produced by the intended audience.

According to the first stage of the communication–intention theory an individual acts on his intention to communicate with regard to an audience by uttering *x*; if he is successful in fulfilling his intention by producing an effect in an audience it can be said that he has been understood by the audience. Once an individual has been successful in communicating through an utterance on one occasion, further attempts to communicate the same information in the same way are likely to succeed more easily. A habit of communicating in this way is thus set up. This in turn suggests the possibility of establishing convention-based utterances.

The foregoing remarks of a general nature set the stage for putting forward Grice's theory of meaning.

Grice starts his paper by drawing a distinction between natural and non-natural meaning (the latter being abbreviated to meaning NN). The natural/non-natural distinction is formulated specifically to replace the traditional distinction between natural and conventional signs. Examples of signs that mean naturally are :

- a) "smoke means fire" ;
- b) "black clouds mean rain" ;
- c) "spots mean measles" etc.

and examples of signs that mean by convention are :

- a) raised hand to stop traffic ;
- b) thumbs pointing upwards to mean OK; and so on.

He finds the distinction unsatisfactory on two counts :

- a) Some things – for instance, gestures which mean NN something are not signs and some things which mean NN are conventional only if the term is stretched to a great extent – for instance, an index finger pointing at the sky might mean "kill the prisoner" ;
- b) some things that mean naturally are not signs of what they mean – for example : "those clouds mean you won't be able to get to Lancaster on time".

This question about the distinction between natural and non-natural meaning is, I think, what people are getting at when they display an interest in a distinction between 'natural' and 'conventional' signs. But I think my formulation is better. For some things which can mean NN something are not signs (e. g. words are not) and some are not conventional in any ordinary sense (e.g. certain gestures); while some things which mean naturally are not signs of what they mean.

Grice, therefore, prefers to talk in terms of a natural/non-natural distinction. Examples of natural meaning are :

- a) "those spots mean measles" ;
 - b) "the recent budget means we shall have a hard year" ;
- and examples of non-natural meaning are :

- a) "Three rings on the bell means that the 'bus is full'."
- b) "That remark, Smith couldn't get on without his trouble and strife', means that his wife was indispensable."

ibid, 39

On Grice's distinction between natural and non-natural meaning, the meaning can be contrasted in five ways :

- 1) N (natural) - "x (those spots) means p (measles)" does entail p.
- NN (non-natural) - "x (three rings) means p (the bus is full)" does not entail p.
- 2) N - From "those spots mean measles" I cannot argue to some conclusion about "what is meant" by those spots.
- NN - From "three rings..." I can argue to some conclusion about "what is meant" by this statement - i e., three rings ...
- 3) N - it cannot be argued that someone meant something or the other by those spots.
- NN - it can be argued that someone meant the bus was full.

- 4) N — the example cannot be restated in which the verb 'mean' is followed by a form in sentence or phrase in inverted commas; one cannot say, "these spots mean 'measles'."
- NN — the example can be restated where mean is followed by a phrase in inverted commas: "Those three rings mean 'the bus is full'".
- 5) N — an approximate reformulation can be found beginning with the phrase "the fact that...": "the fact that he has those spots means that he has measles."
- NN — the reformulation with the phrase "the fact that..." does not give the same meaning. "The fact that the bell has been rung three times means 'the bus is full'" is not a restatement of the original example.

Grice next undertakes the task of attacking Stevenson's causal account of meaning. According to the Stevensonian account, of meaning for a sign *x* to mean something non-naturally *x* must fulfill the following:

(a) *x* must have a tendency to produce in an audience some attitude; the attitude can be cognitive or otherwise.

(b) *x* must also have tendency, in case of a speaker, to be produced by that attitude; these tendencies are dependent on an elaborate process of conditioning attending the use of sign *x* in communication.

Grice, however, objects to the theory on three grounds :

(1) Consider the following :

Many people put on a tail-coat when they think they are about to go to a dance. And it is also the case for people generally, when they see someone with a tail-coat, to surmise that he is going to a dance. The tail-coat has thereby the tendency to produce an attitude, in this case cognitive, in an audience. Yet though such a cognitive attitude is produced, according to Grice it is not at all clear that putting on a tail-coat means that one is going to a dance. Neither is it of any help to invoke dependence on an elaborate process of conditioning attending the use of the sign in communication; for, if the latter phrase is taken seriously this leads to circularity. That *x* has meaning in the non-natural sense if used in communication cannot be denied. However, this does not tell us anything about the nature of meaning. In Grice's words,

Let us consider the case where an utterance, if it qualifies at all as meaning NN something will be of a descriptive or informative kind and the relevant attitude, therefore, will be of a cognitive one, for example, a belief.. Does this satisfy us that putting on a tail-coat means NN that one is about to go to a dance...? Obviously not...if we have to take the second part of the qualifying phrase ... then the account of meaning NN is obviously circular. We might just as well say 'X has meaning NN if it is used in communication' which though true is not helpful.

ibid : 41

(2) The second difficulty is this :

To say Jones is an athlete generally tends to produce the belief that Jones is tall since as a matter of fact most athletes are tall. However, that Jones is an athlete does not entail that

Jones is tall. How is the irregularity as expressed by the example to be avoided?

According to the Stevensonian account, meaning is being explained in terms of attitude – that can be cognitive or otherwise. Applying this to the example, calling Jones an athlete produces the cognitive attitude that Jones is tall. If this is the case, this is equivalent to saying “Jones is an athlete” means that Jones is tall. However, that Jones is athlete does not entail that Jones is tall. Equally, saying “Jones is a non-tall athlete” involves one in self-contradiction, according to the given account of meaning. Yet, it is a fact – a contingent one – that most athletes are tall.

Stevenson resorts to linguistic rules in order to circumvent this difficulty; a permissive rule that allows one to say “athletes may be non-tall” – meaning thereby that one is not prohibited by rule to speak of “non-tall athletes”. But, as Grice replies,

... why are we not prohibited? Not because it is not bad grammar, or is not impolite – so on, but presumably because it is not meaningless...

ibid : 43

However, this invocation of linguistic rules produces a circularity, for rules of meaning are precisely what are at issue.

3) Finally, the causal theory provides one with an account of the *standard or general* meaning of a sign :

A further deficiency in the causal theory just expounded seems to be that, even if we accept it as it stands we are furnished with an analysis of statements about the *standard meaning or meanings in general* of a ‘sign’

ibid : 42

It does not tell us anything about what a particular sign means as used by a speaker on a particular occasion :

No provision is made for dealing with statements about what a particular speaker or writer means by a sign on a particular occasion (which may well diverge from the standard meaning of a sign); nor is it obvious how the theory could be adapted to make such a provision...the causal theory ignores the fact the meaning (in general) of a sign needs to be explained in terms of what users of the sign do mean by it on particular occasions; and the latter notion which is unexplained by the causal theory is in fact the fundamental one.

ibid : 42

Having rejected the causal account of non-natural meaning, Grice proceeds with his own formulation - namely, the view that the meaning of a sign can be explicated in terms of the utterer intending to produce some effect in the receiver by means of the receiver's recognition of this intention. The account can be broken into three related intentions which are called I1, I2 I3 respectively. Accordingly, x means something by utterance U (which may be vocal or non-vocal) if :

- a) I1 - intends to produce a certain effect in an audience y by uttering U.
- b) I2 - intends that y shall recognise x's intention I1.
- c) I3 - intends that this recognition on the part of y of I1 shall act as y's reason for the occurrence of such an effect.

According to Grice, an analysis of meaning is to be carried out in terms of three intention-operations I1, I2 and I3. I1, the first of the three intention-operations is self-evident, giving that U means something if U is intended by x - its utterer-to

produce a certain effect in an audience; to state what the effect was will be to state what was meant by U. However, I1 on its own will not suffice for meaning.

I might leave B's handkerchief near the scene of the murder in order to make the audience y (in this case, the detective) believe (the effect) that B is the murderer. This fulfils the intention-operation as specified in I1. But it would be incorrect to arrive at the conclusion that the handkerchief meant anything or that I meant that B was the murderer by leaving the handkerchief since, even if the detective inferred from the presence of the handkerchief that B was the murderer, it would be independent of a knowledge of my intentions.

...we should not want to say that the handkerchief (or my leaving it there) meant NN anything or that I had meant NN by leaving it that B was the murderer.

ibid : 43

An analysis of meaning, therefore, needs the second intention-operation I2. Not only must the intention-operation I1 be fulfilled but I must also intend I2 that I1 be recognised.

...we must...add that, x to have meant NN something, not merely must it have been uttered with the intention of inducing a certain belief but also the utterer must have intended an audience to recognise the intention behind the utterance.

ibid : 43

That is, I must intend I2 that the detective shall recognise my intention I1—my leaving the handkerchief near the scene of the murder to make him – the detective – believe that B was the murderer.

This is still not enough. According to Grice, one can be described as deliberately and openly letting the detective know that B was the murderer even when one is not telling him this. How is 'deliberately and openly letting someone know' be distinguished from 'telling'? Grice considers the following example :

a) I show Mr X a photograph that pictures Mr Y exhibiting undue familiarity to Mrs X.

b) I draw a picture to this effect (Mr Y behaving towards Mrs X in a certain manner) and show it to Mr X

Grice argues that in (a) the photograph cannot be regarded as meaning anything NN despite the fulfillment of intention-operations I1 and I2; whereas, the drawing in (b) is to be regarded as meaning NN something.

Example a : In this example my intention to make Mr X believe that there is something between Mrs X and Mr Y is irrelevant. Mr X would have been led to the same belief had the photograph been left lying around.

Example b : In this example my intention will make a difference to what Mr X comes to believe. Whether Mr X considers my picture to be a work of art or as alluding to Mrs X's relationship with Mr Y is essential to the effect that my picture will have on his beliefs. This is not so in the case of my showing a photograph to Mr X.

This introduces the third intention-operation I3, where x (utterer) intends that the recognition on the part of y (receiver) of I1 shall act as y's reason for the occurrence of such an effect. So in meaning NN something by that picture, I must intend not only I1 and I2 but also I3 that Mr X's recognition of my intention will count as the reason for the intended effect

occurring—in this case, the belief of a relationship between Mrs H and Mr Y.

Grice regards the three intention conditions I1, I2 and I3 as jointly sufficient conditions for communication. However, Strawson in his paper 'Intention and Convention in Speech Acts' argues that the three intention conditions are not sufficient for communication. Such a situation—where the three intention conditions are satisfied but which is not an instance of communication—is elucidated by Strawson in the following manner :

a) Satisfaction of I1

x intends by a certain action to induce a belief that p in y.

b) Satisfaction of I2

Accordingly, x arranges convincing looking evidence that would induce the belief that p in a place where y is bound to see it. At the same time x knows that y is watching him at work—i.e. arranging evidence—and also knows that y does not know that x knows that y is watching him arranging the evidence. However, x realises that y will not take the evidence arranged by him as natural evidence that p; on the contrary, he realises and intends that y will take his arrangement of evidence as ground for thinking that x intends to induce in y the belief that p. In other words, x intends y to recognise his intention I1.

c) Satisfaction of I3.

x knows y has grounds for thinking that x would not wish to make him—i.e. y—think that p unless it were known to x to be the case that p. Consequently, y's recognition of x's intention to induce in y the belief that p will be a sufficient reason for y to believe that p—which satisfies condition I3, namely, x intends

that y's recognition of his intention I3 will function as y's reason for the occurrence of such an effect.

As it stands, according to Strawson, x's utterance may have succeeding in bringing y to acquire a belief; however, it is not a case of attempted communication. That is to say, the audience-y may assume that x is trying to make him believe something but he will not see x as trying to tell him - i.e. as communicating to him - something. Similarly, x may have intended to produce the belief and may have intended y to recognise that intention. Also he may have intended that this recognition would act as part of y's reason to have the belief. But x cannot be said to be communicating because he cannot even be said to have tried to communicate. Accordingly, Strawson introduces the further intention condition I4 where x not only intends y to recognise his - i.e. x's - intention to get y to think that p but also intends y to recognise his - i.e. x's - intention to get y to think that p. So, for x to have meant NN something by his utterance x must have intended I4 that y should recognise his I2 intention. So x means NN something by his utterance U if x :

- I1 : intends to produce a certain effect (belief, response, etc.) in y,
- I2 : intends that y shall recognise x's intention I1,
- I3 : intends that this recognition on the part of y shall act as y's reason for the occurrence of such an effect, and
- I4 : intends that y shall recognise x's intention I2.

Besides Strawson, one of the major critics of Grice is Searle. In his book *Speech Acts* Searle claims that Grice's account is incomplete since it fails to take into account the notion of convention. In other words, meaning is not just a matter of intention but also of convention. For instance, when x utters U

there is not only the intention to produce some effect in an audience – y – by means of the recognition of this intention but there is also a connection between what x utters and what U, which x has uttered, means in the language according to the convention governing that language. It is this connection – i.e., the connection between x meaning something when he utters U and what U means in a language – that Grice has failed to show,

. it fails to account for the extent to which meaning can be a matter of convention. This account of meaning does not show the connection between one's meaning something by what one says and what that which one says actually means in that language.

Searle, 1969 : 43

Searle illustrates this failure in the Gricean account with an example. An American soldier – x – is captured during World War II by Italian troops. He would like his captors – y – to believe that he is a German soldier. He could make y believe that he is German by telling y that he is German in German or Italian but he does not know either language. However, he does remember a line of a German poem that he memorised at school. Hoping that y does not know German he utters U – “Kennst du das Land, wo die Zitronen blühen ?” (“Knowest thou the land where the lemon trees bloom ?”) with the intention of deceiving y into thinking that he is a German soldier.

According to Searle, in applying the Gricean notion of meaning to the American soldier example one is led to conclude that the meaning of “Kennst du das Land, wo die Zitronen blühen ?” is “I am a German soldier”. However, this is incorrect, since according to the conventions of German “Kennst du das Land, wo die Zitronen blühen ?” means “Knowest thou

the land where the lemon trees bloom?" and not "I am a German soldier". Moreover, part of what is involved in uttering is not just the production of some effect in the audience (what Searle calls the perlocutionary effect) but also getting the audience to think that this is what the words actually (i.e., regularly) mean in the language in which the utterance is uttered – in this case German. Accordingly, Grice's account fails since according to the account any sentence can be uttered with any meaning as long as the speaker utters it with the intention to produce some effect in *y*.

Searle is correct in so far as he points out that linguistic utterances are closely related to the conventions governing the use of words in that language (i.e., language in which the utterance is uttered). Linguistic utterances normally rely on the conventional meanings of the words uttered and the hearer's knowledge of these conventions. Accordingly, the analysis of the notion of linguistic meaning must include an account of the connection between the utterance and what the utterance means in the relevant language.

Searle, however, is unfair in his criticism of Grice's account as being incomplete on the grounds that it does not include an account of how utterances are related to the conventional meanings they originally have in the language in which they are made, since Grice is not offering an account of linguistic meaning. What Grice is offering in his paper 'Meaning' is an account of meaning that does not presuppose linguistic meaning, or, therefore, language. In other words, it is an account of what a particular utterer means by an utterance (which may be verbal or non-verbal – for instance, gestures – and which does not presuppose any conventions governing their use) on a particular occasion. That is, the account is an account of occasion mean-

ing. And since the account is one of occasion meaning it need not include an account of convention.

Even though the Gricean account deals with pre-linguistic meaning it is, however, possible to elaborate it into one of conventional meaning. In so far as communication without language is possible it is not the most efficient means of communication, being liable to error, since the meaning of a piece of behaviour is dependent on what the sender intends it to mean and in the absence of convention the receiver has to discover what the sender's intentions are, perhaps through a process of trial and error. For instance, when *x* hops a number of times and points to the forest *x* could mean any of the following by his behaviour :

- a) "Let's have a hopping race to the edge of the forest";
- b) "Let's hunt for a rabbit in the forest";
- c) "Have you seen my rabbit?" and so on.

For communication to take place in such a situation (that is, where the meaning of the behaviour of the communicator is unclear) *y* in the first place will have to discover what *x* intends to convey by his behaviour. He could do this by responding in a way that would suggest to *x* what he takes his - i.e., *x*'s - intentions to be. If *x* behaves in a manner that suggests to *y* that *x* is not satisfied with *y*'s response *y* could vary his response and through this process discover what *x* intends to convey by his behaviour. (Of course, *x* and *y* may be given to deceit and lying; but at this stage I am assuming that *x* and *y* are honest individuals and do not lie. Unless there is this assumption it is difficult (conceptually) to see how *x* and *y* could communicate anything at all.) *Y*, for instance, on seeing *x* hopping and pointing to the forest can respond by hopping to the edge of the forest. If *x* joins him in hopping to the edge of the forest then

y may conclude that x did mean "Let's have a hopping race to the edge of the forest" by his utterance U. However, if x does not join him but carries on hopping and pointing to the forest y could vary his response by bringing his bow and arrow. If x picks up his bow and arrow and starts walking towards the forest this suggests that x's intentions were "Let's go and hunt for a rabbit in the forest".

The discovery of the sender's intentions on the part of the receiver is made simpler when the sender and receiver are not strangers and the receiver knows something of the sender's personality. For instance, if individual y knows of individual x that he (i.e., x) is a coward and never goes hunting (alone or with others) he may not consider "Let's go hunting for a rabbit in the forest" as one of the intentions that x may have been trying to convey to him through his behaviour. However, if x and y are total strangers the process of discovering x's intentions for y becomes more difficult, though not impossible.

Once x succeeds in communicating his intention "Let's go hunting for a rabbit in the forest" I_H through his behaviour B_H - hopping a number of times and pointing to the forest - he may hope to communicate I_H with B_H on a later occasion, thereby setting up an individual habit of communicating I_H through B_H . Over time other members of x's group may adopt the same habit of communicating I_H through B_H . So now there is a habit of communicating a certain type of intention through a certain type of behaviour amongst the members of a community. Even though there might be such a habit in itself it is not a convention. However, over a period the habit may acquire a normative aspect so that this becomes the correct way of expressing that intention. In this way, a system of conventional meanings might be set up, making possible the contrast between

the meaning of what was said (for example "Knowest thou the land where the lemon trees bloom?") and what the speaker meant to convey in saying it (for example, "I am a German soldier").

In the above paragraphs I have suggested a possible direction in which the Gricean account may be elaborated into conventional meaning. What I have given is not in any way a detailed account of the development from occasion meaning to conventional meaning since the aim of this paper is to suggest the relevant circumstances under which languageless creatures may be said to communicate. However, in giving the rather brief account of how conventional meaning may be developed from meaning that holds between sender and receiver on a particular occasion I have indicated the way in which this thesis might be extended to include an account of the genesis of language. A more detailed account of the move is given in H. P. Grice: "Utterer's meaning, Sentence-meaning and Word-meaning" and Jonathan Bennett: *Linguistic Behaviour*

Besides criticising the Gricean account of meaning as incomplete, Searle raises another criticism against it. According to the Gricean account to say that individual *x* meant something by his utterance *U* is to say that *x* intended to produce some effect in the audience - *y* - by means of *y*'s recognition of this intention. In other words, what is involved in uttering *U* is a matter of eliciting a state of mind in or appropriate behaviour from the audience; that is, it is a perlocutionary act. However, according to Searle not all sentences have perlocutionary effects associated with them. There are many kinds of utterances where what is intended by the utterer is an understanding on the part of the audience and not the production of a state of mind or action in the audience. That is, what is involved in saying something and meaning it in such cases is an illocutionary act and

not a perlocutionary act. For instance, there are no perlocutionary effects associated with greeting, promising etc. To cite one example, when x says "Hello" to y and means it what x intends to produce or elicit in y is not any state or action but the understanding that he - i.e., y - is being greeted. However, there are (Searle admits) some expressions which have perlocutionary effects associated with them. These are expressions like "Get out", "Sit there" etc. For instance, when x says "Get out" to y and means it it is intended by x to produce a certain effect in y - namely getting y to leave. Accordingly, Grice's account at best only handles sentences like "Get out" and not sentences like "Hello", "I promise" and so on :

... Grice's account seems to suit only the last of the three sentences, "Get out", since it is the only one whose meaning is such that in the ordinary case the speaker who utters and means it intends to produce an 'effect' on the hearer of the kind Grice discusses. The meaning of the sentence "Get out" ties it to a particular intended perlocutionary effect namely getting the hearer to leave. The meanings of "Hello" and "promise" do not.

Searle, 1989 : 49

Searle may be correct in pointing out that there are sentences that have illocutionary effects rather than perlocutionary effects associated with them. Searle, however, is unfair in his criticism of the Gricean account as being adequate for dealing only with sentences like "Get out" that have perlocutionary effects associated with them, since Grice is not offering an account of what sentences conventionally mean but one of occasion meaning. Moreover even if one wants to distinguish illocutionary effect (understanding) from perlocutionary effects in non-linguistic communication amongst non-language users there

seems to be no behavioural criteria for establishing whether the audience – y – simply has an understanding of what sender x utters, in contrast to acting. To put it another way, in the case of linguistic communication it is possible to say of y that he may have understood what x has uttered even though he does not exhibit any action on the basis of knowing that he understands the language. In the case of non-linguistic communication amongst non-language users there are no such conventions. Consequently, it becomes difficult to establish whether y has an understanding of x's utterance unless y exhibits some sort of action (what Searle calls perlocutionary effect). Accordingly, it is fair to say that the audience has to exhibit some sort of action in the case of non-linguistic communication between non-language users.

According to the account presented above the meaning of an utterance can be unpacked in terms of the intention with which it was produced. And, since the account concentrates on the nature of the sender's intentions, communication in the full sense through means other than language is possible only if one person can know what another person's intentions are through means other than through the medium of language. It must be possible, therefore, for one person to acquire knowledge of the intentions of another person on the basis of his observation of the other's behaviour. This will be possible, however, only if the behaviour concerned is of the relevant kind i.e. if it is intentional. Not all behaviour, however, is of the required kind. A great deal of the behaviour of living things is goal-directed without being purposive or intentional in the relevant sense. And behaviour of that kind provides no basis for communication; since it involves no intentions there is no possibility of an observer learning what intentions are involved in it.

All living things as living things exhibit behaviour that is teleologically explicable in terms of ends or goals; that is, their behaviour is goal-directed. The behaviour of living things is conducive firstly, to the maintenance of the organism and secondly to the continued existence of the species to which it belongs. That is to say, it is the nature of living things to exhibit goal-directed behaviour : and, regardless of whether an organism is an amoeba, a bug or a caterpillar it will exhibit behaviour drawn from the repertoire of responses available to it as a member of a certain species in responses to varying stimuli which fall within its normal environment, responses that are directed towards certain ends : i.e. the continuation of its own individual existence and that of the species to which it belongs.

However, the goal-directed character of these behaviours should not lead us to conclude that they are intentional or purposive; that is, the organism cannot be said to have an insight into the ends served by its behaviour. To put it another way, the notion of goal-directedness need not always involve purpose (in the sense that the organism has an insight into the ends served by its behaviour) even though purposive behaviour is goal-directed towards ends. As a consequence, some of the behaviours exhibited by animals may be classed as goal-directed though not as purposive. As Taylor says,

... those lower species to which the concept 'action' has no application... are nevertheless such that their behaviour can only be accounted for by teleological although non-purposive laws.

Taylor 1964 : 71

Intentional or purposive behaviour is different from the goal-directed behaviour of living things as living things in that the goals towards which the behaviour is directed are intended by

the organism. In other words, the notion of purposive behaviour carries with it the suggestion of mental awareness of the goals towards which the behaviour is directed. Accordingly, the organism must have some conception of the situation and of the goal towards which it is directing its behaviour so that its behaviour can be appropriate to the achievement of the goal in the light of the situation. In such cases it is natural to say that the behaviour appeared to be mediated by an internal model or picture of the situation in which the behaviour took place, although giving an acceptable account of the internal model is a matter of great difficulty. Consider the following :

a) A baby toad encounters a tiny bug, opens its mouth, flips out its tongue, strikes the bug, and withdraws the tongue with the prey stuck to it.

b) Smith gets the ladder out of the garage, places it under the apple tree, climbs the ladder, picks apples from the tree and places them in the basket.

Both are instances of behaviour that are goal-directed. The first example may be an instance of stimulus-response behaviour of a living thing as a living thing – in that it is a response to a stimulus in a given situation that aids, in this case, the survival of the individual; or, it could be a learnt response due to neural mechanisms present in the brain of the toad that enable it to store information in biologically significant situations and use this information to respond appropriately. The nature of the behaviour in the second example is different in that it involves behaviour that is conducive to striving after a goal retained as an idea. That is, the behaviour is purposive. To put it another way, Smith's behaviour, besides involving bodily movements (for instance, movements of the arms) and directed towards certain ends, is mediated through beliefs. Not only had the behaviour

a certain goal (collecting apples) but it was guided by beliefs like 'There are apples on the tree', 'The apples can be reached with the ladder' and so on.

To pursue purposes is to attempt to bring about a change in the existing state of affairs (or stopping the existing state of affairs from changing) – a change that is so intended by the actor. (There are changes in the state of affairs even when animals behave instinctively as in the case of the amoeba that engulfs an alga and ingests it, since the alga is no longer present. The change, however, is not intended by the amoeba even although its behaviour is directed towards that end.) Intended changes, however, cannot be brought about unless the actor, wishing to bring about the change has some conception of his situation; one that allows him to form some idea of the way he intends to change that situation and to choose means that are appropriate in bringing about the intended change. In other words, the actor must have a conception of his surroundings – that is, of objects around him, the relations between them, how they behave and so on. So purposive behaviour is geared, not directly to the world, but to the actor's inner model of the world – i.e., the actor's beliefs about the world. Accordingly, it can be said that the notion of intention cannot be separated from the notion of belief.

Returning now to the purposive behaviour involved in communication, this is geared to get an audience (y) to believe or do something, to change y 's beliefs; and communication becomes possible when y recognises x 's intentions. In other words, communication becomes possible only when there is mutual perception of intentions. Mutual perception of intentions, however, is possible only if the parties to it see others as having intentions and beliefs, and see themselves as being seen by others as having intentions and beliefs. That is to say, it is not possible

for x to convey his (x 's) intention to change y 's beliefs to y if x does not see y as having intentions and beliefs like himself and also sees himself as being seen by y as having intentions and beliefs; likewise, y can receive x 's intentions as directed towards him by x only if he sees x as a creature like himself as being seen by x as having intentions and beliefs. In short, communication – a purposive activity on a sophisticated scale involving other purposive beings – is possible only if the parties to it have self-awareness and reciprocal self-awareness.

However, before languageless creatures can be credited with the ability to communicate it is essential, in the first place, to establish whether the notion of purpose can be introduced to the behaviour of languageless creatures – i.e., whether languageless creatures possess a conception of their surroundings in the light of which they pursue purposes (the subject matter of a paper I will present at the World Philosophy Congress, 1988). To put it another way, the notion of information exchange in the full sense can be applied to the behaviour of languageless creatures only if the creatures have beliefs and can acquire beliefs in the first place. For instance, it will not be possible for x – a languageless creature – to transmit information intentionally to y that it is going to rain and how y could shelter from the rain etc. if it does not have some beliefs of the sort, 'Black clouds mean rain', 'Caves are good shelters' etc.

1.4 *Conclusion*

It follows from what has been said that communication in the full sense is an intentional activity and communication is possible through behaviour (i.e., without the use of a language) if the behaviour involves intentions. To build a framework for communication amongst languageless creatures it must be possible to see the behaviour of languageless creatures as involving

intentions. To behave purposively is to be guided by beliefs, for it is not possible to pursue a goal with the intention of doing so if one does not have a conception of one's surroundings.

Department of Law **INDIRA MAHALINGAM CARR**
 University College of Wales
 Hugh Owen Building
 Penglais
 Aberystwyth, Dyfed
 WALES (Great Britain)

NOTES

1. See Schrodinger, E. : (1945) *What is Life ?* Cambridge University Press.
2. For a detailed account see my paper " Languageless Creatures and Communication " in *Logical Foundations* edited by Indira Mahalingam Carr and Brian Carr to be Published by MacMillan.

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