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UNDERSTANDING (THE AUDIENCE'S FUNCTION IN COMMUNICATION)

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ABSTRACT

The nature of an audience's performance in a communication episode has been characterised as 'understanding what the speaker means'. It is argued that this can be viewed as being composed of two aspects which are

- i) The recognition of a speaker's communicative intent,
- ii) The interpretation (unpacking) of the utterance, consisting in a constructive inference of a thought from the perception of the utterance.

The concept of understanding involved in the above description is contrasted with the dispositional account of understanding and it is argued that in communication, the understanding of utterances (conventional or non-conventional) is a matter of 'occurrence'.

1. Certain Mechanisms Involved in the Recognition of a Communicative Intent and the Interpretation of a Non-Conventional Utterance.

For a better and deeper understanding of issues related to meaning and communication, it is important to provide an account of a hearer's comprehension of his interlocutor's utterance. Such an account, if satisfactory, would complement a theory of meaning, and therefore would help us to supply a more complete description of human communication. Besides, and perhaps more interestingly, it might help us to learn more about the meaning of an utterance, and somebody's meaning something by it; for an

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account of comprehension would be a description of how the goals of a speaker's communicatively-directed actions are obtained, and which of the elements of an agent's meaning are crucial in the fulfilment of such goals (i.e., the bringing of a hearer to understand something). In what follows, I shall provide an approximation to such an account. My ultimate aim will be to shed some light on the understanding of a sentence (i.e., a conventional and composite utterance whole), but the scope of my investigations will be mainly limited to what is involved in the comprehension of non-conventional utterances. I shall try to make use of empirical evidence, and existing hypotheses, wherever available.

I shall now present two points which will determine my programme in what follows. While I do not consider the acceptance of their truth difficult I recognise the need for arguments, explanations accounting for the choice of these points, and in particular, for the relation between the two. Unfortunately, no such detailed account will be found in this article, as these are being dealt with elsewhere (in press) by the same author. Very briefly, the view held is this: when a speaker S, by uttering something X means something r, a characteristic of such an episode will distinguish it as a 'typical human communication'. The characteristic is the speaker's having an 'intent to communicate', and his displaying this (communicative) intent in the X he utters.

A child's cry **caused** by the over-heated food he was offered can be said to have meant that the food was too hot (or:burning). Also, a child's **letting** his mother know by a (fake) whimper that he is too full to eat more (the whimper should not be an automatic display of discomfort: it should be produced in order to let the mother know that the child has had enough) may be said to be a case in which the whimper **meant** that the child was too full. Both the cry and the whimper meant, but they meant in different ways. Only the whimper was a case of communication that could be characterised as 'typically human' (or, according to another categorisation, 'non-natural' (Grice 1957)); while the cry was an automatic display of the pain caused by the hot food. It was a 'natural sign' of such a pain. A puppy would have reacted to hot food in a similar way. This can be called 'natural communication'.

For a human infant who does not yet speak the adult language, to let his mother know that he has had enough to eat without making her think that he is actually whimpering, he must qualify his whimper: as, without such a qualification the whimper will remain ambiguous between these two possible interpretations. Consider another example: a hungry child approaches the mother holding up a spoon. For the child to mean by this gesture that he is hungry, he must make it clear to the mother that he is not just holding up the spoon, but is doing so **in order** to communicate the message that he is hungry. In these cases, the necessary qualification is viewed to be a **display or a signal of a communicative intent** attached to the speaker's utterance. The suggestion is that standardly, such displays are made by establishing eye-contact with the interlocutor, or relative to the occasion, by other non-verbal shows. The display of a communicative intent is viewed as a spontaneous signal, so that whenever the intent is formed it is displayed automatically, without the speaker's being clearly conscious of his having displayed it.

Now for all such communicative attempts to be 'understood', the audience must have interpreted the utterances and other displays correctly. Therefore, it may be

time to state the two points characterising the understanding of a speaker when the latter has issued an utterance X with a display of a communicative intent.

a) for an utterance to be understood non-naturally (as a case of human communication), i.e., for it to be understood as meaning non-naturally, the utterance must be interpreted as communicatively intended, that is to say, the recognition of a communicative intent is what qualifies the utterance as a candidate for being non-naturally meaningful. (For the mother to take a behaviour of her infant as having a 'message', she must assume the presence of a communicative intent.)

b) following (a), understanding the 'content' of the message, i.e., understanding 'what is meant', involves the audience's freely concentrating upon the utterance itself, unpacking, interpreting it, an activity however not totally separate from, and independent of (a): the utterance is unpacked with reference to a speaker's communicative intent.

1.1. The Recognition of a Speaker's Communicative Intent

I should now like to cover briefly certain facts and empirical hypotheses connected with the recognition of someone else's communicative intent. The recognition of a signalled communicative intent comes under the broader heading of recognising non-verbal displays. Psychologists have been experimenting in this area, as the perception of other people's attitudes and mental states, since the turn of the century -though with varying emphasis on different aspects of the issue. While the findings and their interpretations are still far from giving us definitive answers in this field of study, there are certain empirically supported hypotheses that would be useful in understanding this phenomenon.

A first point would be the ambiguity of the cues available to the audience. Studies have demonstrated that non-verbal signals (e.g. facial expressions), presented in isolation from a natural context, can be interpreted differently by different people, or even by the same person, when on different readings additional contextual cues are provided. For example, Bruner and Tagiuri (1954) mention the following: "We present a picture of a grimacing face to a subject with the information that the photograph was taken while the subject was viewing a hanging. To another subject we provide the prior information that the photograph was snapped as the subject was breaking the tape in a 100-yard dash. In the first instance the judgement will be 'disgust' or 'anxiety' or some other appropriate label. In the second, it will be 'effort' or 'determination' or the like. In each instance, prior knowledge has the effect of reducing drastically the number of alternative emotions likely". They further note that virtually all evidence available suggests that the more information about the situation in which an emotion is being expressed, the more accurate and reliable are judgements of the emotion. This has led some to suppose that people judge the emotional state of others according to the stimulus situation (if, of course, available) rather than in accordance with the facial expression (Fernberger 1928). However, Bruner and Tagiuri show the falsity of such a view by pointing out that if, in the previous example, the photograph showed a smiling face, "in one instance the smile would be seen as possibly 'vengeful satisfaction',

in the other as 'elation' and so on" (Bruner and Tagiuri 1954, p. 63). Therefore, the best interpretation should be that while the signal itself is essential, the context in which it occurs is also vital in reducing the signal's ambiguity: such ambiguity is further amplified by factors such as the signal's acquisition being only partly innate, there being cultural differences in the learnt aspects of such signals, and the variability with which different individuals express the same emotion. (Though the number of different expressions has been shown to be quite low.) Bruner and Tagiuri give the following explanation: "In the process of categorising and judging his environment the individual generally does not deal with discrete events but rather extended sequences of events. Facial expression is one aspect of the sequence being judged. Indeed it is thanks to the context provided by larger sequences that we are rarely left in a state of confusion" (ibid.). Thus we seem to find empirical justification for Grice's insistence on the importance of 'the occasion' in which meaning is created, i.e., in which communication is carried out. (Grice 1957, 68, 69).

The second point concerns what is involved in the recognition of a communicative intent: empirical studies carried out in the '50s, and the '60s, and the relevant explanatory theories, would seem to suggest that recognising someone else's communicative intent (like recognising other attitudes and states) by interpreting certain non-verbal cues, does not involve very much over and above the audience's perceiving (in the modern psychological sense of 'perceive') such an intent. Roughly speaking, modern theories of cognition would find it a good approximation to say that recognising someone else's communicative intent (by certain non-verbal cues presented in a given context) consists in perceiving that person as having a communicative intent. To be able to understand that, we must attend to the meaning which 'perception' has acquired in the modern theories of cognitive psychology. That is, we have to make a short survey of the modern theory of perception and cognition. For this, I shall consider two works: a seminal paper by J. Bruner from 1957, and an important book by U. Neisser, published in 1967. I do not intend to make a complete survey of the theories of perception, and of the general theories of cognition, expounded in these works, nor shall I attempt to provide a complete exposition of different available theories of perception. I lack both space and qualification for such a purpose. As a result, much will be left out, and only issues relevant to the present discussion will be taken into consideration. Furthermore, I shall try to be as brief as possible (1).

Bruner lays stress on four aspects of perception (that are relevant to our purposes). First, he draws attention to the indispensable role of categorisation in perception, and goes so far as to make the bold assumption that "all perceptual experience is necessarily the end product of a categorisation process" (Bruner 1957, p. 124). The second point of emphasis is that perception involves 'inferring', in such a way that perceiving is viewed as a "process of categorisation in which organisms move inferentially from cues to categorial identity, and that in many cases,...., the process is a silent one. If you will, the process is often an unconscious one" (p. 129). It is also asserted that the nature of the inference from cue to identity in perception is not different from other kinds of categorial inferences based on defining attributes. "A theory of perception needs a mechanism capable of inference and categorising as much as one is needed in a theory of cognition" (p. 124). Bruner qualifies this,

however, by declaring that he does not intend it as a claim for the indistinguishability 'of perceptual and more conceptual inferences'. Thirdly, he emphasises the importance of 'learning' in order to be able to perceive: for our perceptions to be consistent, we must have learned the right categories, and we must equally have learned what to expect in which contexts. "In learning to perceive, we are learning the relations that exist between the properties of objects and events that we encounter, learning appropriate categories and category systems, learning to predict and to check what goes with what" (p. 126). Bruner, in support of this point mentions the classical experiment he and his associates carried out in 1954². Two senseless words are presented for tachistoscopic recognition: YRULPZOC and VERNALIT are exposed for 500 milliseconds, and the subjects correctly perceived the letters in their proper place with a rate of 48 % in the first word which is structurally foreign to English, and with a rate of 93 % in the case of the second word which is much nearer in structure to English. The fourth aspect of perception stressed by Bruner is the dynamic nature of its not being limited to a single inference: there is a continual process of checking and decision-making which leads to the confirmation of the category inferred as the correct one.

Part of Neisser's book deals with the same issues as the above-discussed paper by Bruner, and has at its disposal another decade's experimental work. In its main lines, Neisser's theory does not appear to be in conflict with Bruner's suggestions. He does however further refine the explanations, making use of the accumulated empirical evidence. Neisser agrees with Bruner that perception involves categorisation. (Neisser, in fact, considers 'categorisation' and 'pattern-recognition' synonymous: Neisser 1967, p. 49). However, he rejects the assumption that all perception necessarily involves categorisation: he gives the example of iconic storage, which seemingly does not involve categorisation (in an interesting of this word). (Iconic storage has been demonstrated, by tachistoscopic experiments, to take place when the subject is exposed to visual stimuli: it is a brief storage which is subject to rapid decay. Before it has decayed, information can be read from this medium just as if the stimulus were still active.) The point, though, is that iconic storage by itself cannot be considered as perception, unless further processing (i.e., categorisation) takes place: as Bruner explains, a stored stimulus can have no significance unless it is identified (recognised/categorised). Neisser also mentions other responses to stimuli such as 'visual' tracking, drawing, and beating a rhythm... that may be analog instead of categorical" (p. 49). But again, the significance of these examples depends upon the way in which we take the sense of 'perceiving': without intending to equate 'categorisation' to 'perception', we may suppose that apart from certain responses irrelevant to communication, in its standard form, perception involves what we call pattern recognition or categorisation.

Neisser's important contribution to the theory of perception is the hypothesis he develops regarding the mechanisms involved in pattern recognition. He first writes about focal attention: "even if we did not have to account for the phenomenal difference between 'one' and 'two' figures, spatially parallel processing would still fall as a theory on strictly quantitative grounds. To deal with the whole visual input at once, and make discrimination based on any combination of features in the field, would require too large a brain, or too much 'previous experience', to be plausible" (p. 87).

Discussing some evidence, Neisser concludes that visual objects are identified only after they have been segmented one from another. "This permits the perceiver to allot most of his cognitive resources to a suitably chosen part of the field. The analysers are not normally in parallel all over the visual input but operate chiefly on the field of focal attention" (p. 88). He asserts that paying attention to a figure is making 'certain analyses of', 'certain constructions in', the relevant corresponding parts of the icon.

Here, I think, we need not worry about the nature or status of the stimulus including the icon, or of the icon stored in a short-lasting memory. In the first place, we are primarily interested in what is involved in the processing of the icon, rather than in what it may be; and secondly, what we are discussing is an empirical theory, with its own scientific assumptions. (In this sense, we are entitled to treat it differently from a philosophical theory of perception). Coming back to the theory itself, Neisser supposes that focal attention is made possible by what he calls 'preattentive processes' which carry out the first segmentation of the visual field: he further notes that focal attention is not a prerequisite for all responses. "When particular figures are identified or categorised focal attention is usually involved, but it is not impossible for the preattentive process to elicit responses directly under some circumstances also" (p. 92). Most often, head and eye movements are under preattentive control, which serves to redirect attention. The direction of attention, far from being random, is often guided by cues in the visual field. For example, motion is one such cue: even if we are not focused on it, any motion in the visual field will attract our attention. Neisser explains that "much cognitive activity in daily life is preattentive...: a man.. 'recognises' the familiar sights of his office as he enters in the morning, or notes out of the corner of his eye that his secretary has already come in" (p. 92). Similarly, such preattentive control is at work in the performance of 'the dancer who reacts to his partner's lead', or in 'the sleepwalker who skillfully avoids obstacles'. "It is evident that not only the flow of attention but also many kinds of bodily movement can be controlled by preattentive pattern analysis" (p. 93). Also, evidence suggests that "the effects of preattentive processes are limited to the immediate present, and the more permanent storage of information requires an act of attention" (p. 93).

Preattentive recognition and control, as described by Neisser, are important for us in respect of what we called the recognition of communicative intent. We shall come back to this issue, but for the moment, I should like to go on with my summary of Neisser's account of focal attention, to present a more complete picture of the mechanisms involved in perception.

The second level of analysis (of the visual input) which comes after preattentive processes is what Neisser calls focal attention: this part of the perceptual process "which makes more sophisticated analyses of the chosen object" (p. 94). To explain further processing, Neisser introduces the notion of 'figural synthesis': he stresses that focal attention is to be conceived of as a 'constructive, synthetic activity rather than as purely analytic'. In his words: "One does not simply examine the input and make a decision: one **builds** an appropriate visual object" (p. 94). Neisser is quick to point out that such an idea goes back to the last century, to Brentano's, Bergson's and William James' views: though, he remarks, the reason for his adopting it does not derive from its historical credentials. The notion of figural synthesis explains empirical

observations, and evidence supports it. Neisser devotes large parts of two chapters of his book to the examination of empirical evidence connected with hallucinations and illusions: from this, he draws the conclusion that "the mechanisms of visual imagination are continuous with those of visual perception - a fact which strongly implies that all perceiving is a constructive process" (p. 95). Other important empirical evidence comes from studies of word-and letter - perception (recognition), and physiognomic perception, where identification can be made despite striking differences in visual input (caused by individual styles in the former, and temporal change in the latter - recognising the same person after long years of absence). Neisser further demonstrates that very similar processes characterise auditory perception, and puts forward the suggestion that there is a resemblance between the mechanism of synthetic perceptual processes and other types of cognitive mechanism, such as memory, thinking, and sentence - understanding.

The upshot of the foregoing scientific theories of perception is as follows: the basic mechanism involved in perception is a dynamic inferential process from the stimulus to a category, achieved by synthesising part of the input that is being focused on, into a category. Learning categories (and indeed learning to perceive), and constant checking of the synthesis with further cues, are vitally important aspects of the mechanism of perception. Such a constructive inference underlies most cognitive mechanisms.

If, adopting this empirically supported theory of perception, we view the recognition of a display of intention to communicate as a matter of mere perception; and if we, therefore, leave out of such 'recognition' any further act of judgement, or commenting on what is perceived; then we already have an explanation of what we called 'recognition of a communicative intent'. Indeed, for such recognition to take place, any act of judgement, beyond perceiving the signal as a display of intent, seems out of place: as Neisser correctly observes, "there is an unmistakable difference between 'seeing' that two things look similar, and 'judging' that they belong in the same category" (p. 95) - although both involve, as shown by Bruner, Goodnow and Austin³ categorisation. While the former cognitive level is all that seems to be necessary and sufficient to identify an input as belonging to a category, the latter is unnecessary for such a purpose.

It seems likely that the perception of a communicative intent is mostly carried out by preattentive processes: in general, we hardly focus our attention on the displaying of the speaker's intents, as we concentrate on the rest of his utterance. This point, then, may explain our being unaware of the type of signal used by a speaker (according to this same view, the signalling of the speaker's intent will also be under preattentive control - the reverse cognitive mechanism), while nevertheless knowing that he has signalled. As we have already seen, there are empirical grounds for supporting the view that permanent storage of information requires focused attention.

A brief account/definition of the recognition of someone else's communicative intent according to the theories we have surveyed will then look something like this:

An audience A is said to recognise a speaker S's signal of communicative intent if the following obtains: when exposed to a sensory input of type d , where d has

been produced by S as a signal (display) of his communicative intent, A perceives d as a display of a communicative intent; i.e., A makes a constructive inference from this input to the category of communicative intent, provided that A possesses such a category (innately or has internalised it by learning).

This definition rules out an intermediate stage, i.e., the perceiving of the speaker's signal as a non-verbal signal (categorising it as a specific non-verbal signal) and then through the association 'signal-communicative intent', inferentially reaching the belief that the speaker has a communicative intent. Indeed the evidence seems to rule out such a two-state recognition: "Everyone has perceived such traits as suppressed anger in a face, gaiety in a movement, or peaceful harmony in a picture. Often these perceptions seem very direct. We do not first notice the tightness of the jaw and then infer the anger; more often it is the other way around... According to many developmental psychologists, (this pattern of reaction) is a rule rather than exception in children" (Neisser 1967, p. 69).

However, the same point leaves things unsatisfactory from a philosophical point of view: the theory does not seem to provide criteria for distinguishing (or indeed, does not seem to distinguish) between two things: perceiving eye-contact as eye-contact (i.e., seeing someone as looking into one's eyes), and perceiving the same eye-contact as an intent to communicate. (The same applies to perceiving a word as 'a word having such-and-such letters' and perceiving a word as meaning r: the difference between perceiving the nonsensical word 'vernalt' and the significant one 'vertebrate'.) Now if both cases are perception and involve nothing more, then certain qualifications are necessary to account for the difference between perceiving something as a meaningless entity, and perceiving it as having a 'meaning'. It is still plausible to suppose that the perceptual mechanism involved in both cases is the same, and is as described by the cognitive theory expounded above. A way of accounting for the difference might then be to assume a hierarchy of categories in one's conceptual structure. It could be supposed that in our conceptual structure categories are ordered in a hierarchical way; and that perceptual inference is made from an input to a certain level in this hierarchy; and that the choice of this level is at least partly determined by further cues in the input (i.e., more contextual information). Anyway, this is one possible remedy (though, I fear, far from being a perfect one), and my purpose is much less ambitious than the provision of sufficient conditions for the recognition of a non-verbal display.

I have claimed that for an utterance to be understood as meaning non-naturally, the signal of a communicative intent accompanying it must be recognised, and thereby the utterance itself must be interpreted as communicatively intended. I should also like to remark that, where is no signalling of a communicative intent, the audience will have to **assume** that such intent is **implicit** - if, of course, he is to understand the utterance in the non-natural sense. In this connexion, we may put forward the claim that a necessary condition of understanding an utterance as having non-natural meaning is that the utterance (whether or not it is actually accompanied by a signal of communicative intent) should be **taken** as having been produced with a communicative intent. Obviously, this does not mean to say that the **signalling** of this intent is necessary. However on empirical grounds, and for reasons already obvious, such sig-

nally seems to be a vital aspect of human communication. In the present section I have tried to give an empirically supported account of the recognition of a communicative intent. In the next, I shall attempt to explain the interpretation of the utterance, in the hope that these two explanations combined will constitute a reasonable approximation to an account of the understanding of non-conventional utterances. Throughout the next section, I shall try to emphasise a basic contrast between 'recognition' in the sense of the present discussion, and 'understanding'.

1.2. Understanding a Non-conventional Utterance

There is a sense of 'understanding' that applies when we want to talk about a person's understanding another's utterance on a given occasion: in a forthcoming section I shall argue that, in this sense, 'understanding' is parallel to 'grasping', 'getting to know', or 'realising'. In understanding a non-conventional utterance, the audience possesses no previous knowledge of the structure of the utterance, and as it is non-conventional, it is most likely that he comes across it for the first time. Thus we can say that in such cases, 'what is communicated', and the utterance used for this purpose, are 'novel' to the audience. In this section, I shall discuss certain aspects of this sense of 'understanding'. Understanding a nonconventional utterance is not the only case which exemplifies this sense: when we speak of understanding that something is the case, or (as I intend to argue in a later section at some length) when we speak of someone's understanding a sentence, we also use the term in a sense close to 'get to know' or 'grasp'.

What is involved in someone's understanding his interlocutor's utterance, either by recognising his communicative intent, or by simply assuming it? We have said that the message seems to be packed in the utterance: what can be said about the audience's unpacking it? It might be that the audience, much as he recognises the speaker's communicative intent, recognises the intent to produce a belief by that utterance. However, that does not seem to be appropriate, for there are clear differences between 'recognition' (as in recognising a communicative intent) and 'understanding'. (Note: other senses of 'recognising' are left out of this discussion.)

a) When someone recognises something, what he recognises that thing to be must previously be known to him (either innately or through learning): for someone to recognise an object as a wine-glass, that person must have a notion of a wine-glass. The same does not apply to understanding. What is understood does not have to be previously known, and is indeed usually novel. (Equally, what is understood does not have to be learned).

b) What is recognised can be categorised - or identified as belonging to a certain category: what is understood cannot be conceived of as belonging to a category.

c) Recognition, it seems, must be based upon what is being perceived (i.e., immediate perception). Understanding on the other hand, does not have to be based on immediate perception: it may equally be based on memory, on imagination, on a logical inference, etc...

d) While in this sense (of understanding), it is more appropriate to speak of understanding facts (that something is the case), than understanding objects, the contrary seems to apply to 'recognising'. In the sense of the previous section, 'recognise' basically applies to objects and things. When we say that someone recognises a fact (that something is the case) we imply that the person 'admits' (or accepts) that this is the case - a shift of sense.

While 'recognising', in this sense, cannot account for 'the understanding of an utterance on a given occasion', it is nevertheless involved in it: in order to understand someone else's **utterance** the audience must first **perceive** and recognise the components (the bits of action and things that make up the utterance). And the way in which the elements constituting the utterance are perceived (i.e., the way in which they are recognised/identified/categorised) appears to be of vital importance, for understanding the whole of the utterance will depend upon the way in which its elements are 'seen' (i.e., the way in which the visual or auditory input is synthesised). Therefore to account for the understanding of an utterance, we have to incorporate an element of perception and recognition.

Leaving aside for the moment its application to a speaker's utterance on a given occasion, let us attempt to give a rough characterisation of someone's understanding something by something: we may say that a person A who is said to understand something by something X, forms a belief (or a thought) *p* causally connected with X, or with an aspect or element of X, where X is of complex nature (i.e., X may be a complex of objects, or an object in a context, etc.). This is not enough, however, as X itself must surely be said (at least partly) to determine A's belief *p* (causally connected with X): in other words, the belief *p* must derive from a perceptual or other representational (memory, imagination, consideration) consciousness of X. Moreover, it is apparent from this that there will be many possible beliefs (*p_i*) causally connected with X which could be formed. Accordingly, X may be said to admit more than one understanding. Some light may be cast on these points by the general cognitive theory we have briefly surveyed in the previous section. Following this theory, we may suppose that the forming of the belief *p* is a constructive inference, a synthetic activity subject to checking and rechecking, so that the final synthesis arrived at will be repeatedly confirmed by available contextual cues. Saying this will not commit us to the supposition that such an inference is conscious (see Bruner 1957), or that it takes a detectable temporal duration. I am characterising here the belief *p* as 'causally connected with X' (or rather, with a perceptual or other representational consciousness of X). I have not limited the case to beliefs of type *p* which can be said to be **about** X, where there would be reference to X in *p*. It seems to me that we can think of cases where a person might be said to understand something by X, and yet the belief *p* he derived from X not be about X. Consider this instance. Suppose there is a Mr. A who has promised to come and see me in the afternoon, and that I know he has not been very well lately. When at the time of the meeting I see Mrs. A arriving instead, I understand that Mr. A is again taken ill. The belief I can be said to have formed here, by the perception of Mrs. A at the door, is **not** a belief **about** Mrs. A or her arrival, and yet I can plausibly be said to have understood something by her coming. (Note that the fact that Mrs. A has arrived

is not an understanding of what happens: I perceive (see) her arriving, and by this, draw the belief that her husband is ill again.)

Now I should like to apply the above to the understanding of a non-conventional utterance. But first, we need to specify the form the belief *p* will assume: in the case of communication we cannot say that what is understood by *X* is the belief *p* inferred from *X*. In this case, the belief *p* causally connected with *X* will involve another belief which will count as the understanding of *X*, but will also involve references to the speaker, and to the speaker's attempt. A reference to the utterance *X* seems unnecessary, but, as we assume that the interpretation of the speaker's utterance starts by recognising the speaker's communicative intent, a reference to the speaker, and to his communicating something, is required. So, if we specify 'what is understood by *X*' by the letter '*r*', we may characterise the form of the belief *p* in the following way: 'the utterer is trying to communicate (or get across) that *r*'. We may then perhaps suggest the following (where '*r*' is 'someone is coming', and '*X*' is hiding one's face with one's hat; i.e., where by (the gesture of) hiding his face with his hat, an utterer *U* means that someone is coming): an audience *A* understands by *U*'s hiding his face with his hat that someone is coming = perceiving *U* as hiding his face with his hat *A* forms the belief that *U* is trying to communicate that someone is coming.

A rough approximation to a definition will then be the following: An audience *A* is said to understand *r* by an utterance *X* on a given occasion when the following obtains: *A* forms a belief *p* (that the utterer is trying to communicate *r*), this *p* being partly determined by the way in which *A* perceives *X* in its context on this occasion, such that the belief *p* is formed by making a constructive inference from *X* as perceived by *A*, and this inference is checked by further perceptual cues available in the context. In forming the belief *p*, it is important that the audience's constructive inference is led by certain common associations he has learned to make: owing to such associations, the audience will consider (e.g.) smoke to imply fire, or an explosion to imply destruction, etc. There are many possible ways in which such associations can direct the audience's synthesis of his perception. The ambiguity created by this possibility of manifold interpretation is not so crucial (in forming an opinion about what is perceived) outside communication. The same state of affairs may be commented on from different vantage points, and it may be interpreted or understood in different ways - according to the different ways in which the audience focuses his attention. Psychologists have demonstrated that motion in a visual field is one of the factors that attract attention. Similarly, extraordinary things, happenings or objects in a setting attract our attention: when we enter a room, we are more likely to focus on a broken vase and form a thought about it, than to comment on a familiar ordinary object. Equally, attractive (beautiful, precious) objects, or other objects of interest, will stand out; but there will still be room for ambiguous interpretation of the same perceptual field. In the case of communication, while the utterance presented to the audience can be interpreted in several ways (from the same perceptual consciousness, the audience can synthesise/inferentially construct several different thoughts) only one of these will count as 'understanding what the speaker means by this utterance'. For what the audience understands to be correct, it must be identical in content with what the speaker intends to convey. Therefore, to maximise the chances of

successful communication, the speaker must choose the best context and occasion for his purposes, and his utterance must involve as much (non redundant) information (cues for disambiguation) as possible. In this respect, another point becomes clear: the signalling of a communicative intent (and its recognition), besides its necessary role in rendering the utterance non-natural, has a second role of disambiguation. The recognition of a communicative intent gets the audience to interpret the utterance 'as something communicated'. This will rule out situations in which the audience, reacting to the speaker's performance (i.e., utterance), will form a thought/belief of the sort 'how gracefully she does it', instead of interpreting what she does. The recognition of a communicative intent will dissolve the possibility of such ambiguity.

2. Inference and Imagination in Perception and Understanding

2.1. Modern Cognitive Psychology, Kant, and Wittgenstein.

In the above accounts which I have tentatively put forward, I have, following the psychological practice, used certain notions rather uncritically. I think some justification, or at least the specification of the technical senses in which some of the expressions were employed, may be necessary. I should therefore like, in this section, to discuss a few points in connexion with my use of the terms 'imagination' and 'inference'.

Following some recent empirical theories of cognition, I adopted the view that perceiving and understanding are occurrences involving imaginative and synthetical aspects, and that they are marked by the inference of a thought from an input. From this particular vantage point, the recognition of a communicative intent was a matter of perceiving certain features (cues) as a communicative intent, and it was said to involve a synthetic inference (itself infused with imagination) of a category from the perceptual input. Similarly, understanding 'the message' (content) of an utterance was taken to involve a synthetic inference of a belief from an agent's perception of the utterance. I have already contrasted these two parallel 'processes' in terms of their 'end-results' (i.e., what was -synthetically- Inferred): while the inference of a category was seen (essentially) to require the learning of the relevant category, the inferring of a belief was observed not to necessitate this belief's being previously learnt by the agent. In this connexion, and as applied to perception/recognition, we may note that it makes little difference whether we choose to say that the inference is a category or a concept (of an object). Another difference (which gains importance in this section) between the cognitively similar 'processes' of recognition and understanding is that the type of inference involved in one is different from the type of inference involved in the other. This difference appears to be wide enough to make the uncritical application of the expression to both cases inadequate - unless (for technical reasons) we are prepared to stretch the sense of it, and consequently make it divergent from the ordinary sense of the expression. Consider the following two cases:

A. I see that the flag on a government building is half-mast (i.e., I see a sheet of cloth on a pole as a half-mast flag). By this, I understand that a distinguished citizen has died.

B. I come into eye-contact with somebody and recognise his communicative intent (i.e., I see his gaze as a signal of his communicative intent).

In case A, from my recognising what I 'encounter' as a half-mast flag, I move to the belief that someone has died. In other words, for me, what I see as a half-mast flag conventionally⁴ implies the thought that a distinguished citizen is dead. In the cognitive theory, we call this move 'an inference'. This quasi-technical sense of 'inference' is not very different from the ordinary sense. The point however, is that we are unable to find anything like this 'inference' in a case of type B: an important feature which characterises B is that we see something directly as something. In other words, even if there is a move from an initial perceptual input to a synthesis, we are hardly aware of it. This is what (to take a psychologist's view) Bruner means by asserting explicitly that "the process is a silent one. If you will, the inference is often an unconscious one" (1957, p. 129). Philosophers, too, have held this view: for example, consider this argument by Wittgenstein. He says, suppose we wanted to say the following: 'The description of what is got immediately, i.e., of the visual experience, by means of an interpretation - is indirect description. 'I see the figure as a box' means: I have a particular visual experience which I have found that I always have when I interpret the figure as a box or when I look at a box. But if it meant this I ought to know it. I ought to be able to refer to the experience directly and not only indirectly. (As I can speak of red without calling it the colour of blood)" (Wittgenstein 1953, p. 194). The import of this, as pointed out by Strawson, seems to be that in the case of instantaneous perceptual experience it would be wrong to take it "as if there were merely an external relation, inductively established between the thought, the interpretation, and the visual experience" (Strawson 1973, p. 57). Then it seems hardly adequate to suppose that the 'inference' that is said to be involved in the case of perception is of the same sort as the one involved in the interpretation of perception (for example, the understanding of an utterance).

It is, of course, common practice among psychologists to speak of moves both in perception and understanding in terms of 'inference', and this is perfectly acceptable as a technical term: however, we must note that this technical use commits us to a much weaker sense of inference than the ordinary. It would seem that in this technical sense, 'inference' is not more specific than 'cognitive move', and we may be committed to tolerate suppositions (for example) that remembering and imagining, too, involve inference. On the other hand, if we wish to adopt a notion of 'inference' much closer to its ordinary use, we may retain its use designating the move in cases like A, but drop it from our jargon in describing cases of type B: there, the 'move' involved can equally be characterised as an 'imaginative synthesis' of perceptual inputs (cues).

Perhaps one more comment on Bruner's theory of perception may be useful. His view is that all perception involves categorisation. This is true, if we say that for an agent to perceive an input 'as something', he must have been trained in categorising input 'as such', i.e., he must possess the concept which he sees the cues 'as';⁵ but of course it cannot be denied that, had the agent not been trained in categorising (in this special way) i.e., if he did not have this concept, he would still perceive the cues. In other words, it is not true that one could not perceive anything if one was

untrained in the appropriate categorisation. In such a situation, one would perceive the cues as disconnected patches. In a sense, we can even say that we are half conscious of cues even when we perceive the visual field as something (i.e., when we categorise).

Before discussing some further points connected with the role of 'inferring' in understanding, I turn briefly to Neisser's assertion that perception (as well as understanding involves imagining. A similar view has been advanced by Kant⁶, and more recently by Wittgenstein (PI, p. 195 ff.), and therefore is quite familiar to the students of the philosophy of perception. As in Neisser's writings, 'imagination' has a slightly technical sense for Kant⁷. This understanding of imagination plays an important role in accounting for perceptual experience in general: it connects (i) perceptions of different objects of the same kind, and (ii) different perceptions of the same object of a given kind (Strawson 1973, p. 47). "Of a fleeting perception, a subjective event, I give a description involving the mention of something not fleeting at all, but lasting, not a subjective event at all, but a distinct object. It is clear... not only that I do this, but that I must do it in order to give a natural and unforced account of my perceptions" (ibid., p. 51). Not only do we thus link or combine different perceptions as perceptions of the same object, but also the perceptions of different objects as perceptions of objects of the same kind. According to Kant, this power that internally links (connects) our actual (and unconnected) perceptions with our non-actual perceptions, is 'imagination'; for "non-actual perceptions are in a sense representend in, alive in, the present perception; just as they are representend by images, in the image producing activity of the imagination" (ibid., p. 54). However, it is to be stressed that "this is not a matter of supposing that we give ourselves actual images, either of other trees perceived in the past, or of wholly imaginary trees not perceived at all, whenever, in an actually momentary perception, we recognise something as a tree. It is not in this way, that is, by being represented by actual images, that non-actual (past or possible) perceptions enter into actual perception" (ibid., p. 56). One of the things interpretation of Kant shows us is that a synthetic constructive understanding of perception, in sharp opposition to a possible theory of 'template matching', has been available since the last decade of the 18th century.

A similar view is found in Wittgenstein's *Philosophical Investigations* (pp. 193-208). He uses several metaphors to stress how the visual experience is, as it were, 'infused' with the concept (p. 197): 'a case of both seeing and thinking: or an amalgam of the two': 'the flashing of an aspect on us seems half visual experience, half thought'. Thus, for Wittgenstein, as for Kant, "the thought is echoed in the sight, the concept is alive in perception" (p. 212). What he takes this thought/concept to be is, however, at first sight different from Kant's conception of it: for Wittgenstein, 'seeing as' involves primarily a 'disposition to behave in certain ways' - itself presupposing a 'know-how'. Strawson (op. cit) on the other hand, explains that "the relevant behaviour in reporting an aspect may be to point to other objects of perception... The behavioural disposition includes, or entails a readiness for, or expectancy of, other perceptions, of a certain character, of the same object" (p. 59), and notes the following quotations from Wittgenstein: "[I meet someone whom I have not seen for years;

I see him clearly, but I fail to know him. Suddenly I know him, I see the old face in the altered one" (p. 197, P. 1.); "What I perceive in the dawning of an aspect is... an internal relation between (the object) and other objects" (P. 1., p. 212).

3.2.2. Ryle. 'Inference' and 'Understanding'

In 'The Concept of Mind', Ryle argues that understanding other people does not consist in inferring (pp. 50-60). He associates the inferential account with a Cartesian-dualist standpoint⁸ and does not distinguish between 'understanding a person-in-general' (i.e., what a person does - or what a person non-conventionally means) and 'understanding a person's linguistic performance'. As to the latter point, I shall have little comment to make: although there seems to be an important difference between understanding linguistic and non-conventional utterances, I do not in principle disagree with their being treated together, and I shall attempt later to show that the difference is not at all that wide: but here, in countering Ryle's attacks, I shall be dealing mainly with the understanding of non-conventional utterances.

If we conceive of understanding as involving an 'inference' to⁹ an interlocutor's beliefs or intentions (i.e., the 'inferring' of a belief which we suppose our interlocutor has and wants/intends to communicate) does it commit us to a Cartesian-dualism? I think this does not necessarily follow. (Anyway, it is possible to give non-dualist definitions of belief and intention as applied to another person.) Now, Ryle's main argument against the conception of understanding a person as 'inferring to what that person thinks' is that any such inference would be untestable, and even if it were made, it would probably be untrue. It may be interesting to consider two of the points he raises here. To establish the point that we have no reliable criteria on which to base any 'inference' from the publicly observable 'doings' of people to what they think (Intend/believe), he says there are no psychological laws discovered connecting particular behaviour with particular thoughts, and "indeed supposing that one person could understand another's words or actions only insofar as he made causal inferences in accordance with psychological laws, the queer consequence would follow that if any psychologist had discovered these laws he could never have conveyed his discoveries to his fellowmen" (p. 52, Penguin ed.). Secondly, Ryle says that a person's own correlations between 'his own private experiences and his own overt actions' would not be adequate to judge others' inner states and operations from their publicly observable behaviour; for inferring from a single case to a supposedly generally valid correlation would have too weak a support to be reliable. Thus, Ryle concludes, if, in fact, understanding consisted in an inference, we would hardly understand each other; but as we do understand each other perfectly well most of the time, 'inferring' must not be involved in understanding.

I should like to say that the 'setting', in which Ryle tests 'inferring' as applied to cases of understanding other people, is rather *recherché* and slightly unfair to this concept. For, Ryle tests the reliability of 'inferring' in nonstandard and hypothetical cases where no person has yet understood another: one is to interpret another human being, as it were, for the first time, and has at one's disposal only this rather dubious device of 'inference'. One has neither laws on which to base the inference,

nor reliable inductive support: all one has access to (and even this is dubious for Ryle) is one's own correlations. The vicious circle an agent finds himself in such a situation is characterised by first, his being unable to interpret others because he has no support on which to base his inference, and, consequently, his failing to test, any unwarranted inference he makes.

I think there are two reasons why we need not be committed to this vicious circle. The first is that, even in this hypothetical initial situation where individuals start interpreting each other 'from scratch', the inference need not be based upon 'rational' criteria such as 'laws of psychology' or 'inductive support'. Evidence gathered by experimental psychology makes it clear that judgements of other persons' attitudes or emotional states have an instinctive (or, we might say, 'inborn') aspect. Individuals belonging to our species have the instinctive capability of 'reading', or 'interpreting', certain intentional or unintentional signals emitted by their fellow individuals. This has been clearly observed in young infants, and in many pre-human species. So the individual starting to understand others 'from scratch' has a natural means of breaking out of this vicious circle.

The second point is this: in order to find out whether understanding consists in an inference, we do not have to consider cases 'from scratch'. More plausibly, we may take the actual state of affairs in which people understand each other's linguistic performance, and in this context, may consider cases where people make judgements about, infer, each other's attitudes or mental states, enjoying the full use of language to describe such situations. We may thus test and re-test the accuracy of different individuals' inferences from (and relevant correlations applying to) other people's behaviour, by asking them and recording their replies. Then, if we observe accuracy and regularity (which we actually do), we may justifiably suppose that 'inference' is an important vehicle for mutual understanding. For this reason, I don't think that Ryle has been able to provide convincing arguments to refute the view that understanding involves inference. Indeed, it seems plausible to suppose that in its quasi-technical sense, understanding other people's behaviour (utterances) does involve inference on the part of the audience¹⁰.

Does the same apply to the understanding of linguistic utterances? I do not think anyone could hold this view on the basis of the discussion we have had so far, as linguistic utterances involve a totally new property; namely, that of belonging to and deriving from a conventional system. However, at a later stage, I should like to defend the view that, despite this aspect, the understanding of a sentence may not, in fact, be so very different from the understanding of a non-conventional utterance.

3. Can Understanding be Said to be Purely Dispositional?

3.1. The Dispositional View of Understanding

The explanation of understanding we have tentatively proposed in the previous sections must be able to counter, and account for, criticisms of an important kind. These criticisms gather roughly around the central theme that understanding is a

matter of disposition deriving from the mastery of a technique and not a mental process. The credentials of such a thesis are indeed very high: it has been advanced by philosophers like Wittgenstein (*Philosophical Investigations*), Ryle (*The Concept of Mind*), and more recently by Dummett (*Frege: The Philosophy of Language*). I shall here give a brief summary: Wittgenstein stresses that it is in vain to try "to get hold of the mental process of understanding which seems to be hidden behind those coarser and therefore more readily visible accompaniments" (P. I., r. 153). We shall scarcely be justified in looking for a mental process that takes place when we think we understand something: "... even supposing, I had found something that happened in all those cases of understanding - why should it be understanding? And how can the process of understanding have been hidden, when I said 'Now I understand' because I understood? And if I say it is hidden - then how do I know what I have to look for?" (ibid.) Wittgenstein concludes that in the same sense in which we are aware of mental processes (for example, he mentions 'a pain's growing more or less, the hearing of a tune or a sentence'), 'understanding' is not a mental process, and indeed, this is a misleading way of conceiving it: "...ask yourself: in what sort of case, in what kind of circumstances, do we say, 'Now I know how to go on'" (r. 154). It is in this sense that Wittgenstein sees "the grammar of the word 'knows'... closely related to that of 'understands' (Mastery of a Technique)" (r. 150).

Ryle gives a more detailed description of that relation: "Understanding is a part of knowing how. The knowledge that is required for understanding intelligent performances of a specific kind is some degree of competence in performances of that kind" (Ryle 1949, p. 53). He gives a wide range of examples such as understanding a language, a scientific experiment, a highly skilled activity such as embroidering, etc... Then Ryle says that while the performer who 'knows how' follows critically, the intelligent spectator who 'knows how' follows critically. "The words 'understanding' and 'following' designate certain of those exercises of your knowledge how" and "the capacity to execute it" (ibid., p. 54). But to understand something "one necessary condition is that the follower should have some mastery of the art or procedure the examples of which he is to appraise". Because, "the rules which the agent observes and the criteria which he applies are one with those which govern the spectator's applause and jeers" (p. 53).

What we have got here is a general account of understanding which is meant to apply equally to different cases such as 'understanding a word', 'understanding a non-conventional utterance' or 'understanding a sentence'. A particular concern of these philosophers, however, has been the 'understanding of linguistic units (words/sentences)': thus we get Wittgenstein's slogan: "To understand a sentence means to understand a language. To understand a language means to be master of a technique" (P. I. r. 199). In a similar spirit, Dummett sets forth his formula for it: "...The complex phrase on which attention needs to be concentrated is 'knowing the meaning of...': a theory of meaning is a theory of **understanding**" (op. cit., p. 92). He seems to intend this to be applied primarily to 'understanding words': "What we have to give an account of is what a person knows what a word or expression means, that is, when he understands it" (ibid.). However, there are other passages suggesting that Dummett also intends this for sentences. For instance, a few lines below, he writes: "An account of understanding language, i.e., of what it is to know the meanings of

words and expressions in a language, is thus at the same time an account of how language functions," that is, among other things, how sentences are produced and understood.

3.2. Some Comments on the Dispositional View

The account of understanding applies well to the case of 'understanding words': although it may be said (and proven empirically) that some sort of perceptual process is involved, understanding the meaning of words one encounters has largely to do with whether one **knows** the meanings of them; more precisely, whether one has **learnt** them. In this sense, one can only be said to 'understand' (as opposed to 'guess') words whose meanings one has already learnt. This is a point which is explicitly made by psychologists, too: recall both Bruner's and Neisser's emphasis on the importance of learning in categorisation.

However, when we come to consider the 'understanding of non-conventional utterances', to have learned certain associations, to have mastered the technique of certain performances, or the perceptual interpretation of certain sensory input, only fulfils a minor (though perhaps necessary) part of 'getting the meaning of the interlocutor'. There seems to be an important 'creative' aspect involved in this kind of understanding which goes beyond and which cannot be explained in terms of, having learnt certain skills or having stored certain information. Indeed, typically, 'what is understood' is not previously known, i.e., is novel. Similarly, what one understands in this way 'occurs' to one for the first time as a thought synthesised from the particular utterance one was exposed to. It is this creative interpretation (synthesis) that we have tried to account for, by using the experimental psychologist's concept of 'Inference'. No mastery of a technique or learned skill or information would seem to be sufficient to explain this type of creative interpretation. In fact, there is no conventionalised technique involved; it may therefore not be wrong to suggest that the dispositional thesis, as a general account of understanding is **insufficient**.

We reported above Wittgenstein's observation that understanding is not a mental process - in the sense that 'a pain which increasing intensity' is. This seems to clash with the free use of the expression 'process' in cognitive psychology - which also frequently occurs in accounts of perception and understanding. It seems that Wittgenstein is right in saying that there is no experience of understanding as a process which starts at a moment in time, lasts so long, and ceases. In many cases the only thing we can say is that from a particular moment on 'I understood it' (i.e., 'I knew it', or 'I knew how to go on'): this is more like 'being in a mental state', than having a process that goes on in one's brain. However, while Wittgenstein is right in saying that we cannot, retrospectively, point to the experience of understanding as a mental process, this does not rule out the possibility that such a process (though it may not be clearly experienced) in fact takes place. Now, anyone who would defend the view, that understanding involves a mental process, would suppose that it 'takes place' at the exact point in time when the agent, leaving behind a state of not-understanding, is able to say: "Now I know!" - and similarly Now I can do it! and 'Now I understand!' (P.I., r. 151). It seems that a process (if there is one at all) can only be said to take place at the moment when the change (from not-understanding to understanding) occurs. Wittgenstein shows interest in that moment of change: "Let us imagine the following example: A writes series of numbers down,

B watches him and tries to find a law for the sequence of numbers. If he succeeds he exclaims: 'Now I can go on!' - So this capacity, this understanding, is something that makes its appearance in a moment" (P. I., r. 151). Wittgenstein says that there is no process that is hidden there: the only thing we experience is the change which comes as a flash; what we know is that after that moment the agent was in a state where he could appropriately handle the sequence of numbers. However, this does not explain *how* the change occurred, or what was involved in it. Wittgenstein thinks it misleading to try to look into it, but psychologists might not find it so. The point is that, even if we are not aware of its presence, detailed experimentation may show that there is such a 'hidden mental process'.

Until this point is settled empirically, we may follow Wittgenstein in his view that we are not justified in considering understanding as a mental process. However, while we may be unjustified in looking for a mental process at that moment of change, it is perfectly acceptable to consider understanding, at least in certain cases, as an **occurrence**, by designating that point of change - as distinct from the state that follows it. This seems to be exactly what the cognitive psychologist does, and is what we did here, in accounting for the understanding of non-conventional utterances. It may therefore be plausible to say that there are two concepts of understanding (i.e., two ways in which 'understanding' can be interpreted), and while one denotes this moment of change (the occurrence), the other is the state one is in after the change. This suggestion is supported by the parallel of 'know', and Wittgenstein agrees: "150. The grammar of the word "know" is... closely related to that of 'understands' (Mastery of a technique). 151. But there is also **this** use of the word 'to know: We say 'Now I know!' - and similarly 'Now I can do it!' and 'Now I understand!' ...Ask yourself: in what sort of case, in what kind of circumstances do we say, 'Now I know how to go on', when that is, the formula has occurred to me?" (P. I., r. 154). Wittgenstein repeatedly emphasises how the two understandings of 'understanding' complement each other.

In a case such as the one considered by Wittgenstein (the series of numbers), the mastery of a technique (an acquired skill/having learned a know-how) plays an important role. The agent in that example cannot be expected to understand the series unless he has had some training in mathematics. Therefore his understanding of mathematics (his knowledge of mathematics puts him in a position to understand the particular series dispositionally. So, being in the 'state' of understanding mathematics is also to a certain extent (dispositionally) being in the state of understanding particular mathematical strings: which is quite unlike the case of understanding a non-conventional utterance (where there is no conventional system from which particular utterances may be generated)! By the same token, it can be said that 'understanding a sentence' (which is more like mathematical strings) and 'understanding a non-conventional utterance' are altogether unlike: "To understand a sentence means to understand a language. To understand a language means to be master of a technique" (P. I., r. 199). But is this strictly so? and can Wittgenstein mean this in a strong sense? I should like to show that (i) while understanding a language does **not** amount to understanding a particular use of a sentence of this language (i.e., the former is not a sufficient condition for the latter), and that we mean different things by 'understand' in these two uses of it; (ii) the difference between 'understanding a sentence' and 'understanding a non-conventional utterance' is **not** as wide as it first appears to be, and that we mean similar things by these expressions.

3.3. Continuous Understanding and Occurrent Understanding.

We have seen that the dispositional thesis of understanding does not affect the account of the understanding of a non-conventional utterance which we tentatively put forward in the previous sections. We have observed that the dispositional thesis does not in fact account for such cases, where there can hardly be a conventionalised system that can be mastered, and from which particular utterances can be generated. We were therefore inclined to think that the concepts of 'understanding' applicable to cases in which a person is said to understand a language and cases in which an audience is reported to have understood a non-conventional utterance are different. While the former is something like being in a state, the latter is more likely to be a matter of occurrence (something happening at a time), though not necessarily a process. We were able to find some support for this view in Wittgenstein's writings, and formed the intention of examining more closely what is meant by 'understanding a sentence'; we were particularly interested in finding out which of the two concepts a person can be said to employ when he uses such a phrase.

I shall now examine an interpretation of Dummett's formula (mentioned in 3.1.) in the light of the distinction between 'understanding' in its 'occurrent' and 'dispositional' senses.

We have said that, for Dummett, understanding is 'knowing the meaning of...', and we have observed that he means this for both the understanding of words, and of sentences¹¹. If this formula is intended to apply to the understanding of words only, it gives rise to no disagreement, as it is perfectly acceptable and plausible that understanding a word should consist of knowing its meaning: one can appropriately be said to understand a word as soon as one learns the meaning of it, and so to continue, as long as one remains in the state of knowing the meaning of the word. (One may forget the meaning of a word.) When the formula is applied to sentences, we obtain something like this: 'To understand a sentence is to know the meaning of it.' This, it seems, can be interpreted in two ways:

A) When one is said to understand a sentence, one knows the meaning of it all along (it can be added, in explanation, that this is so, because one knows the language this sentence belongs to).

B) When one is said to understand a sentence, one gets to know the meaning of it (one is able to do so, because one knows the language this sentence belongs to).

I wish to argue that the senses of understanding involved in (A) and (B) introduce two different concepts we have briefly discussed (i.e., dispositional and occurrent), and that the one in (A) does not apply to token-sentences; i.e., that (A) is wrong as applied to token-sentences. As to sentence-types, I shall not comment, and I also accept that there is a sense in which someone can be said to understand, 'to know' the meaning of a type-sentence dispositionally. Therefore, Dummett's formula will be found to be true in both interpretations, if (A) is taken to apply only to type-sentences.

Now let us attend to, and elaborate a little, the suggestion that 'understanding' introduces two different concepts. I call these 'occurrent understanding' and 'continuous (or: dispositional) understanding'. These two can be treated as two groups of concepts, as each seems to involve more than one member-concept. However, rather than provide definitions for these member-concepts, I wish to emphasise the distinguishing characteristics of the two concept groups. For simplicity, I shall treat groups as simple individual concepts. The two concepts I wish to distinguish are such, that the former **occurs** at a time (i.e., when one is said to understand something - a sentence), and the latter is more like a state (conscious or otherwise) of the agent, in which he remains continuously. The second case may involve a beginning; as, for example in the state of understanding a word, one knows the meaning of what one is said to understand continuously (all the time), although one learnt it at a particular time: one's state of continuous understanding started (one began to know) from the moment one learnt that meaning. The other concept of understanding might have been involved then. The following are examples illustrating the difference:

- A. (i) Do you understand French?
 (ii) Do you understand this word?
 (iii) Do you have an understanding of how an atomic reactor works?
 (iv) Do you understand cricket (how cricket is played)?
 (v) I quite understand your grief (how distressed you are).
- B. (i) Oh, I understand what you mean.
 (ii) On confronting the evidence I understood that this was not your fault.
 (iii) Now I understand what happened here.
 (iv) Do you understand this sentence?
 (v) Then I understood that the argument was invalid.

The distinction, which may perhaps be evident to some, is that people using 'understand' in sentences of class (A) above, talk either of a state they are in, or of some capacity they have (a disposition), which lasts indefinitely. We can also distinguish between the member-concepts involved in sentences of class (A): in (i) to (iv), 'understand' seems to be dispositional, showing a capacity, while in (v) it is more like a state than a disposition. On the other hand, when one seems to be talking about something that happens in oneself ('an experience') involving the acquisition of a new thought (belief, intention, etc.). The thought acquired may be something known already, but its reception is a new and fresh occurrence. For instance, I may know that $\sim(p.q) \equiv (\sim p \vee \sim q)$, but each time I read and understand¹² the token sentence ' $\sim(p.q) \equiv (\sim p \vee \sim q)$ ' my understanding is a new happening.¹³ Here again, we may distinguish two different 'occurrent' senses of understanding: while (i), (iii), (v) involve an 'occurrent' understanding coming as a flash, in (ii), (iv) the

occurrence is perhaps more of a process. However, as I have already noted, what interests us in this discussion is the broad distinction between 'occurrent' and 'continuous'.

Now let us return to the two interpretations of the formula put forward by Dummett and which we have set out to examine. The view held in this article, which has much in common with Wittgenstein's conception of understanding, is that words, like games, systems, and languages¹⁴ are understood in the 'continuous' sense (dispositionally) (they are all causally related to learning). As opposed to this, sentences in communication, rather like non-conventional utterances, are understood in the 'occurrent' sense¹⁵. We have seen that Dummett's formula of understanding, as applied to sentences, yields the concept of 'continuous understanding' in its interpretation (A), and 'occurrent understanding' in its interpretation (B). Let us consider the interpretation (A): 'To understand a sentence is to know its meaning'. If this is to be interpreted in the same way as 'To understand a word is to know its meaning', it will be false when applied to the understanding of a sentence that is being read or heard; for although one knows the meaning of the words of one's vocabulary in a language, one cannot be said to know the meanings of the sentences (which one is capable of understanding) in that same language. We should qualify this, by pointing out that one can be said to know the meanings of all sentences of a language one is capable of understanding, if by that we mean type-sentences, considered in the abstract. For example, it is sufficient for one to recall and consider any possible sentence of one's language. One would not need to work out its meaning; there would be no occurrence of understanding involved - one would know the meaning of such a sentence (or understand it) all along. In such a case, the interpretation (A) of Dummett's formula may be true, but this is not the case we wish to account for. We are after the particular instances in which one exercises one's competence in a language in order to understand a sentence heard or read in communication. And in such a context, interpretation (A) seems wrong. One **gets to know** the meanings of token-sentences as one understands them. One has **learnt** (or internalised) the meaning of words that make up one's vocabulary. It is in this respect that one knows them: if one has learnt words, one may appropriately be said to understand them. The same applies to 'understanding a language': as one learns the grammar of a language and acquires a vocabulary, one can appropriately be said to know the language, or to understand it. This may be contrasted with the fact that one does not learn the meanings of sentences of a language. Therefore one cannot know the meanings of sentences by learning these meanings (which are indefinitely large in number). One gets to know these meanings only when one **applies** one's linguistic competence (knowledge of a language) to particular sentences.

It may be objected to this that although one does not learn the meaning of particular sentences as one does of the words, one can be said to know the meaning of the sentences of a language by knowing the language, i.e. by having learnt this language. For the meanings of these sentences can be derived from the knowledge of the language they belong to. I think this objection is already answered by our emphasis on the distinction between type-and token-sentences. For though it is credible to say that one dispositionally knows the meanings of all type-sentences of a language one speaks, this objection when applied to token-sentences, means no

more than that when he encounters a sentence, a person who knows the language to which this sentence belongs is able to work out its meaning.

Now consider this type of objection. Take the following conversation: 'Do you understand Wittgenstein's *Tractatus*?' - 'Yes.' 'Every sentence in it?' - 'Yes, I understand every sentence in it.' It appears that one can assert that one **understands sentences** one is not reading or hearing at the time, but which one has read (or heard) and understood in the past. This hardly sounds like an understanding in the occurrent sense. Or consider this case: suppose there is an elementary exercise book, in your native language, designed for foreign students. One such student shows the book to you, asking whether you understand all the sentences in this book. After a brief browse, you confidently assert that you understand every sentence in this book. Is this 'occurrent understanding'?

I should like to say that this type of objection does not affect our position either. In the first case, 'I understand every sentence in it' means that the philosopher involved has worked out the meaning of every sentence in the *Tractatus* (got to know the meaning of them one by one), and acquired a good knowledge of the theory expounded in it, so that he would be able to paraphrase and explain any sentence of the book we may present him with. I do not, however, think that this literally means that he knows the meaning of every single sentence in the book. Ask him what the sentence 4.44 means without showing it to him, and he will not be able to paraphrase it (unless he has memorised it). To be able to paraphrase it, he must read the sentence and (then very easily) get its meaning. The same applies to the exercise book. Although one may be able to get to know the meaning of elementary sentences with the least effort, one still has to read or hear a token-sentence in order to be able to do so. And it is not enough just to look at the sentence and read without understanding: one must pay appropriate attention, and concentrate. If one is preoccupied with some other mental activity (one may be thinking something else, or listening, etc.) one will not get the meaning of even the simplest sentence one reads: reading with understanding seems to be essential. In both of the above cases the understanding of token-sentences will be an occurrence whether or not this takes a discernible length of time, requires effort comes as a flash, or is more like a process. The conclusion I draw is that token-sentences are not understood continuously: "How long does it take to understand a sentence? And if we understand a sentence for a whole hour, are we always starting afresh?" (P. G., p. 50).

3.4. Understanding a Token Sentence

I have attempted to show that when we talk of 'understanding language' and 'understanding (token-) sentences' we do not exactly mean the same thing. Although they are different, however, it seems that the former constitutes a prerequisite for the latter, in the sense that it is necessary to understand a language in order to understand ('understand' used in two different senses) a sentence of it¹⁶. I should now like to say that while, in the above sense, a knowledge of language is necessary to be able to understand a sentence of it, such knowledge is not sufficient. All the same,

Wittgenstein seems to be quite right in writing: "A sentence is given me in unfamiliar code together with the key for deciphering it. Then, in a certain sense, everything required for the understanding of the sentence has been given me" (P. G., p. 43). The insufficiency is not meant in the sense that more knowledge/information is needed; it is rather that a 'special manipulation' of the available knowledge is required for the understanding of sentences. I should also like to assert that this 'special manipulation' of the knowledge of language as applied to a sentence may not be very different from the 'creative synthesis' which we have said operates on the perceptual input from an utterance, leading to a belief. Whether or not the understanding of a sentence involves such a creative aspect is hard to demonstrate. This could only be hinted at by drawing attention to the familiar experience of not being able to understand certain semantically complex sentences (e.g., certain philosophical writings), although one has a perfect grasp of the language¹⁷. In such cases it seems, the knowledge of language falls short of securing the understanding of particular sentences. This may be explained by suggesting that the synthesis has not been successful - or that the creative manipulation of the input has not reached a synthesis. This means no more than that creative manipulation operates by following the rules of language, i.e., the knowledge of language is applied to particular sentences in a creative, synthetic way - a suggestion which may not be so unacceptable. Psycho-linguists seem to agree: understanding, like speech perception, "involves an active process of synthesis on the part of the listener, and... the course of synthesis seems to follow grammatical structure at least to some extent" (Neisser, *op. cit.*, p. 244). It may of course be said that although difficulty arises in semantically complex sentences, this does not show that the type of 'creative synthesis' mentioned also takes place in understanding simpler sentences: we do not experience such difficulties with ordinary utterances. This could be answered by first emphasising the significance of the observation that, with the semantically complex sentences, the more complex they are, the more difficult to understand they become. I am inclined to interpret this as indicating that the 'creative synthesis' involved is a matter of degree. In ready formulae like 'Good morning to you!' it is possibly minimal, but in other semantically simple but 'informative' assertions, I think it is present - though we are unaware of it as an experience, maybe because, in a given context, we expect the type of sentences we are likely to be exposed to. This view gains support from the fact that a similar difficulty arises in the comprehension of semantically simple but contextually unexpected (or irrelevant) sentences. There would be some difficulty in understanding a man's request for a handkerchief at a bookstore.

NOTES

1 I must stress from the beginning that the topic of perception is only of secondary interest: it falls beyond the scope of this article. So I shall neither consider any philosophical theory of perception nor mention moreover some important scientific theories such as 'Gestalt', 'Template Matching' and 'Feature Analysis'.

2 In Miller, Bruner and Postman, 1954, Familiarity of letter sequences and tachistoscopic identification. *J. Gen. Psych.* 50, 129-139.

- 3 Bruner, Goodnow and Austin, 1956. 'A Study of Thinking'. It is important to note that these remarks only apply to 'judgment' perception. On the other hand as a mere synonym of 'opinion' (or forming an opinion) 'judgement' (or judging) is not meant to be contrasted with perceiving.
- 4 Of course, examples of 'understanding' (as opposed to 'recognising') do not have to involve a 'conventional' implication (i.e., an inference on the basis of a convention, such as a flag at half-mast). An example not involving a conventional implication of the above sort would be the following: I see a man as rubbing his stomach (i.e., I see a man moving his fingers on his abdomen as someone rubbing his stomach): by this, I understand that he wants me to think that he is hungry. In this case, which I consider a paradigm of non-verbal understanding, 'what is understood' is not inferred on the basis of a convention.
- 5 A Kantian view: See Strawson's 'Imagination and Perception' in *Freedom and Resentment*, p. 51.
- 6 From the first (1871) edition of 'Critique of Pure Reason': "It has hardly struck any psychologist that... imagination is a necessary ingredient of perception" (A 120, n.) Trans. by F.M. Muller (Publ. 1881).
- 7 I do not mean that they necessarily have the same technical sense. For an extensive study of the philosophically technical sense in Hume, Kant and Wittgenstein see Strawson, *op. cit.*
- 8 Ryle's attacks are directed against Cartesian Dualism, and in this respect, our approach is clearly outside the area of thought that is being criticised. However there is still some point in discussing and countering Ryle's arguments, as his programme of refuting Cartesian Dualism relies heavily upon the rejection of the notion of understanding as an inference, and particularly, as an inference of other people's attitudes, and mental states. This is a point of view we have maintained, and one stated (or assumed) by experimental psychologists. So I think Ryle's attacks have to be accounted for.
- 9 'Inferring to another person's thoughts' is a Rylean usage. In this section I retain it as it is.
- 10 We must however keep in mind the above-discussed difference between 'perceiving a behaviour as something (a signal, display, etc.)' and 'understanding the meaning of what someone else does'.
- 11 In fact the idea is very typical of Wittgenstein, especially when one considers passages of his such as "To understand a sentence' can mean 'to know what the sentence signifies'" (Philosophical Grammar, p. 44). But in this particular passage of Wittgenstein, this sentence means something slightly different: he means that understanding a sentence is (roughly speaking) being able to paraphrase it.
- 12 Of course, on each of these occasions I must not know beforehand that the particular sentence-token I am to see has such-and-such meaning: if one already knows the meaning of a sentence-token, one does not need to understand it. It is sufficient to identify it.
- 13 Here are some passages from earlier Wittgenstein (Philosophical Grammar, 1932-34) supporting this view: "In certain of their applications the words 'understand', 'mean' refer to a psychological reaction while hearing, reading, uttering, etc. a sentence. In that case understanding is the phenomenon that occurs when I hear a sentence in a familiar language and not when I hear a sentence in a strange language. Learning a language brings about the understanding of it. But that belongs to the past history of the reaction. The understanding of a sentence is as much something that happens to me as is the hearing of a sentence; it accompanies the hearing" (p. 41). "In (the) example of chess we can... observe the ambiguity of the word 'understand'. When a man who knows the game watches the game of chess, the experience he has when a move is made usually differs from that of someone else without understanding the game... we can also say that it's the knowledge of the rules of chess which makes the difference between the two spectators, and so too that it's the knowledge of the rules which makes the first spectator have the particular experience he has. But this experience is not the knowledge of the rules. Yet we are inclined to call them both understanding' (pp. 49-50).
- 14 With a qualification: understanding words is not exactly the same as understanding a language. "Understanding a language' is more akin to 'understanding a game' than it is to 'understanding words'.

- 15 Again, this does not mean to say that 'understanding token-sentences' and 'understanding non-conventional utterances' involve exactly the same things.
- 16 Of course in exceptional situations, where the particular rules and word-meanings appropriate are given, it may not be a necessity to know/understand the whole of the relevant language in order to understand a sentence of it, but this too may be regarded as providing someone with a limited but effectively appropriate knowledge of a portion of the language.
- 17 Notice that in such situations the difficulty in comprehension is not necessarily connected with the synthetical complexity of the sentences: a very short sentence may be incomprehensible, unless considerable effort (or appropriate study) is made. Moreover, the difficulty does not simply amount to a failure to grasp the meaning of particular highly conceptual expressions that are being used in the sentence: it lies rather in the understanding of the particular combination of certain expressions (i.e., the combination of the concepts they designate).

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ANLAMA : (DİNLEYİCİNİN İLETİŞİM İÇİNDEKİ İŞLEVİ)

ÖZET

İletişim olayları içindeki bir dinleyicinin edimi, 'konuşan kişinin ne demek istediğini anlamak' olarak nitelendirilmektedir. Bunun aşağıdaki iki ayrı yönün bileşimi olarak doğduğu tartışılmaktadır :

a) Konuşanın iletişimsel niyetinin görülmesi,

b) Söylenenin yorumu (açılması); ki bu da bir düşüncenin yapıcı bir çıkarsama ile söylenenin algısından türetilişi olarak açıklanmaktadır.

Yukarıki betimlemeye konu olan anlama kavramı, 'eğilimsel' anlama kavramı açıklamaları ile karşılaştırılmakta ve iletişimde söylenenin (uzlaşım sal olarak, veya böyle olmadan) anlaşılması, bir 'oluş' olarak görülmektedir.