My thesis is concerned with the question of propositions and truth. It is said usually (1) that propositions are true (2) only propositions are true (3) that it is facts that make propositions true. We all understand what is meant when we say "propositions are that of which true and false are predicated and it is facts which make propositions true or false." My first question is to give an answer to the question "What is it that makes propositions true or false?" I give therefore an answer to the question "What is a fact?" I then raise the question whether there are particular kinds of facts called negative facts which make negative propositions true. I am led to suppose that there is no particular kind of fact such as this. The facts which make propositions containing no negation true make also propositions containing negations true. I am led then to suggest a view of the relation between true proposition and fact. The relation of true proposition to fact is the formal one of entailing and determinate communication: The relation of false proposition to fact follows. I suggest that the relation of false proposition to fact is that relation which is the relative product of the relations 'contrary or contradictory of', 'entailing', and 'determinate communication'. I proceed to discuss judgements; thence to the question "What are propositions?". This last question resolves into the question "how do we use the word 'a proposition'." Finally I discuss 'propositions of Logic' and what it means to say that these propositions are true. In the course of my thesis I expound

or criticise certain views held by Prof. Whitehead, Mr. Russell, Prof. Moore, Dr. Wittgenstein, Mr. Ryle, and others in order to help me in my exposition.

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'CONCERNING PROPOSITIONS AND THEIR TRUTH.'

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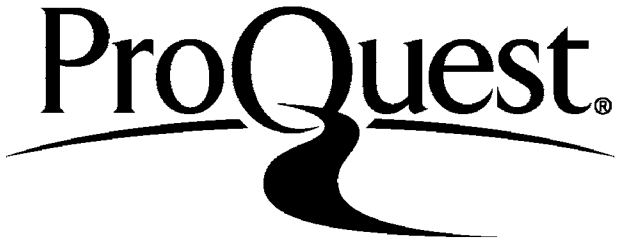

Introduction.

1.0 The questions which I wish to discuss in this thesis centre round the question 'What are propositions?' As soon as we start thinking about the question 'What are propositions?' we are involved in questions of truth and facts. Most people agree that it is propositions and only propositions of which we predicate truth and falsity. Some propositions are true because it is facts that make them so, other propositions are true for other reasons. So that four questions arise immediately we raise the question 'What are propositions?' The first question may be put 'What is the relation of a proposition to the fact which makes it true?' At the outset in answering this question, I thought that I should be able to find a peculiar relation which the proposition in question has to the fact which makes it true in any given case and to no other fact. I find however that, if I accept other conclusions, as I do, there is no such relation. The second question may be put 'What is it that makes propositions which we I think, vaguely call, "propositions about matters of fact" true?' My answer will give an account of facts. The third question may be put 'What is it of which we predicate truth and falsity?' My answer must give an account of propositions of which we predicate truth. The fourth question is 'What is it of which we predicate truth and falsity, yet is not made true by facts, and what are the conditions for the truth of propositions of this species?' My answer will give an account of propositions which state formal relations between component propositions and the way in which these propositions are true.

I think it is clear that we cannot at the outset of a discussion on 'What are propositions?' point to one, as we can a chair, and say 'this is what we are going to talk about'. It would make the discussion much clearer if we could. We should all have a common starting point which is clear and definite. As it is there is nothing definite and precise before the mind. That is why the question 'What are propositions?' is asked. We wish to arrive at this precision. We have to use a word which is very familiar, and which we use constantly, but whose meaning we cannot clearly distinguish from the meaning attached to other words. In my thesis I suggest an account of the relation between proposition and sentence, proposition and judgment, proposition and fact.

1.1 In section 2 I give an account of the relation that negative propositions have to the facts which make them true.

I give also an account of the relation of false propositions to the fact which makes them false or more strictly, to the fact which makes the proposition 'p is false' (where 'p' is a proposition) true; and an account of the relation of propositions about something in the past to the facts which make them true. In each example that I give, I show that the proposition in question is entailed by either a positive molecular proposition or a positive non-molecular proposition and is therefore made true by the very same fact or set of facts which makes these propositions true. Negative propositions, propositions stating that a given proposition is false, propositions about something in the past are true because they are entailed by or entail propositions of these two kinds which are true. I use 'molecular' when I say 'molecular propositions' to mean propositions containing notions of 'all', 'some' and 'no'. There is another use of 'molecular', when we speak of molecular propositions in which the propositions in question are composed of more than one proposition, for example, 'p)q' where p and q are propositions. Propositions which are made up of more than one proposition I call 'compound'. Propositions which are truth functions of elementary propositions, for example, 'All men are mortal', 'No cats are green', 'Some cats are black' I call 'molecular'. Thus I have for every negative proposition that is true some other proposition which (1) is either equivalent to it or entails or is entailed by it and which is either positive and molecular, or positive and non-molecular, or which (2) is entailed by, or entails, or is logically equivalent to a proposition which is positive and molecular or positive and non-molecular. The propositions which the given true negative proposition is related to, by any one of these three relations, form the terms of a series which end finally in a term which is positive and molecular or positive and non-molecular. It is because the given negative proposition is related by these formal relations to a true proposition which is one of these two kinds, that it is true. For the same reasons, propositions stating that a given proposition is false, are true. These propositions also are terms in a series of propositions whose final terms are either positive and molecular propositions or positive and non-molecular propositions. Propositions stating something in the past are true for these reasons too. Thus we have different series whose terms are propositions and the relations between the terms are those of entailing, or its converse, or logical equivalence, and whose final term (that is, the proposition

upon whose truth all the other propositions depend for their truth) is either a positive molecular proposition or a positive non-molecular proposition. When however the final term is molecular the series does not stop here, for the molecular proposition again depends for its truth upon two or more positive non-molecular propositions. The joint assertion of which entails the truth of the molecular proposition. In all cases the terms of the series upon whose truth all the other terms of the series depend for their truth is either one positive non-molecular proposition or a compound proposition which is the product of two or more positive non-molecular propositions. The propositions of everyday usage form the terms of this series. I leave till section 4 the relation of positive non-molecular propositions to the fact which makes them true. I give first an account of the way in which I use the word 'fact'. My question in section 3 is this, 'What kind of thing is it that makes positive non-molecular propositions true?' Since these propositions are called propositions about 'matters of fact' the kind of thing which makes these propositions true I call 'facts'. I do not think that my usage of the word 'fact' and therefore the meaning I attach to the word 'fact' is the ordinary one. My only reason for so using the word 'fact' is, that it is facts in the meaning which I give to the word, which make propositions about 'matters of fact' true. In section 4 I give an account of the relation of positive non-molecular propositions to the facts which make them true. I am unable to find any one peculiar relation which a true proposition has to the fact which makes it true, I give reasons for supposing that there is no such relation. I give the conditions necessary and sufficient, so it seems, for a proposition to be true. I give for the sake of clearness at the beginning of this section (section 4) a short preliminary account of the way in which I use the words 'a proposition'. Perhaps it would be well to read the first two paragraphs of section 6 while reading the first paragraphs of section 4. I did not insert these two paragraphs here (at the beginning of section 4) because they bring in a lot of other distinctions (that is, token sentence and token proposition, type sentence and type proposition) which might obscure the point I want to make. For I want to give what seems a plausible account of the way in which all propositions of which truth may be predicated and all propositions of which false may be predicated are terms in a series of propositions related by the relations of entailing or its converse, and logical equivalence to a

proposition which directly describes a fact (that is, describes a fact more closely than any other proposition which also describes the fact). There is nothing to prevent the same proposition being a term in different series. In fact, all propositions, except the final term which describes the fact directly, are terms in more than one series. In section 5 I give an account of how I use the word 'judgment'. I go on to discuss what it is that sentences of the form 'I judge that p', 'I consider that p', or generally 'I apprehend that p' express. This discussion mainly centres round the usage of 'I' and 'I consider' or 'I think' or 'I judge', etc. etc. in sentences such as 'I think that p' (where 'p' stands for any proposition) or 'I consider that p'. The results I arrive at lead me to deny two usages of 'proposition' which Mr. Ryle expounds and also denies in his article 'What are propositions?' (Proc. Arist. Soc. 1929-30). I then proceed to discuss Mr. Ryle's views further. One usage of 'proposition' which seems valid is that in which 'proposition' is used in the same way as 'sense' when we speak of 'the sense attached to a sentence'. We may say 'the two sentences "this is red" and "ceci est rouge" express the same proposition' or we may say 'the two sentences "this is red" and "ceci est rouge" express the same sense'. We may say 'the sense expressed by these two sentences is the same', or 'the proposition expressed by these two sentences is the same'. Therefore it is argued that the way in which we use the word 'sense' in the sense of a sentence is identical with the way in which we use 'proposition' when we speak of a proposition 'as what the sentence expresses'. Thus the word 'sense' and the word 'proposition' mean the same. This usage of the word 'proposition' Ryle denies. He asserts that what the sentence expresses is a hypothetical fact. I try to show that the way in which he uses the phrase 'hypothetical fact' does not differ from the way in which 'sense' in 'the sense of a sentence' is used. We may therefore attach to the word 'proposition' the meaning which we attach to the word 'sense'. It seems however that Ryle wishes to make the sense which we attach to the sentence identical with the fact which we apprehend. If we did make the sense which we attach to the sentence identical with the fact we apprehend, then his contention would hold that there are no propositions when we use 'proposition' in the same way as 'sense' in 'the sense of a sentence'. For the sense of a sentence is identical with the fact which the sentence is used to express. There are

not two notions, 'fact' and 'the sense of a sentence', but one notion only, that is fact. I have given, however, in section 4 what seem conclusive reasons for supposing that the sense of a sentence is never identical with the fact apprehended. It is only when a sentence expresses one and only one fact that the sense of a sentence is identical with the fact. Sentences which express one and only one fact we are never able to construct. Thus the sense of a sentence is never identical with the fact. Although I admit that 'a proposition' may be used in the same way as 'sense' in 'the sense of a sentence' I give no account of the way in which 'proposition', used in this way, is true. In section 6 I first of all make distinctions between the token use of words and sentences and the type use of words and sentences; then I make a distinction between the token use of the word 'proposition' and the type use of the word 'proposition', and therefore make a distinction between the token meaning of the word 'proposition' and the type meaning of the word 'proposition'. I use token-proposition in that usage of proposition in which 'I believe a proposition' or 'I assert a proposition' or 'I state a proposition' or 'I consider a proposition' and in which any one of these propositions, that is, 'I believe a proposition', 'I assert a proposition', etc. entails 'I attach sense to written or spoken type-sentences'. I nowhere give a definition of 'proposition' when so used, for I am unable to find any other set of words that mean the same as 'proposition' in this usage. Since however it is propositions which describe facts, then a proposition is a description when used in this way. It is propositions used in this sense that are the terms in those series which give the relation between the propositions of everyday usage and the facts which make them true. For it is token-propositions, I give reasons for suggesting, that are related by the relation of entailing and therefore of logical equivalence. When I answer the question 'what is it that is related by the relations of logical equivalence and therefore entailing?' I have three possible answers in view. It may be either 'token-proposition', 'type-proposition', or 'type-sentence'. I do not think anyone would want to maintain that it is token-sentences that are related by the relation of entailing. If they did, and if the distinction between token and type sentence is valid, then it would be easy to refute them, it seems. I do not consider again the possibility that it is 'proposition' used in the same way as 'sense' in 'the sense

of a sentence' that may be related by 'entailing'. ('The sense of a sentence' is ambiguous; for 'sense' may mean either (1) the sense attached to one individual sentence, or (2) the sense common to a whole lot of sentences, that is, one and identically the same sense being attached to two or three sentences). In the last paragraph of section 6 I suggest the conditions which a compound proposition stating a definition between component propositions must fulfil in order to be true. I then proceed in section 7 to give an account of the conditions which a compound proposition stating a relation of entailing between component propositions must fulfil in order to be true. The conditions for the truth of either a compound proposition stating a relation of entailing between component propositions, or a compound proposition stating a definition between component propositions is the same. Since compound propositions which state relations of definition, or logical equivalence, or entailing between component propositions occur frequently in mathematics, in giving an answer to the question 'What are the conditions which justify the truth of compound propositions stating a relation of entailing between component propositions?' I have also suggested an answer to the question 'what are the conditions which justify the truth of some propositions occurring in mathematics?'

1.2 My thesis may be divided roughly into three parts. The first part concludes at the end of section 4. In this part I give an account of the relation of all propositions which, in everyday language, we call 'propositions about matters of fact' to the facts which make them true. Sections 5 and 6 are concerned with different usages of the phrase 'a proposition' and therefore of the different meanings attached to the phrase 'a proposition'. There are the two usages of proposition which, in agreement with Mr. Ryle, I deny, that is:

A proposition = df. (1) The accusative of an act of consciousness.

A proposition = df. (2) The independent accusative of an act of consciousness.

(3) There is the usage of proposition in which 'I apprehend a proposition' entails 'I attach sense to spoken or written sentences.

(4) There is the usage of proposition in which 'I apprehend a proposition' entails 'I attach sense to symbols but not either spoken or written sentences'.

There is the usage of proposition when 'a proposition' = cf. 'a sense'. Because 'a sense' in 'the sense of a sentence' is ambiguous, there are two usages of proposition when we use 'a proposition' in the same way as 'the sense' of a sentence.

(5) 'A proposition' may mean either:

(1) The sense attached to one particular sentence.

(6) (2) The sense which is identically the same in different sentences.

(7) 'A proposition' may mean 'a sentence'.

I owe that usage of proposition which I give in (3) to Professor Moore and also the usage of 'proposition' given in (4).

The third part starts with the last paragraph of section 6. In this paragraph and in section 7, I deal with the conditions which compound propositions stating formal relations between component propositions must fulfil in order to be true. Throughout my thesis I have been very much indebted to remarks I have heard Professor Moore and Dr. Wittgenstein make in lectures and discussion classes. I do not know, however, whether on any occasion I have interpreted their remarks correctly.

A sentence is the expression of a thought or fact. For we use sentences to express our thoughts and we use sentences to express the facts we apprehend. A thought may be expressed in many ways. By words, by movements of the body, by maps, by pictures etc. etc. The usual method is by words. It is the most convenient. There is no need, however; I may express a thought by saying 'I have just seen a man passing riding a bicycle'. Or I may express this same thought by pointing to myself, my eyes, then complete my expression by drawing a picture of a man riding a bicycle. I may say 'I bought two bananas to-day' and again instead of 'two bananas' have two bananas themselves. I should then express my thought by saying 'I have bought' and hold up the two bananas. Either method would express my thought. An expression of a thought is not limited to an expression in words in a sentence. In the following I want to consider negative propositions, false propositions, and propositions which are about something in the past; for I want to give what seems to me the conclusive reasons for supposing that it is not a special kind of fact called a negative fact which makes negative propositions true. Nor is it some special kind of fact, which may be expressed only by using a sentence in which a past tense occurs, which makes propositions about something past true. But that both species of proposition, i.e. negative propositions and propositions about something in the past are made true by facts which may be expressed by using sentences containing no notion of negation and no verb expressing something in the past. Since 'p is false' = df. 'not p', the notion of falsehood is closely bound up with that of negation. I give what seems to me a likely account of the relation of false proposition to fact. I give first an account of negative propositions.

2.11 I may either say 'it is fine to-day' or 'it is not wet to-day', 'I did not lose my watch after all', 'I found my watch after all', 'I did not go out', or 'I stayed in', 'He did not lose his train', 'He caught his train'. Often I can, if I want, express the same thought by using a sentence containing 'not' or a sentence in which 'not' does not occur. The above pairs of sentences seem to me to express precisely the same thought. We attach the same sense to both sentences. The propositions 'it is fine to-day' and 'it is not wet to-day' are logically equivalent. The other pairs of propositions are also logically equivalent for we attach the same sense to both sentences in each pair. 'I did not go out' entails 'I

stayed in', and 'I stayed in' entails 'I did not go out'. That sometimes we may replace a proposition which contains the notion of negation, by a proposition in which no such notion occurs and which entails and is entailed by it, is of importance when we come to discuss whether or not there are negative facts. Sometimes the word 'not' plays no part in the sentence such that without it the thought could not be expressed. This is not so with every word. Some words if the same thought is to be expressed must appear in any sentence which expresses the same thought.

2.12 One argument which says there are negative facts goes as follows: A sentence is said to express a proposition. So that a proposition is the sense we attach to sentences. The proposition refers to a fact. It is said that sentences in which a negation appears express propositions in which a negation appears, that is negative propositions. The negative propositions refer to facts. The facts are negative because they are referred to or expressed by negative propositions. These facts make negative propositions true. It is clear that sometimes this argument would not hold. For sometimes the negative 'not' appears in sentences and we may attach the same sense to another sentence in which no negation occurs, e.g. 'I did not go out' and 'I stayed in'. If the two propositions 'I did not go out' and 'I stayed in' both entail one another then it is clear that we do not need two different facts to make these propositions true. But the fact that makes the one true will make the other so. If 'I remained in' is true and this proposition entails 'I did not go out' then 'I did not go out' is true. For if a proposition is true and the proposition in question entails another proposition then the other proposition is true. In my account of the truth of negative propositions I use the notion of entailing frequently. Sometimes, however, we cannot discover another proposition logically equivalent to the given negative proposition. Then the argument above might be thought to hold. But upon my view I am wanting to assert that for every negative proposition we may find some other proposition which is either entailed by it or entails it, or is logically equivalent to it, which contains no negation. If this is so then the truth of a negative proposition will follow from the truth of a positive proposition. Also one and the same fact will make both a negative and a positive proposition true. Another argument, given by Mr. Russell in a discussion with Mr. Demos, gives other reasons for holding negative facts (Monist 1919, page 45). The difference

between negative facts and positive facts is that the negative fact is expressed by a sentence which may if we like contain 'not' while a positive fact is referred to by a proposition which never contains a negation. "You cannot" says Mr. Demos, "regard the statement 'Socrates is not alive' as being the expression of a fact in the same sort of direct way in which 'Socrates is human' would be an expression of a fact" (page 43). I want to show, I think conclusively, that negative propositions are never so closely related to the fact which makes them true as the corresponding true proposition if it were true. Mr. Russell on the other hand seems implicitly to imply two things (i) that it is facts which make propositions true; and (ii) that these facts are always directly connected with the proposition which they make true. In his argument for negative facts he says that Mr. Demos' theory makes 'incompatibility fundamental and an objective fact'. For he argues since 'not p' means 'there is a proposition q which is true and is incompatible with p' (following Mr. Demos' definition) 'you have got to have here "that p is incompatible with q" in order to reduce 'not' to incompatibility, because this has to be the corresponding fact'. (Page 45, 1919 Monist). The 'this' refers to 'that p is incompatible with q' and is the corresponding fact. Why, however, have I got to have p incompatible with q in order to reduce 'not' to incompatibility? and why does Russell call that p is incompatible with q "the corresponding fact"? The answers seem to be that we must have the proposition 'that p is incompatible with q' true whenever 'not p' is true because the one is the definition of the other. In order to have the proposition which is the definition true, we must have a fact with which it corresponds which makes it true. The fact Russell says is 'that p is incompatible with q', and this is that with which the definition corresponds. Again, if I say 'there is not a hippopotamus in this room' "it is quite clear", Russell says, "there is some way of interpreting the statement according to which there is a corresponding fact" which is a fact corresponding to the proposition 'there is not a hippopotamus in this room' and makes the proposition in question true. Since the sentence contains 'not' the proposition we apprehend 'that there is no hippopotamus in this room' is negative, and the fact to which the proposition corresponds will also be negative. It is an argument such as this, so it seems, that makes plausible the assertion that there are negative facts. I think that in either argument

Russell implies implicitly that the relation of the true proposition to the fact which makes it true is direct, else why should he pass from the true proposition 'that there is no hippopotamus in this room' to the statement that the fact that makes it true is negative? and why should he speak of 'that p is incompatible with q' as a fact? I want to give an account of negative propositions such that it is facts that make them true, but that those facts are not negative. I want to show that the relation of true negative proposition to the fact which makes it true is usually very indirect.

2.121 In order to show that negative propositions depend for their truth upon the same facts as positive propositions depend for their truth, I am able only to give examples. If anyone pointed out to me a negative proposition which I could not show depended for its truth upon a fact which a positive proposition depended for its truth, that person would have refuted me. Because however I cannot myself find any such proposition, and because I think that no one could point out to me such a proposition then I consider that my arguments are conclusive in proving that there is no particular kind of fact called a negative fact which makes negative propositions true.

Example 1. 'I am not sorry that you have come' and suppose it to be true.

'I am not sorry that you have come' is entailed by (1) 'I am glad that you have come' and (2) 'I am merely passive to your coming'.

This step may be shown more clearly in this way: I think most people would consider this definition valid. 'p is false' = df. 'not p' is true. If the convention is such that 'p is true' = df. 'p', then we may say 'p is false' = df. 'not p' = df. ' "not p" is true'.

Now consider the assertion 'I am not sorry that you have come' is entailed by 'I am glad that you have come'.

' "I am glad that you have come" is true' entails:

i.e. 'I am not glad that you have come' is false.

i.e. 'I am sorry that you have come' is false.

i.e. 'I am not sorry that you have come' is true.

If our convention is such that 'p is true' means what is meant by 'p'.

Then 'I am glad that you have come' entails 'I am not sorry that you have come'.

Consider again the assertion ' "I am not sorry that you have" entails "I am merely passive to your coming" '.

' "I am merely passive to your coming" is true' entails "I am sorry that you have come" is false.

i.e. "I am not sorry that you have come" is true. Since 'I am not sorry that you have come' is supposed to be true, and since the only alternatives left to me if 'I am not sorry that you have come' is true are either (1) 'I am glad that you have come', or (2) 'I am merely passive to your coming' then one of these is true. And either of these propositions entails 'I am not sorry that you have come', so that one and the same fact which makes 'I am not sorry that you have come' true makes 'I am glad that you have come' true. That is one and the same fact which makes a negative proposition true makes also a proposition containing no negation true. Which is what I wanted to prove. If we may say that the relation of a true positive proposition to the fact which makes it true is that it describes the fact in question, or in Russell's words 'corresponds with the fact', then we may state the relation of true negative proposition to fact (which is shown in this example) by saying that it (the true negative proposition) is entailed by a positive proposition which describes or 'corresponds with a fact'.

Example 2. 'I cannot make them hear me when I ring the bell' and suppose the proposition to be true.

This example is more complicated than the last.

(i) 'I cannot make them hear me when I ring the bell' entails 'They do not hear me when I ring the bell'.

(ii) 'They do not hear me when I ring the bell' entails (in the widest sense of 'do not hear me', that is 'ignore me') 'They ignore me when I ring the bell'.

(iii) 'They ignore me when I ring the bell' entails 'they pay no attention to me when I ring the bell'.

(iv) 'They pay no attention to me when I ring the bell' is entailed by 'They attend to something other than me throughout the time I am ringing the bell and waiting'.

'They attend to something other than me throughout the time I am ringing the bell and waiting' is a proposition whose truth depends upon the truth of a whole lot of other propositions. If they attend to me, then they would either (1) open the door, (2) hear the bell ring, (3) see me, (4) speak to me. Since the proposition 'they are not attending to me' is true, then they are not doing any one of these things. The proposition that states what in fact they are doing entails 'that they are not attending to me'. If they are doing a whole lot of things, then the joint assertion of all these things entails that they are not

attending to me. The proposition stating what they are doing is positive. It entails 'they are attending to something other than me'. Thus the proposition 'they attend to something other than me throughout the time I am ringing the bell and waiting' is entailed by a proposition in which no negation occurs. This proposition describes or corresponds with fact. The proposition which describes the fact entails the proposition 'they pay no attention to me when I ring the bell' (cf. (iv)) which is entailed by the given proposition (cf. (i)). Thus again we do not need more than one fact to make both a negative and a positive proposition true. The relation of the negative proposition to the fact in this example is more indirect than in example 1. We might say here that the relation of this proposition to the fact which makes it true is that it entails a proposition which is entailed by another proposition which is entailed by a further proposition which describes a fact.

I will give one other example.

Example 3. 'I neglect my books'.

'I neglect my books' = df. 'I do not take care of my books'.
If I take care of my books then I perhaps (1) dust them, (2) put them away on shelves, (3) pack them carefully if I want to sent them away, etc. etc. So that to say 'I do not take care of my books' is true is to say I do none of these things.

Therefore 'I do not take care of my books' entails
'I do not dust them, put them on shelves', etc. etc.
i.e. 'I do not treat my books with care' entails 'I always do things to my books other than treat them with care'.

(i) 'I always do things to my books other than treat them with care' is true if at any time I do something to my books it is something which is not among the list of actions included in the careful treatment of books. Whatever action this is it entails that 'I am now doing something to my books other than treat them with care'. The proposition which states what action it is I am doing is positive, it entails this other proposition (i) which is entailed by the original proposition. Thus one and the same fact makes the positive proposition true and the negative proposition which is entailed by it. The

relation of negative proposition to fact in this example is that it (the negative proposition) entails a proposition which is entailed by a proposition which describes a fact.

Example 4. Consider Russell's argument for negative facts. 'It is quite clear' says Russell, 'that there is some way of interpreting the statement "there is no hippopotamus in this room" according to which there is a corresponding fact and the fact cannot be merely that every part of this room is filled up with something other than a hippopotamus'. Take the proposition 'a hippopotamus is in this room'. If this proposition were true it could be only because a proposition, 'a hippopotamus is located at P during T' corresponds to fact. We look round the room and find that there is somewhere 'P' a group of characteristics which we call 'a hippopotamus'. If the proposition 'a hippopotamus is in this room' is false, then at any location p, p_1, p_2 —— during T we find something other than a hippopotamus or nothing. Suppose we divide the room up into mutually exclusive squares. We call the squares p, p_1, p_2, then if 'a hippopotamus is in this room' is false, that is, 'there is not a hippopotamus in this room' is true, we have at each location p, p_1, p_2 —— something other than a hippopotamus or nothing. We have, for example,

A chair is located at p_1, during T.

A table is located at p_2, during T.

Nothing is located at p_3, during T, etc. etc.

So that we can say 'at any position p during T in this room there is something other than a hippopotamus'. This proposition is the joint assertion of all the propositions above. It is a molecular proposition. We are led to the explanation that Russell objects to: 'that every part of this room is filled up with something other than a hippopotamus' makes the proposition 'there is no hippopotamus in this room' true. For the former entails the latter. He objects to this explanation because he thinks that there must be some one fact which makes this proposition 'there is not a hippopotamus in this room' true. The proposition which makes this proposition true is a molecular proposition so that we have to admit molecular facts. He does not consider, however, that the proposition 'at any position P in this room during T there is something other than a hippopotamus' is a truth function of elementary propositions. Its constituent propositions are true because each one corresponds to a fact. We have no need to posit some further 'fact' other than those corresponding to the constituent propositions in order to make the molecular proposition or truth function true.

No single molecular fact is needed. The truth function is true in a different way from the way in which an elementary proposition is true. It is true because the joint assertion of the atomic propositions entails its truth.

These four examples conclude my discussion on negative propositions and my arguments against negative facts. I think I have shown conclusively that no particular kind of fact called a negative fact is required to make negative propositions true. I have shown that the relation of negative proposition to fact is always indirect. That is in no case is a negative proposition related to a fact by a single relation; but the relation of a negative proposition to fact may always be said to be such that it (the negative proposition) is entailed by or entails a proposition q which contains no negation and describes or corresponds with a fact. It is positive propositions which are most nearly related to the facts which make them true.

2.1211 I come now to false propositions. The relation of false propositions to fact follows immediately from the definition given to false propositions, that is 'p is false' = df. 'not p' or 'not p' is true. From this definition it is clear that the account of the relation of a false proposition to the fact which makes it false is the same as the account of negative propositions and their relation to fact. Because every proposition which is false we may replace by a negative proposition. The relation of negative proposition to fact we have just dealt with. So that the relation of false proposition to fact is given when we give the relation of negative proposition to fact. Consider some examples. Example 1. 'I went out' is false = df. 'I did not go out' is true = df. 'I stayed in' is true, which is a positive proposition. Consider the example in the present tense; for we have not dealt yet with the relation of positive propositions in the past to facts. 'I go out' is false = df. 'I do not go out' is true = df. 'I stay in' is true. We may still state the relation of false proposition to the fact which makes it false in terms of entailing. For if a proposition p means what is meant by a proposition q then p and q are logically equivalent. This I can show by a few examples. If 'I went out' means what is meant by 'I did not stay in' then 'I went out' entails 'I did not stay in', and 'I did not stay in' entails 'I went out'. 'Caesar is not alive' means what is meant by 'Caesar is dead': 'Caesar is dead' entails 'Caesar is not alive', and 'Caesar is not alive' entails 'Caesar is dead'.

We can say therefore of the relation of ' "I go out" is false' to ' "I stay in" is true' that ' "I go out" is false' is logically equivalent to the proposition ' "I stay in" is true'. This proposition is positive and describes the fact which makes it true.

Example 2. (i) '"I am looking out of the window" is false' (= df.) and (is logically equivalent to) '"I am not looking out of the window now" is true'.

(ii) 'I am not looking out of the window now' is entailed by 'I am doing something other than looking out of the window now'. Suppose that I am writing now. So that the proposition 'I am writing now' describes a fact. Then

(iii) 'I am writing now' entails 'I am doing something now'.

(iv) 'I am doing something now' is entailed by 'I am doing something other than looking out of the window now'. Therefore '"I am looking out of the window now" is false' is made true by the same fact which 'I am writing now' is made true. Or putting it in another way, 'I am not looking out of the window now' is made true by the very same fact that makes 'I am writing now' true. Whenever I have a proposition p which I assert to be false I must already know that another proposition q (here 'I am writing now') is true before I am justified in asserting that p (here 'I am looking out of the window now') is false. I take the truth of what I have just said to be obvious immediately. If it is not immediately obvious, all I am able then to do is to ask 'do you not always when you assert p to be false know already that another proposition q which is the contrary or contradictory of p is true?' The relation in example 2 of the proposition 'p is false' to the fact which makes the proposition 'p is false' true is that 'p is false' is logically equivalent to the negative proposition 'not p' which is related to the fact that makes it true by being entailed by a proposition (ii) which entails another proposition (iv) which is entailed by a third proposition (iii), and this third proposition describes a fact. We may say generally as regards to the relation of false proposition to fact that the proposition 'p is false' is related to the fact which makes it true by being logically equivalent to a proposition 'not p' which either is logically equivalent, entails, is entailed by some proposition q which describes the fact. The statement of this relation follows directly from the definition of 'p is false' as meaning 'not p'. For 'not p' is related to the fact which makes it true as I have already said by being either logically equivalent, entailed by,

entailing another proposition q which describes the fact. Since it seems immediately obvious that in order to assert 'p is false' we must know another proposition q which describes a fact, then p and q must be such that the one cannot be true and the other true also. If this is so then we may always say that p (which is false) is the contrary or contradictory of the proposition q which describes a fact. So that we have still another way of expressing the relation of false proposition to fact. It seems, however, that the first account of the relation is the more precise. The second account of the relation is entailed by the first account. For 'p is false' is so defined that it means what is meant by its contradictory 'not p'. Anything entailed by the contradictory of 'p' cannot be anything else but a contrary, or the contradictory stated over again in other words. It is for these reasons that I think Mr. Demos' account of the relation of a negative proposition to the fact which makes it true important. He states, as I have already said:

'Not p' means 'there is a proposition q which is true and is incompatible with p'. I do not agree that 'not p' means what he says it means. For as far as I know when I express in words a sentence such as 'it is not raining' I never attach to this sentence the sense 'that there is a proposition q which is true and is incompatible with the proposition 'it is raining'. Suppose, however, we substitute for 'not p' 'p is false': I still do not think that I when I express in words the sentence '"It is raining" is false' I attach to this sentence the sense that I attach to this other sentence which Mr. Demos states to be its definition. What I do think, however, is that Mr. Demos has stated in terms of 'incompatibility' the relation of 'p is false' to the fact which makes the proposition 'p is false' true. For if a proposition 'p' when it is false is related to the fact which makes it false by being the contradictory of a proposition q which describes a fact, for example, the proposition 'I go out' in '"I go out" is false' is the contradictory of 'I stay in' which is true and describes a fact; or if a proposition p when it is false is related to the fact which makes it false by being the contrary of a proposition q which describes a fact, for example, the proposition 'I am looking out of the window' in '"I am looking out of the window now" is false' is a contrary of the proposition 'I am writing now' which is true and describes a fact. Then, if this is so, it is true to say that in either case p which is false is incompatible with a proposition q which is true. If p is the contradictory of q

then p is incompatible with q. And if 'p' is a contrary of q then p is incompatible with q. It is in taking Mr. Demos' remarks in such a way that they give a third way of stating the relation of false proposition to fact that I think they are important. The only drawback to this way of stating the relation is that it is not so precise as either the first or the second way of stating the relation of false proposition to fact.

2.122 I suggest now the relation that a proposition describing something in the past has to the fact which makes it true. I do not think that anyone has maintained that there is some species of fact called a 'past-fact' which makes propositions about something in the past true. What a person means when they say 'that so and so is a past fact' is that the fact in question occurred in the past. I want to give the relation of a proposition about something in the past to the fact which makes it true, in order to conclude my reasons which I think are conclusive 'that it is one and the same fact which makes (1) a positive proposition (not containing notions of all or some) true, (2) a negative proposition true, (3) a proposition 'p is false' true, (4) a proposition about something in the past true. For example, 'It is the fact that makes the proposition 'I am writing now' true, that is (1); which makes '"I am looking out of the window" is false' true, that is (3); which makes 'I am not looking out of the window now' true, that is (2); which makes 'I was writing just now' true, that is (4). It is a group of facts such as are expressed by 'I am writing now', that make propositions containing 'all' and 'some' true. For propositions containing 'all' and 'some' are truth functions of elementary propositions, that is the truth of these propositions depends solely upon the truth of a set of propositions not containing notions of 'all' and 'some'. Consider some examples in order to illustrate the relation of a proposition about something in the past to the fact which makes it true.

Example 1. 'I rang the bell' and suppose it to be true. 'I rang the bell' is true if at some time in the past I was ringing the bell. Suppose the time to be T, then at T I am ringing the bell: and T is previous to the time I am speaking. So when I say 'I rang the bell' and the proposition is true I may infer 'that at some time in the past, say T, I am ringing the bell'. If it is some time in the past that I am ringing the bell, then it is at a time previous to now, that I am ringing the bell. To say 'that at some time in the

past, say T, I am ringing the bell' is to say precisely the same as 'that at a time previous to now I am ringing the bell'. The two propositions are logically equivalent. Suppose I say 'that at a time previous to now I am ringing the bell'. Then I may infer 'I was ringing the bell' (supposing the first proposition to be true). But 'I was ringing the bell' when true, entails (as I have said) that at some time previous to now I am ringing the bell. Thus the proposition 'I rang the bell' is logically equivalent to the proposition 'that at a time T previous to now (T_1) I am ringing the bell.

Consider now what fact makes the proposition 'that at a time T previous to now (T_1), I am ringing the bell' true. In this proposition I state both (1) that at a time T I ring the bell, and (2) that T is previous to T_1, which is now. What makes the joint assertion of these two propositions true is that proposition (1) describes a fact, and proposition (2) is made true by a comparison of the times T and T_1. Thus the proposition 'I rang the bell' is made true by being logically equivalent to a proposition whose truth depends on two things, that is, that one component proposition should describe a fact and that a comparison should be made between the two times in question.

Consider another example. 'I walked down the street' and consider it to be true.

(i) '"I walked down the street" is true' entails '"at a time T previous to now (T_1) I walk down the street" is true'.

(ii) '"I walked down the street" is true' entails

(1) '"At a time T I walk down the street" is true',

(2) '"The time T is previous to now T_1" is true'.

The joint assertion of (1) and (2) entails '"I walked down the street" is true'.

(iii) '"I walked down the street" is true' is logically equivalent to '"at a time T previous to T_1, which is now, I walk down the street" is true'.

Suppose we agree to the convention that to 'p - df. p is true'.

(iv) Then 'I walked down the street' is logically equivalent to 'at a time T previous to T_1, which is now, I walk down the street'.

'At a time T previous to T_1, which is now, I walk down the street' is true if (1) the proposition 'I walk down the street at T' describes a fact, and (2) if T is previous to T_1.

Thus the relation of 'I walked down the street' to what makes it true is that the proposition in question is logically equivalent to a proposition which is the conjunction of two

propositions, one of which is made true by describing a fact and the other by a comparison of the two times in question.

Example 3. Consider the example 'I could not make them hear me when I rang the bell' and consider it true and let it be called p.

(i) Then the proposition p is logically equivalent to a proposition 'At a time T previous to T_1, which is now, I cannot make them hear me when I ring the bell'; let this proposition be called q.

(ii) Then q consists of the two propositions:

(a) At time T I cannot make them hear me when I ring the bell;

(b) That T is previous to T_1, which is now.

The relation of the proposition 'I cannot make them hear me when I ring the bell' to the fact which makes it true has already been dealt with (Ex. 2, 2.121). (The time T is contained in the presentness of the tense used). The proposition 'that T is previous to T_1, which is now, is made true by comparing the two times in question.

Therefore the relation of p to that which makes it true is that p is logically equivalent to the proposition q which is made true (1) because one of its component propositions is indirectly related (that is, related through intermediary propositions) to a fact which makes it true, (2) by a comparison of the two times in question.

Example 4. '"He lost the race" is false'.

(i) '"He lost the race" is false' = df. '"He did not lose the race" is true'.

(ii) 'He did not lose the race' is logically equivalent to 'At some time T previous to T_1, which is now, he does not lose the race'.

(iii) 'At some time T previous to T_1, which is now, he does not lose the race' is true if its component propositions are true: If (1) 'At time T he wins the race' is true.
If (2) Time T is previous to now, T_1.

Thus the relation of '"He lost the race" is false' to that which makes it true is that the proposition in question is the definiendum of a proposition which is logically equivalent to a proposition which is made true:

(1) Because one of its component propositions describes a fact;

(2) By a comparison of the two times in question.

2.123 In this section I have shown, I think, conclusively that the same fact that makes positive propositions (not containing

notions of all and some) true (1) makes propositions containing notions of 'all', 'some' and 'no' true, (2) makes negative propositions true, (3) makes propositions which state that a given proposition is false, true, (4) are one element in that which makes propositions about the past true. In the next section I suggest an account of this fact. I give what seems to me a correct account of what makes positive propositions (not containing notions of all and some) true. In doing this I give an account of the kind of thing that makes negative propositions, propositions about the past and propositions which state that a given proposition is false, true.

The relation of negative proposition to the fact which makes it true has sometimes been represented graphically; it is clear, however, that if the relation that a negative proposition has to the fact which makes it true is of the kind I have suggested then no graphical representation is adequate.

In the account I have suggested both negative propositions, false propositions, propositions about something in the past are related (through intermediary propositions) to a positive proposition which is said to describe the fact. The relation of positive proposition (not containing notions of 'all' and 'some') to the fact which makes it true, I deal with in section 4. The relation positive propositions (not containing notions of 'all' and 'some') have to facts is the most direct relation any proposition has to the fact which makes it true. For all other propositions are related to the facts which make them true through these propositions. The most direct relation that any proposition has to a fact is that relation in which there is no other proposition intermediary between the proposition in question and the fact which makes it true. It is only positive propositions which may have this relation. I will give now what seems to me to be a plausible account of those facts which make propositions true, then go on to give an account of the relation of positive propositions (not containing 'all' and 'some') to these facts.

The kind of thing I mean by 'a fact' is the kind of thing we observe and comment on by such propositions as 'it is raining' or 'there are people passing outside'. We all know that what we observe when we say 'it is raining' is a state of the weather which differs from snowing or hailing. We all know that what we observe when we say 'there are people passing outside' are for instance noises of footsteps and perhaps noises of talking. Because we do not merely hear noises, but we observe them to be noises of a certain kind, namely 'of people talking' or 'of footsteps'. Then I should like to speak of apprehending facts. Again what we apprehend and express by the words 'it is raining' or 'there are people passing outside' is something which is also apprehended as happening now, which is also apprehended as happening in a certain place. For we do not merely hear noises of footsteps but we hear them as outside. We do not merely see rain falling but we see it as falling outside of us. Our apprehension is complex and covers different kinds of awareness. For we are not aware of noises as being outside in the same way as we are aware of 'noises as being of a certain kind'. And we are not aware of the noises as being outside in the same way as we are aware of them as being noises of a certain kind. I should like apprehension to cover all these different states of awareness; and to speak of apprehending facts. These facts, therefore, consist of such things as sounds or colours observed to be of a certain kind which occur in a place at a certain time. The fact is 'all I apprehend'. Not only do I apprehend sounds or colours of certain kinds but I also apprehend them as occurring in a certain place at a certain time. The fact itself is not in space and time. What is in space and time are the sounds and colours and 'apprehending them as in space and time' is identical with 'the apprehending of a fact'. In any one proposition I do not describe as a rule, all I apprehend. When I describe a fact I apprehend by the proposition 'there are buses passing outside now' I may apprehend at that moment not only the specific noises the buses are making but also other specific noises such as someone whistling outside. It may take a number of propositions to describe 'all I apprehend' in this fact. Consider some examples: (1) 'A sparrow is chirping in that tree'; and consider the kind of fact that we should describe by asserting the proposition 'a sparrow is chirping in that tree'. I do not see the sparrow very probably. I only hear a specific noise

which is a noise of a sparrow chirping. I see a tree: I hear noises of a specific kind and I see a coloured shape of a specific kind which is the colour and shape of a tree. I have visual and aural sense objects which I recognise to be of a certain kind. (I use 'recognise' such that to say that 'I recognise something' neither entails that the same thing recurs or entails that the same thing does not recur. We use 'recognise' such that we may say both 'I recognise x to be similar to y' and 'I recognise x as being identically the same thing as what I, for example saw, previously'). In this example I am sensibly aware of certain aural and visual objects and I recognise them to be of a certain kind. In being sensibly aware of certain aural and visual objects I also locate those objects as somewhere outside of me: the bird is in the tree: and the tree is outside of me, over there. I cannot be sensibly aware of something unless it is present to me; and if that something is present to me, it is present to me now. Consider another example: (ii) 'There are buses passing outside'. When I describe the fact I apprehend by asserting this proposition, I may not be looking outside but merely hearing noises which I recognise as noises which a bus makes. I have aural sense objects which I locate as 'outside' now, and I recognise them to be of a certain kind. Sometimes, very rarely, I may be sensibly aware of certain specific noises but I do not recognise those noises as being of any kind. When I am waking up from sleep or attending to other things besides that which I am sensibly aware of, I may do this. If I am sensibly aware of something and locate also that something, however vaguely, as somewhere, then I apprehend a fact. I think it likely that we always, when we are sensibly aware of something, locate that something vaguely as somewhere. Since I use 'apprehension' when I speak of apprehending a fact such that whenever I assert a proposition such as 'it is raining' or 'there are people passing outside' I am apprehending a fact. And since I use 'apprehension' when I speak of apprehending a fact, such that in merely hearing a noise, or seeing a colour, or touching or feeling something which I locate somewhere, I am also apprehending a fact; then I may say in virtue of my use of 'apprehension'.

'I am sensibly aware of something as somewhere' entails 'I apprehend a fact'; and whenever I assert that I apprehend a fact I may also assert that 'I am sensibly aware of something as somewhere'.

Generally when I apprehend a fact, as I have said, I do

more than merely be sensibly aware of something as somewhere. For I recognise what I am sensibly aware of, to be of some kind or other.

3.1 If I am sensibly aware of something as somewhere then something is present to me: the proposition 'something is present to me' contains the notion of 'now' in the tense used. We might use 'is' non-temporally; then 'something is present to me now' and 'something is present to me' would not have the same sense. As we use 'is' in 'something is present to me' the propositions 'something is present to me' and 'something is present to me now' are logically equivalent. The words 'is' or 'now' stand for the specious present. The specious present is limited in its decreasing extent to the time it takes anyone when they apprehend a fact to be sensibly aware of something as somewhere. The time it takes anyone to do this is very small, hence the decreasing limit of the specious present is very small. We so use the notion 'specious present' that its increasing extent may be beyond the moment that it takes to be sensibly aware of something as somewhere and to recognise the something as of a certain kind. Sometimes we seem so to use 'specious present' that the length of time that it takes an event to take place is the length of time included in the specious present. If then the event is 'the Battle of Waterloo'or 'a play acted at the theatre' or 'the hoot of a car' the specious present in which these events take place are of very different length. It is clear that if I were watching the Battle of Waterloo the time it takes this event to take place, this specious present, contains many other specious presents within it. For I am sensibly aware of something as somewhere a very great number of times, that is, I apprehend a great number of facts while watching such an event take place. We may call this large fact one fact, and divide up this large fact into much smaller facts. The fact which I may describe as 'the combination of all these visual and auditory sense objects which I recognise to be of certain kinds, occurring during a certain time (the specious present) in a certain place, and which are called "the Battle of Waterloo" ' may be divided up into much smaller facts. This fact may be divided up into smaller combinations of visual and auditory sense objects which I recognise to be of certain kinds and occurring within a smaller specious present in the same place. I may go on sub-dividing the facts I apprehend until I come at last to those visual and auditory sense objects

which I do not recognise but merely locate in a small fraction of a second as somewhere. This last division of facts is extended over in time by all other divisions of the fact: while the fact which is the event of the Battle of Waterloo occurring at a certain time in a certain place extends over all the other facts which I apprehend while watching the battle. One fact is related to another fact by being extended over by that fact (in time) or extending over the other fact (in time). Again, one fact is related to another fact by extending over or being extended over by the other fact in space: I may apprehend a fact by having visual and tactual sense objects which I recognise as of certain kinds when I look round and touch the objects in my room. The fact which I apprehend when I look at my room as a whole extends over (spacially) the fact which I apprehend when I look at part of my room. I may at one glance be able to take in, in my range of vision, the two walls on either side and the wall in front of me and the floor space between these three walls. Then when I narrow my vision I may have visual sense objects which I recognise as of a chair in front of me. These visual sense objects which I recognise as of a chair and which are in front of me within my specious present is a fact I apprehend extended over spacially by the first fact I apprehend. When I look at cushions within the chair I see still further visual sense objects which I recognise as of a certain kind and the fact I now apprehend is extended over by the second fact I apprehend. Facts are related by extending one over the other or being extended over one by the other either spacially or temporal. These seem to be the only relations which facts may have to each other. People sometimes use the word 'events' in the same way as I have used the word 'facts'. They speak of meaning by 'an event' <u>what</u> we discern. And '<u>what</u> we discern is the specific character of a place through a period of time'. (Whitehead's 'Concept of Nature', page 52). If 'event' is used in this way, then when I apprehend a fact I may also be said to discern a specific character of a place through a period of time. If I observe a specific character of a place through a period of time I am also sensibly aware of something as somewhere. 'The specific character' of a place which I discern is that character which the specific colours, noises, tactual sense objects which are in this place exhibit, and I discern them to be here through a period of time. The event is 'all I discern' and what I discern is 'the specific character of a place through a period

of time'. We use the word 'event' however in a different way. We often so use 'event' that it is events that are related in space and time. We say that 'one event is earlier than another', or 'one event takes place before another', or 'one event happens near to, or a certain distance away from, another'. In this usage, events take place or occur, while in the other usage of 'events' it makes nonsense to say that an event occurs. Consider an example. We may say 'the place where the accident took place was at the corner where the Bilton Road meets the Rugby Road'. We may add 'This place is four miles from Rugby'. If it is events which are related in space and time then when we say 'this place is four miles from Rugby' we may also say 'this event is four miles from that event'. We specify what events are related by calling the one 'this place' and the other 'Rugby'. Suppose we were to use 'event' in the sense in which when I say 'I apprehend a fact' I could if I liked also say 'I discern an event'. Then we should have to say something such as this, if we related in space events when 'events' is used in the same way as 'facts'. We should have to say ' "These specific characters located in this place at this time" are four miles from "these other specific characters located in this other specific place at this time." ' But a proposition such as this makes nonsense. For then 'these specific characters located in this place at this time' would have to be in a place: one place, that is the place in which these specific characters occur at this time, would itself have to be in a place. Which is plainly, I think, nonsense. What we relate are the two places in which these characters occur at a specific time. We consider one element in the whole event which we discern and say that this element in the one whole is specially related (four miles from) this other element. We are using 'event' in two different senses. The one use is such that an event is all we discern, in the other we isolate one element in the whole that we discern and relate it to one element in another event. If we use 'fact' in the same way as 'event' when 'an event' is all we discern, then facts also are not in space and time. This is in accordance with the ordinary usage of language. For we do not talk of a fact as being prior to another, or as being four miles away from another. In the ordinary usage of language we speak of events as occurring and as being prior to another. We speak of 'the event which is the Battle of Waterloo' as being prior to 'the event which is Napoleon's flight to Elba'. What we

mean is that the time at which the Battle of Waterloo takes place is prior to the time at which Napoleon fled to Elba. From the two facts which were apprehended in the past, the two times are abstracted and are considered in isolation from the remainder of the fact. This usage of 'event' is the most common.

3.11. The usage of the word 'fact' which I have tried to explain in which:-

'I apprehend a fact' is entailed by 'I am sensibly aware of something as somewhere' and in which I almost always recognise the specific sense objects to be of certain kinds, seems satisfactory, because it is just this kind of thing that makes propositions true; consider some propositions which we assert to be about 'matters of fact'. 'That I am sitting here now', 'that there are voices in the next room', 'that an owl is hooting outside', 'that the moon is shining brightly'. When I assert any one of these propositions I am sensibly aware of something as somewhere. I therefore apprehend a fact; I discern the specific character of a place through a period of time. On any given occasion on which I apprehend a fact, the fact in question is all I apprehend. What I apprehend is the specific character of a place through a period of time. In the propositions which describe the facts we apprehend we leave out as a rule any specification as to time. The time is, however, implicit in our propositions. Facts are not independent of mind in the sense that facts exist without someone apprehending them. Although facts are always apprehended by someone, the person who apprehends the fact is very often not apprehending themselves as part of the fact. For this reason we usually describe our facts without reference to ourselves who apprehend the fact. For we do not, in apprehending the fact, apprehend ourselves as part of the fact we apprehend. If we did apprehend ourselves as part of the fact we apprehend then we should have to describe the fact we apprehend not as 'the moon is shining brightly' but as 'I see that the moon is shining brightly'.

Four assertions in this paper bring out important points. There are probably many more important points brought out in this paper, but four are here discussed. (G. E. Moore: Facts and Propositions, Proc. Arist. Soc. Supplementary Vol. 8).
(1) Professor Moore makes a distinction between judgments and facts. A judgment is an event, a fact is not an event. A judgment occurs at a time, a fact occurs at no time. We assert, when we assert a fact, something to happen at a time, for example, an event happens at a time. The event which happens at a time cannot be itself the fact which is that it (the event) happens at a time in a certain place. The statement of a fact states something about an event, that it happens during a certain time, in a certain place, that the event is of a certain kind. The fact strictly speaking is not about an event; only a statement asserts something about something else. The fact is all that which the statement is about. Facts of this kind are shown when we assert that 'I judge here - now that Caesar was murdered'; 'I judge here-now that the sun is shining brightly'; 'that a man passed the window a moment ago riding a bicycle'.
(2) He goes on to make a distinction between facts of this first class and facts of a second class. To every fact of the first class there corresponds a fact of the second class. General facts are expressed by general propositions. Any proposition of everyday use is a general proposition expressing a general fact. That 'I am seeing now a ship go by' is a general proposition; what it expresses is ambiguous, for 'I am seeing now some ship or other go by in some way or other' some people might think that when I assert 'I am seeing now a ship go by' I am expressing something definite. Although I am seeing something definite, I am not expressing something definite for the following reason. Suppose I am looking at a tree and I assert 'this is coloured' then a little while later I assert 'this is green'. If I assert 'this to have some specific shade of colour' when I assert 'this is coloured' or some specific shade of green when I assert 'this is green' then I express the same fact by the two expressions. But different expressions express different facts. If 'x is green' and 'x is coloured' express the same fact then they would not stand for two propositions but one. 'S is green' is one proposition and a different proposition from 's is coloured'. Again to say 's is coloured' does not say 's is green'always. Hence to say 's is green' and 's is coloured' both express the same specific shade of colour leads to contradictions. 'S is

green' expresses a general fact to the effect that s is characterised by some character of the kind green. 's is coloured' expresses a general fact to the effect that 's has some character or other of the kind colour'. No matter how carefully the proposition is expressed, words will not allow us to express the specific colour which 's' possesses. So that expressions have always some element of indeterminateness, they express general facts. It is logically possible for propositions to express definitely. It is not as a matter of fact so. Another way of arriving at the same conclusion, namely that 's is green', expresses a fact to the effect 'that s has some character of the kind green' is thus. We have no names for particular things, for example, the specific colour of a green lamp-shade. Consider the difficulties involved in naming particulars. The green lampshade differs slightly in colour as the day goes on and as it is put in different parts of the room. The green lampshade must have many different names to distinguish its varying shades. Nor can we, in looking at some specific shade, be quite sure we have seen the same colour before. We cannot have the two colours there before our eyes and compare them for ex-hypothesis one shade of colour is alone visible. Thus lack of names and power to name make it impossible to express specific shades. Consider C. H. Langford's exposition of G. E. Moore's account of general facts. I quote him to support the correctness of my exposition. Mr. Langford deals with Professor Moore's account as a preliminary to an argument to show how in constituting general propositions, we can replace elementary matrices, whose values are elementary propositions, by functions whose values are not propositions at all, but certain facts, which are non-general facts. (Page 437, Mind, Vol. 36, No. 152). He writes 'If the fact that "s" is green is in effect a general fact, there must be a corresponding non-general fact'. (Page 438). This 'must' is not a logical must. The argument goes thus. When we look at a particular green patch and say 'this is green', although I may have in mind the specific shade of green I cannot name it. But there is in fact this particular shade of green. So although <u>all</u> I am expressing is a general fact to the effect that this has some shade or other of the kind green, there is this other fact which I do not express, but is 'the fact about s and the specific character of the kind green possessed by s, to the effect that s possesses that character' and this is a description of the particular fact. (Page 438). As soon as we try 'to transform this definite description into a

proposition expressing the fact described we shall get something like "s possesses the specific character of the kind 'green' which it does in fact possess", and this is a tautology. Thus nothing has been said about these facts. They are still inexpressible.

(3) There is a problem of truth. A particular 'correspondence theory of truth' is the correct theory. It states that when we judge truly, as distinguished from when we judge falsely, there is between the general fact, which is expressed by a sentence, and the fact a relation of correspondence. This particular relation is noticed to hold only between general facts and non-general facts when we judge truly. So that 'it is true that p' (for one usage of true) 'means if anyone were to believe that p, then the fact (of my first class) in question would correspond to a fact'. (Page 200, Supplementary Vol. 7, Arist. Soc.).

(4) Various remarks scattered throughout the paper which assert relations between sentence and proposition, proposition and fact, sentence and fact.

It seems quite certain that Professor Moore is right when he says that propositions such as 'this tree is green' describe something general. That a proposition such as 'this tree is green' is logically equivalent to 'this tree is some shade or other of the kind green'. But these propositions are true. The difficulty I have is to accept Professor Moore's account of truth if I accept his account (as I do) of general propositions. He wants to make three assertions as regards to a proposition such as 'I judge that Caesar was murdered'.

(1) That this proposition states something general;
(2) That what this proposition states is a fact of a certain kind (a general fact);
(3) That this proposition is true because the general fact which it states corresponds to a non-general fact.

Upon Professor Moore's theory the answer to the question 'what makes a proposition such as "I judge that Caesar was murdered" true?' is 'the proposition in question is true because the fact which it states corresponds with another fact which is non-general'. If then a further question is asked as to the kind of relation the relation of correspondence is; if it is asked 'what conditions must be fulfilled in order that the one fact may be said to correspond with the other?' the answer would I think be given in terms of 'having constituents in common'. The two facts each have constituents, and the one set of constituents may be said to correspond with

the other set of constituents. One difficulty which arises is to give a clear account of the notion of 'having constituents in common'. Another difficulty I may express in this way. Suppose we take the proposition 'this tree is green'. The person who asserts the proposition 'this tree is green' observes among other things some specific shade of green. But what the proposition states is general 'that this tree has some colour or other of the kind green'. Thus this proposition is true when the tree is either dark green, light green, brownv green, yellowy green, etc. But the tree, provided it is one colour, is some specific shade of green. If it is dark green it is not light green, and if it is brownv green it is not yellowy green. Whatever specific shade the tree is, excludes it from being some other specific shade of green. Thus the proposition 'this tree is some shade or other of the kind green' expresses no one fact. But the proposition is true. Upon a correspondence theory of truth it would be said. The proposition 'this tree is green' is true because what it states, the general fact, represents or mirrors or corresponds with the non-general fact. Yet the proposition would be true if the general fact represented or mirrored another fact incompatible with the first fact. 'This tree is green' is true equally well if the non-general fact be a fact in which the shade of green is a light green as it is if the shade of green is dark green or any shade of green whatsoever. If we say the proposition stating the general fact 's' is true because 's' corresponds with the non-general fact 't', then it seems as if there should be something belonging only to the relation holding between 's' and 't' which makes the statement of 's' true. This something belongs to no other relation which 's' has to a non-general fact 't_1' unless 't_1' is identically the same fact as 't'. But 's' corresponds to a variety of different t's all different one from the other. Although the notion of correspondence suggests that there is this peculiar relation; the theory of correspondence does not at all help us to discover what this peculiar relation is. The notion of correspondence, mirroring cannot then be adequate to explain the relation between general fact and non-general fact when the proposition in question is true. The account of truth I suggest gives certain conditions that any proposition which is true must fulfil. I cannot discover, however, any relation which a true proposition has to a certain given fact which makes it true and which the proposition in question has to no other fact unless this fact is identical with the first fact.

In the account I give of the relation of true proposition to the fact which in any one instance makes it true, I use the words 'a proposition' in a way such that whenever I either state, consider, assert, or believe a proposition I am attaching sense to symbols. I use 'a proposition' in a way such that:-

The proposition 'I state, or consider, or assert, or believe a proposition' entails the proposition 'I attach sense to symbols', and I impose a still further restriction upon my use of proposition, since the symbols to which I attach sense are either spoken or written sentences. I use 'a proposition' in a way such that:-

'I assert, state, etc. a proposition' entails 'I attach sense to spoken or written sentences'.

My account of truth is therefore limited. For if 'a proposition' is used in a way such that 'a proposition' means what is meant by 'a sentence'; that is, the usage of the words 'a proposition' and the usage of the words 'a sentence' are the same. Or if 'a proposition' is used in a way such that the words 'a proposition' mean what is meant by 'a sense' or if 'a proposition' is used in any other way, then it will not be true to say that 'I assert or consider or state or believe a proposition' entails 'I attach sense to sentences'. The distinction between 'a sentence' and 'a proposition' following the ordinary usage of language is such that when 'I consider a sentence qua sentence' I never attach sense to the sentence. It is rarely that I do consider a sentence qua sentence, but when I do it is never the case that 'I consider a sentence' entails 'I attach sense to a sentence'. If then we predicate truth of 'propositions' and use 'a proposition' in the same way as 'a sentence', then my account of truth will not be the correct one in this usage of 'a proposition': if I use 'a proposition' in the same way as I use 'a sense' then again it will not be true to say that 'I consider a proposition' entails 'I attach sense to a sentence'. For 'I consider a sense' does not entail 'I attach sense to sentences which are either written or spoken. For I may quite well consider the sense of a sentence without either writing down or speaking the symbols to which I attach this sense. If we predicate truth of propositions where 'a proposition' is used in this way, my account again will not be the correct one. The only usage of the words 'a proposition' for which I suggest my account to be plausible is that in which 'I consider assert etc. a proposition' entails 'I attach sense to sentences'. There are as many

different accounts of the relation of true proposition to the fact which in any one instance makes it true as there are different usages of 'a proposition' in the proposition 'the proposition p is true'. I deal in section 6 more fully with the distinctions between proposition and sentence; and the different usages of the words 'a proposition' and of the words 'a sentence'. The usage of 'a proposition' in which whenever I consider a proposition, I attach sense to a sentence seems to be a very common usage of the words 'a proposition'. It is in this sense of proposition that I say 'one proposition entails another'. I do not speak of 'one sentence entails another sentence'. I shall give my reasons for this usage of proposition and sentence in a later section (No. 6). I use 'a sentence' in the same way as I use 'an expression'. I speak of a proposition describing a fact and a sentence expressing a fact. I speak of apprehending a proposition whenever I either consider the proposition or state the proposition, or assert the proposition, or believe the proposition. It is a different sense of 'apprehend' from that in which I apprehend a fact. I shall speak of apprehending a fact as 'factual apprehension'.

4.111 Consider again the proposition 'this tree is green'. What I apprehend (factually) are specific colours and specific shapes. Suppose the tree to be all one colour and is a dark browny green of some specific shade. Although the proposition would also be true if the tree were a light greyish green yet the fact I apprehend and describe by the proposition 'this tree is green' I could if I liked also describe by the proposition 'this tree is a dark browny green'. Clearly any fact which could be described by the proposition 'this tree is a light greyish green' could not be described by the proposition 'this tree is a dark browny green' although both facts may be described by the proposition 'this tree is green'. Each time I state a proposition describing the fact I apprehend more closely, I reduce the number of facts which could be described by the proposition in question. The more closely I describe the fact which I on any given occasion apprehend, the fewer are the facts which make my proposition true. Suppose I have given a description so close that no other description I could possibly give describes the fact more closely, then I have limited the number of facts which may be described by the proposition in question, that is, could make my proposition true. This proposition entails any other proposition which describes the fact; and if there is any

other proposition which describes the fact as closely as this proposition, then the two propositions are logically equivalent. Suppose that the closest description to the specific shade of colour I apprehend factually when I apprehend the fact which I communicate by saying 'this tree is green' is 'this tree is a dark browny green rather like the colour of telegraph poles'; then this proposition entails the proposition 'this tree is green'. Since the proposition 'this tree is a dark browny green rather like the colour of telegraph poles' is true then 'this tree is green' which is entailed by it is true. The proposition 'this tree is a dark browny green rather like the colour of telegraph poles' itself describes a whole lot of different facts, for a whole lot of different facts makes this proposition true. I cannot say therefore that this proposition describes one and only one fact; that is, any fact which might also be described by this fact would be identical with the fact first described. It is for this reason that I cannot say that there is any peculiar relation between the proposition which is the closest description of the fact and the fact itself (which I apprehended (factually)) which this proposition does not have to any other fact. The proposition is, however, let us suppose, the closest description of the fact that I am able to state. So that no other proposition which describes the fact in question entails this proposition. But all other propositions which describe the fact (unless they are logically equivalent to this proposition) are entailed by this proposition. We may say therefore that this proposition is directly related to the fact. For there is no other proposition intermediary between this proposition and the fact, which describes the fact more closely and may therefore be said to entail this proposition. Consider another example. Consider the proposition 'it is freezing outside to-night'. The proposition is general for it does not say with what intensity it is freezing. Thus the proposition would be true if it were only just freezing or if it were freezing very hard outside. So that a number of facts would be described by this proposition. Suppose it is not freezing very hard, then I could indicate the intensity with which it were freezing by saying 'it is freezing a little outside', or 'it is not freezing very much outside'. Either proposition entails the proposition 'it is freezing outside'. Suppose we were able to say more precisely with what intensity it is freezing, then these further propositions would each

entail the proposition 'it is freezing'. If we had no thermometer with us, then what we want to describe are the precise feelings of cold we are apprehending (factually) and the extent to which puddles, etc. are freezing. The proposition which most closely describes this fact will be one which states most precisely those feelings and the extent to which puddles, etc. are frozen. Let the proposition be p. Then p will be such that no other proposition we state, more closely describes the fact, and all other propositions except those logically equivalent to it are entailed by it. It is directly related to the fact. Suppose I try to describe the fact I apprehend more closely so that the proposition describes one and only one fact, that is, if any other fact were described by this proposition, then what each proposition describes is identically the same fact. Suppose I am not satisfied with the description 'it is freezing just a little outside, not even enough to make ice on the puddles'. I try and arrive at a closer description. I have to make new words, for the ones I have are not sufficiently precise to give any closer description than I have already given. It would not be any use merely to give names to the specific feelings of cold I felt, and the specific coldness of the air etc. for it might well be that I could not recognise those specific feelings and observations upon the atmosphere over again after I had once apprehended them. Thus it would be no use to give names to these specific feelings and observations. For I should not know which name applied to which specific feeling. It would be no use to arrange to call a specific feeling 's' if when this specific feeling recurred I did not recognise it to be 's'. We should have to give descriptions of specific shades and this would be very difficult and perhaps impossible. Consider another proposition. 'The postman is putting the letters into our letter-box now'. The proposition is general for more than one reason, for the proposition does not describe in what precise way he is putting the letters into the letter-box; nor what the letters look like. So that if I tried to give a description which described in what way precisely the postman puts the letters into the box and what the letters look like the proposition would be very long and cumbersome. However closely I am able to describe the fact I apprehend, the proposition which describes the fact as closely as I am able entails the given proposition. The given proposition is true because it is entailed by a proposition which describes the

fact more closely than any other proposition I am able to make as regards to the fact. This final proposition is directly related to the fact while the original proposition 'the postman is putting the letters into the letter-box' is indirectly related to the fact because it is entailed by the proposition which most closely describes the fact.

4.112 We apprehend facts. We express what we apprehend in words either spoken or written. We may express what we apprehend in a variety of different ways, by gestures or inflections of speech. The modes of expression that I am concerned with here are either written or spoken sentences. For I am concerned only with giving an account of a true proposition's relation to fact where 'a proposition' is used in a way such that to say 'I apprehend a proposition' entails 'I attach sense to spoken or written sentences'. I consider now the relation of a sentence to the fact which it expresses. We speak of sentences as expressions and thus it is sentences which express something or other. We may speak of sentences as determinately or indeterminately expressing something or other. What we express are either sounds or written marks. We, when we express a sentence, are not in the act of expressing doing anything more than making various sounds. Consider sounds alone. I may express by any sounds I choose the fact I apprehend. If, however, I agree to follow the ordinary usage of language I must utter only certain sounds when I wish to express a certain fact. Otherwise I should not be understood. By uttering certain sounds only when I express a fact I apprehend, I agree to follow the ordinary usage of language, and thus to attach the ordinary meanings to the words I utter. Similarly when I write, I cannot make any marks; if I agree to follow the ordinary usage of language, I attach the ordinary sense to written sentences. The sense which I attach to the sentence (expression) is the ordinary everyday sense. The sentence 'this is a coat' expresses something 'more or less' fixed. (I say 'more or less' because we can never verify that the sense you and the sense I attach to a given sentence is the same). The sense you or the sense I attach to the sentence is more or less fixed. We talk of a sentence (expression) as 'having a sense'. We may also say a sentence (an expression) expresses a sense. We may say that these four propositions are logically equivalent:

(1) A sense is attached to the sentence p;

(2) The sentence p has a sense;

(3) The expression p has a sense;
(4) The expression p expresses a sense;

for each proposition entails and is entailed by the other. Suppose I apprehend a fact and express the fact I apprehend by either saying or writing 'the sun is shining'. It is clear that I could equally well have expressed another fact I apprehended by uttering or writing these very same words. For the sun shines with different degrees of brightness on different occasions and on any one of these occasions I could express the fact I apprehend by using the words 'the sun is shining'. Since the expression 'the sun is shining' may be uttered on different occasions and express different facts, we may say 'the expression "the sun is shining" expresses no one fact'. Consider now the proposition 'the sun is shining'. This proposition is general for a whole lot of different facts may be described by this proposition. Thus a whole lot of different facts make this proposition true. Now a proposition such as 'the sun is shining' is related to the fact which makes it true by being entailed by the proposition which 'is directly related to the fact' or 'describes the fact more closely than any other proposition which also describes the fact', or 'is made true by fewer facts than any other which also is made true by the fact in question. For the three propositions:

The proposition p is directly related to the fact;
The proposition p describes the fact more closely than any other proposition (except one logically equivalent) which also describes the fact;
The proposition p is made true by fewer facts (including the fact in question) than any other propositions (except one logically equivalent) which is made true by the fact in question.

Each entails one the other. Suppose we speak of the proposition p as 'directly describing'the fact. Then any other proposition which also describes the fact will not 'directly describe' the fact unless it is logically equivalent to 'p'. Any other proposition (except one logically equivalent) will be related to the fact by being entailed by the proposition which directly describes the fact. I will mean then by the relation of a proposition to the fact which makes it true when I say 'that a proposition q describes the fact which makes it true' that 'the proposition q is entailed by the proposition p which "directly describes" the fact in question'. I use 'describes' in 'directly describes' in a different way from that in which I use 'describes' when I say a proposition q describes a fact. For in the latter the

proposition q is entailed by a proposition p which directly describes a fact. In the former the proposition p is entailed by no proposition whatever. It is directly related to the fact. The proposition q is related to the fact by the relation which is the relative product of 'being entailed by' and 'directly describing'; in the latter there is no such relation. This relation is not peculiar to the proposition q and the fact, as I have said; for another fact resembling the first fact may also be related in this way to the proposition q. Consider again the proposition 'the sun is shining'. Since this proposition is made true by a whole lot of different facts, and since the sentence 'the sun is shining' I may utter or write down, when I want to express a whole lot of different facts; then I think it is seen immediately to be true that the number of facts the sentence expresses and the number of facts that make the proposition true are the same. Consider another proposition. 'They ride past on their bicycles'. This sentence may also be uttered on different occasions and express different facts. For they may be riding past quickly or slowly, on new or old bicycles, etc. etc. Thus the sentence 'they ride past on their bicycles' expresses no one fact. Consider now the proposition. The proposition is general for a whole lot of different facts make it true. We may say therefore that whenever we have a general proposition we also have a sentence which expresses no one fact. The number of facts which make the proposition true is the same as the number of facts which on different occasions the sentence may be used to express. It is identically the same set of facts in either case. Because we may say 'the sentence p expresses a sense', then a sentence p which expresses no one fact may be said to express something indeterminate. I use the word 'indeterminate' such that to say 'the sentence p expresses no one fact' means what is meant by 'the sentence p expresses something indeterminate'. The sentence p expresses a sense which is indeterminate. Whenever a proposition is general there is a sentence which expresses no one fact, that is, there is a sentence which expresses a sense which is indeterminate.

4.1121 Suppose I apprehend a fact and suppose I am able so to choose my words that the sentence which expresses the fact if used on any other occasion would always express a fact identical with this fact. Then any fact I apprehend and express by uttering these words will be identical with this fact. My sentence expresses one and only one fact. The proposition I apprehend when I attach sense to this sentence

will be made true by one and only one fact. Since I defined 'the sentence p expresses no one fact' as 'the sentence p expresses something which is indeterminate,' I may now define 'the sentence p expresses one and only one fact' as 'the sentence p expresses something which is determinate'. But the sentence p expresses a sense, so that if the sentence p expresses one and only one fact then the sense which the sentence p expresses is identical with the fact. Suppose I attach to the sentence p the sense which is identical with the fact. Then the proposition I apprehend is made true by one and only one fact, namely, the fact which the sentence expresses. The proposition I apprehend when I attach sense to the sentence p will be non-general. I gave reasons for supposing that we never could arrive at a proposition such that it is made true by one and only one fact. So that we may also suppose that we never are able so to construct our sentences that they express one and only one fact. Consider another sentence, 'this tree is green' and suppose that we may construct another sentence which is such that the fact we apprehend and express first of all by the sentence 'this tree is green' is expressed specifically by this other sentence. Then this sentence will express precisely what shade of green the tree possesses. It will express one and only one fact. The sense which we attach to the sentence will be identical with the fact. We are not able however to verify whether or not the sense you and the sense I attach to any given sentence is identical. So that although on any future occasion on which we attach sense to the sentence, we may attach a sense to it identical with the fact we are never able to verify whether or not we do so. Suppose that when we apprehend the fact and wish to express it as closely as we are able, we utter or write the words 'this tree is a dark browny green rather like the colour of telegraph poles' then it is clear that we may on different occasions use this sentence to express different facts. But this sentence expresses the specific shade of colour the tree has as closely as we are able to express it by using words. This sentence is such that it expresses fewer facts (including the fact in question) than any other sentence (except one which has the same sense) which also expresses the fact. I may write or utter both the sentence 'this tree is a dark browny green rather like the colour of telegraph poles' and 'this tree is a dark green' when I wish to express the fact that I apprehend. But the former sentence expresses fewer facts than the latter, for there are a great many more trees 'a

dark green' than there are trees 'a dark browny green rather like the colour of telegraph poles'. The proposition which I apprehend when I attach sense to the sentence 'this tree is a dark browny green rather like the colour of telegraph poles' will be made true by fewer facts than 'this tree is a dark green'. Since I am supposing that I cannot construct any further proposition more specifically expressing the fact I apprehend then I am not able to attach sense to a sentence more specifically expressing the fact I apprehend. I am not able to apprehend a proposition which more closely describes the fact in question. The proposition I apprehend is made true by the same facts, that is, the same number of facts, as the sentence in question may be used to express. The proposition is directly related to the fact and directly describes the fact. I may conclude therefore

'That whenever a proposition is said to be directly related to the fact'; or

'Whenever a proposition is said to describe directly a fact' then 'the sentence to which I attach sense when I apprehend the proposition expresses fewer facts than any other sentence which may also be used to express the fact'. The converse holds also: 'That whenever the sentence to which I attach sense when I apprehend the proposition expresses fewer facts than any other sentence which may also be used to express the fact' then the proposition which I apprehend is said to be directly related to the fact and is said to describe directly the fact. The sentences of everyday usage are rarely, if ever, such that they express a fewer number of facts than any other sentence which also expresses the fact. Thus the propositions of everyday usage are hardly ever such that they are made true by fewer facts than any other proposition which also describes the fact. The propositions of everyday usage are entailed by these propositions and it is because they are entailed by these propositions that they are true. I suggest then as an answer to the question 'what are the conditions which make a proposition true?' where we are considering a proposition of everyday usage, that a necessary and, I think, sufficient reason is, that the proposition in question is entailed by a proposition which is directly related to a fact. And a proposition is directly related to a fact if either (1) it directly describes a fact, (2) it is made true by fewer facts than any other proposition which also describes the fact, (3) the sentence to which sense is attached when the proposition directly related to the fact is apprehended,

expresses fewer facts (including the fact in question) than any other sentence which may also be used to express the fact apprehended.

4.11211 We need both the notion of proposition and the notion of sentence when we are discussing the relation of true proposition to fact. This is suggested from the usage of proposition here given, for to say 'I apprehend a proposition', entails 'I attach sense to symbols'. But the two notions are needed for other reasons also. We apprehend facts and we wish to tell to others the fact we apprehend. We use words, that is, we utter sounds of a certain kind only. A word is distinguished from a noise by being a noise which is used as part of a language. We thus attach meaning to this noise. Suppose we use a series of noises which are used as part of a language and attach meaning to this series of noises. Then this series of noises is sometimes a sentence. A sentence may be distinguished from a series of noises by being a series of noises which is used as part of a language and therefore has a sense. When we utter a sentence we are always following the ordinary usage of language and therefore the ordinary sense of words. Suppose we want to express a fact we apprehend, we use a sentence to express it. And suppose, although it is impossible, that we express the fact we apprehend precisely. When we speak, unless we are uttering sounds like parrots, we always attach sense to our token-sentences. (The distinction between token and type sentence is dealt with later). It is sentences we utter when we wish to express what we apprehend. It is token sentences, if we precisely express the fact, to which we attach the sense which is identical with the fact we apprehend. (In attaching sense to the sentence the sentence is used in its type sense). We cannot do without sentences and say it is propositions which express the fact, for we must always attach sense to something and this something is an expression. But we need also the notion of proposition. For a proposition such as 'this tree is green' is entailed by a proposition such as 'this tree is dark green'. I cannot find any reasons for saying that it is sentences which entail each other. (This will be discussed later). Again, we speak of propositions as describing facts. Suppose we are asked to consider a description. When we consider a description we are always attaching sense to a sentence so it seems. We therefore apprehend a proposition. Suppose we are asked to consider a sentence. We are never attaching sense to symbols when

we are considering a sentence qua sentence. This last assertion will appear more plausible, perhaps, when I come to consider the distinction between token and type sentence, token and type proposition. We need then, if what I have said is correct, two notions (1) the notion of a proposition which describes a fact, and (2) the notion of a sentence which either expresses a fact, or is uttered when we wish to express the fact. I should like to add one more remark as to the relation of a sentence to the fact which it expresses, if it expresses the fact precisely, as follows: In the same way as we may say when we make a projection B of some figure A according to certain rules of projection, e.g. that the lines of projection may be at right angles to the original figure, so we may say when we construct a sentence (following the ordinary usage and therefore the ordinary meanings of language which precisely expresses the fact) that this sentence is a projection of the fact. We follow the ordinary usage of language and the ordinary meanings of words when we make a projection (that is, a sentence) of a fact. We follow the rules already laid down when we make a projection B of a figure A. The ordinary usage of language and the ordinary meanings of words which we follow when we precisely express the fact, is analagous to the rules which are already laid down when we make a projection B of a figure A. When we make a figure B which is a projection of figure A we may follow rules such that the figure B is totally unlike figure A. When we follow the ordinary usage of language in expressing precisely a fact we do something analagous to this; for the sentence (the projection) which expresses the fact precisely is totally unlike the original of which it is the expression, that is, the projection. This analogy will not hold, however, when we come to consider expressions which express no one fact. For those expressions (sentences) cannot be considered as projections of a certain fact if they express no one fact.

I want to state as clearly as possible what I mean by judgment, and to state how I use the word proposition. The connection between proposition and judgment which seems to me likely will then be understood. Following G. E. Moore's analysis, a proposition is sometimes used such that I may say (1) I assert the proposition p, (2) I state the proposition p, (3) I consider the proposition p, (4) I believe the proposition p. Suppose that we may say whenever we say 'I assert the proposition p' that we apprehend a proposition. 'Apprehend' is used in a different way when I say 'I apprehend a proposition p' from the way in which it is used when I say 'I apprehend a fact'. Similarly whenever I say 'I state that p' or 'I believe that p' or 'I consider that p' I could if I liked say also in each case 'I apprehend a proposition p'. 'I assert that p' differs from 'I state that p' because in the latter I do not apprehend a proposition as true, while in the former I apprehend a proposition as true. To say 'I assert that p' is to apprehend p as true: (1) and (2) differ from (3) and (4), for whenever 'I assert that p' or 'state that p' part of what I do is to attach sense to either spoken or written sentences. While in considering or believing I need not always attach sense to either spoken or written sentences. For many of my considerations and beliefs I do not utter or write down. (3) differs from (4) for I may merely consider a proposition without believing it. I use 'apprehend' such that I apprehend a proposition whenever I consider or state or assert or believe a proposition. I am using 'proposition' in such a way what whenever I apprehend a proposition I attach sense to symbols. So that my use of proposition covers all cases of assertion, stating, but only some of belief and considering. Not always when I attach sense to symbols do I apprehend a proposition. When I attach sense to symbols and those symbols are sentences which (1) are such that they indeterminately express a fact; or (2) when the sentences contain the words 'all' or 'some'; or (3) when the sentence to which I attach sense, connects two or more sentences, of the species described in (1) and (2), by some symbol standing for some formal relation; then when I attach sense to sentences of these three kinds I apprehend a proposition. For of any proposition I apprehend when I attach sense to sentences a combination of sentences belonging to the kind given in (1), (2) and (3) above I predicate truth. When I attach sense to sentences of the form 'I consider that p' I apprehend a proposition. When I attach sense to sentences of the form

'I assert that p' I apprehend another proposition. When I attach sense to sentences of the form 'that p' I apprehend another proposition. And when I attach sense to sentences of the form 'I judge that p' I apprehend another proposition. When we attach sense to sentences of the form 'I believe that p' we talk of 'p' as being as belief; similarly we speak of 'p' as being a consideration when 'we consider that p'; we speak of 'p' being an assertion when 'we assert that p'. If then we say 'all propositions are judgments we must so use 'judgment' that whenever we say 'I believe that p' we can also say 'I judge that p'; and whenever we say 'I state that p' we can also say 'I judge that p'. A belief is then also a judgment. An assertion or a statement is also a judgment. A hope or an expectation may be also a judgment. For we express our expectations and hopes in sentences of the kind given above. It seems, however, that we require the notion of judgment for something other than hopes and expectations, assertions or beliefs. If this is so it is not in accordance with the ordinary use of language to say 'all propositions are judgments'. (Page 66, Keynes' Formal Logic).

5.2 Whenever I attach sense to a sentence of the form 'that p' I am apprehending a proposition. In apprehending a proposition I must be either considering, stating, believing, asserting, hoping, expecting, etc. etc. the proposition p. It is only when I, like a parrot, express a sentence to which I attach no sense that I am not apprehending a proposition. The possible attitudes which I have to my proposition are all those attitudes which ordinary language permits me to symbolise in sentences of the form 'I ..... the proposition p'. Where the symbol which may fill the place between 'I' and 'that p' symbolises the attitude in question. Although I do not use a symbol to stand for this attitude when I merely attach sense to a sentence of the form 'that p'; I nevertheless have some attitude or other towards the proposition in question. I may be merely understanding the proposition, that is, attaching sense to symbols. If 'to understand the sentence p' means what is meant by 'to attach sense to symbols'. Whenever I attach sense to symbols I am either merely understanding it, or doing something else as well, for example, believing or asserting that p. That I understand p is implicit in my asserting or believing that p. In the following I give suggestions as to the kind of facts sentences of the form 'I R the proposition p' express: Where 'R' stands for any attitude which I may have towards a proposition

'p'. Of possible values of 'R' in 'I R the proposition p' it seems to me that 'deny' and 'assert' are perhaps the commonest. But the usage of language is such that we have several alternative sentences to which we attach the same sense as we attach to 'I assert that p'. We may say instead of 'I assert that p', 'p is true' or merely 'p'. Instead of saying 'I deny that p' I may say 'not p' or 'p is false'. Although I may attach the same sense to 'p' or 'p is true' as I attach to 'I assert that p' it is not in the form 'I R the proposition p'. In the following, I take as a value for R 'think'. What I say of the sentence 'I think the proposition p' will hold for any other value of R such as 'assert', 'consider', 'expect', 'hope', 'know', 'believe', 'suppose', 'wonder', etc. etc. In the account I give of the facts indeterminately expressed by sentences of the form 'I think that p'; when p is, e.g. 'they will come soon'; or 'it will clear up this afternoon' I am concerned for the most part with the usage of 'I' and 'I think'. For this reason, although I may divide up the sentences 'I think that p', 'I assert that p', 'I believe that p' into 'I think that' and 'p', 'I assert or believe' and 'that p' it does not follow that the proposition I apprehend when I attach sense to these symbols may be so divided. Nor, I want to maintain, am I able to make this distinction in that which I want to express by using the words 'I think that p' or 'I assert that p' or 'I believe that p'. The proposition I apprehend when I attach sense to a sentence such as 'I think that they will come soon' describes a fact. I want to give what seems a likely account of this fact. Sometimes 'I think' does not appear in the sentence. The speaker merely says 'that p'. The ordinary usage of language is such that 'I think that p' and 'that p' are not logically equivalent. If then the speaker says 'that p' and means what he might also mean by 'I think that p' then it is this last form of words which we must take in considering the fact he wishes to express. At other times the speaker may say 'I think that p' and mean what he might also mean by 'that p' then it is 'that p' which we must take, in considering the fact he wishes to express. At other times it is difficult to decide whether what the speaker wishes to communicate must or must not include in the expression 'I think'. Suppose we take a sentence in which 'I think that' is a part. The proposition I apprehend when I attach sense to the sentence in question is entailed by another proposition which I apprehend when I attach sense to another sentence which

expresses the fact as closely as possible (cf. 4.111). The fact is what the least indeterminate expression, of which 'I think that so and so' is an indeterminate expression, is used to express. I make a distinction between 'indeterminate expression' and 'least indeterminate expression'. I use 'least indeterminate expression' to mean 'that expression which expresses the fact as closely as possible'. I find it very difficult to discover what it is in the fact that I apprehend as 'I'; although I may be certain that 'I' must be a part of the sentence which indeterminately expresses this fact; and what it is in the fact which I apprehend as 'I think that so and so' although I may be certain that 'I think that so and so' must be part of the sentence which indeterminately expresses the fact.

5.21 Consider a fact which is indeterminately expressed by a sentence containing 'I' as part. The sentence is not of the form 'I R the proposition p', but the example is given in order to give an account of how 'I' is used by the speaker. Suppose I say 'I am sitting reading now' or 'I am sitting writing now' then the fact that either sentence expresses has as part what the least indeterminate expression of 'I' expresses. I apprehend this fact. Thus I apprehend myself as part of the fact. What I apprehend as myself may be visual characters: for example, my hands as they hold the paper, or my hand as it is writing; my clothes which are visible to my eyes as I apprehend the other parts of the fact. My body feelings of sitting posture and aliveness. All these may be part of what I want to express by the symbol 'I' when I apprehend the fact which I express by the sentence 'I am sitting writing now' or 'I am sitting reading now'. The determinate expression (cf. 4.1121) would express precisely what feelings I am having, and precisely what colours I am seeing and precisely how I am writing and so on. The determinate expression would express as precisely as language permits my feelings etc. I think it likely that we might clearly apprehend a fact; we might clearly apprehend its parts, and yet be unable to decide what parts of the fact precisely we wished to express by 'I' and what parts of the fact we wished to express by 'I am sitting writing'. Consider another sentence: I may say 'I think it will rain to-day' or 'it seems probable that it will rain to-day', or 'it looks as if it will rain to-day'. All these sentences are used to express the same fact let us suppose, that is, what we want to express, we express by any one of these sentences. I so

use my words that I do this. To anyone who is attaching sense to sentences, that is apprehending propositions, these sentences would not have the same sense. For as the sentences stand what they express is not the same. Suppose I consider each sentence more carefully, realising that as they stand they have not the same sense, and decide that it is not 'I think that it will rain to-day' nor 'it seems probable that it will rain to-day', but 'it looks as if it will rain to-day' that more clearly expresses the fact I apprehend. Then in either of these last two sentences 'I think that ....' is replaced by 'it ....' in the one 'it seems that', in the other 'it looks as if'. When 'I' occurs in sentences we expect that there is something in the fact to which 'I' refers. When 'I think that' occurs in sentences we think that there is something in the fact to which '<u>I</u> think that' refers. But when 'it' occurs in sentences we do not expect this, so it seems; hence if 'I think that so and so' expresses what 'it seems that' or 'it looks as if' also expresses, then there is nothing in the fact to which 'I' and 'I' in 'I think that' refers. It seems to me that this kind of thing happens often. That when 'I think that' occurs in a sentence the sentence can be replaced by a sentence in which 'I think that' does not occur and no other sentence with that meaning occurs. When this is so 'I think that' is an incomplete symbol. An incomplete symbol is something unnecessary to the direct description of a fact. Or more accurately, an incomplete symbol is a symbol which is not part of any sentence to which I attach sense when I apprehend the proposition which is entailed by another proposition I apprehend when I attach sense to another sentence expressing the fact as closely as possible.

5.122 If the fact I wish to express may be expressed only by using a sentence in which 'I' occurs, that is, I am not able in expressing my fact, to replace this sentence by one which has the same sense as it has, which does not contain as part 'I' or 'me'; then it seems to follow, although I shall try to show that it does not, that 'I' always stands for some part of the fact I apprehend. That is, I apprehend myself as part of the fact. I am self-conscious. For 'to be self-conscious' means what is meant by 'to apprehend oneself as part of the fact'. I give this as a definition of 'to be self-conscious'. But to say that I am self-conscious whenever I express a fact by using words of the form 'I R the proposition p', even if I am able only to express in everyday language the fact I apprehend by using the words 'I R the

proposition p' or same sentence with the same sense, for example, 'I think that p' and 'it seems to me that p', is difficult to accept as true. So that I come now to discuss further the use of 'I' in sentences of the form 'I R that p'. Suppose that there is something in the fact which 'I think that' ... expresses when 'I think that' appears in a sentence indeterminately expressing that fact. There is something in the fact which I am able to express only by using 'I think that' or some phrase with the same meaning. Then it seems to follow that there is something in the fact, although I may not know precisely what it is, which I refer to by 'I' or 'me'. Since I apprehend this fact and if the definition of 'to be self-conscious' is true, then it follows that I am self-conscious. Precisely what it is that I want to express depends upon what 'I' expresses and what 'I think that' expresses. It seems probable that I might apprehend a fact clearly and apprehend different parts of the fact and yet not be able to say precisely what it is in the fact that I can properly express by 'I think' and similarly with the other parts. The expression of the fact and the fact itself may be each a connected whole; the fact may be described by the sentence but no part of the fact may be separated from the rest and be said to be referred to by one definite part of the sentence. Consider the following examples:-

(1) 'I think the choir is singing beautifully'. What I apprehend and 'think is beautiful' are sounds. The example is an abbreviation for 'I think the sounds made by those people are beautiful'. The fact that I express has as part what 'the sounds' indeterminately express. It rests with the speaker, and no one but he can say what precisely he wishes to express by, for example, 'the sounds', etc. It seems to me likely that when I say 'I think that these sounds are beautiful' I apprehend in the fact some visible character of myself such as the colour of my clothes and refer to this as 'I'. Or I may not apprehend anything which I can properly call 'I' separate from 'I think'; then what I now wish to express by using the words 'I think' is perhaps a certain feeling of assureness; a certain part of this feeling I apprehend as myself. I do not think, however, that either of these two suggestions as regards to what 'I' or 'I think' stand for in the fact are correct. For it may be that I neither apprehend a certain part of this feeling of assureness as myself nor certain characters of my clothing as myself. That I do not know what in the fact I may properly and with

certainty describe as 'I'. Perhaps this suggestion is wrong; that whenever 'I' occurs or 'I think' occurs I can if I like always apprehend in the fact a part, which although I cannot express it in any other words but 'I' or 'I think' yet has certain parts to which 'I' refers or to which 'I think' refers. If I attended hard enough and had the necessary vocabulary I could consider this part in isolation and refer to it. Consider another sentence, for example, 'I expect you have read this book'. Usually I do not consider whether or not the proposition I apprehend when I attach sense to the sentence in question is true. It is true if at the moment I say 'I expect you have read this book' I am expecting that you have done so. On different occasions, so it seems to me, I wish to communicate something different by the sentence 'I expect you have read this book'. At one moment I may have reference to myself, I apprehend in the fact some part which I can if I like refer to 'I'. At another time I may have no reference to myself. If I do have reference to myself when I ask 'I expect you have read this book' I may find it very difficult to express this particular part of the fact to others. The only word I can use may be the one I have already used, namely 'I'. At another time I may apprehend a fact and no part of this fact may be properly expressed by using the word 'I', but 'I expect that'. Then what I apprehend is perhaps some attitude. When I am asked 'what in the fact do you describe as 'I expect that'? I am able only to give as answer 'an attitude which is best expressed as I have already in my expression of the fact expressed it, and which, so far as I am able to say, has no part which I am able to describe as "I"'. If, however, we do not always apprehend our fact so precisely that we can, if we like, make distinctions within the fact, we cannot even then say precisely what in our fact the different words in our expression express. Consider the last part of the sentence 'I expect you have read this book'. What I seem to want to communicate when I say this is something which I apprehend instantaneously. I apprehend a certain attitude which perhaps I might describe as a feeling attitude, I refer to it as 'I expect that'. 'This book' refers to certain characters of colour and shape, since what anyone reads are words by means of which he understands thoughts, part of what I may mean is 'that you are acquainted with some of the thoughts in this book'. My fact may contain some vague outline of one thought developed in this book. It seems to me that I may apprehend what I communicate by

'"I expect that you are acquainted with the thoughts" in this book' as one indivisible whole. Suppose that however hard I try I cannot apprehend any part of the fact that I can refer to by the word 'I'. Yet also I hold that 'I' in combination with 'think' as 'I think' best expresses the fact I apprehend. Then it seems to me that 'I' must be an incomplete symbol. If I expressed the fact I apprehend as closely as possible this would be shown. For if there is nothing in the fact which I may refer to as 'I' (although in the ordinary use of language I best express my fact by using 'I') in that expression which expresses the fact as closely as possible my sentence will not contain a part which is the closest expression possible of 'I'. Thus because in the least indeterminate expression of the fact 'I' does not always occur then only sometimes is the person who expresses a sentence of the form 'I R that p' self-conscious; namely when 'I' is not an incomplete symbol, that is, when the closest expression possible of 'I' is part of the'least indeterminate' expression of the fact.

5.13 Facts which I express by using such sentences as 'I think that it is raining now' cannot be verified, while facts such as 'it is raining now' can be verified. For consider the fact 'rain pouring down during T at P'. Then this fact is divided up into a lot of smaller facts. When I look out of the window and say 'it is raining now' I am expressing a fact which is part of this larger fact. It is part of this larger fact in the sense that 'now' indicates a point of time within 'T'. Suppose I am not certain whether what I apprehend is a fact; I ask someone 'is it raining now?' and they reply 'it is raining now', or I look again in a few minutes and say 'it is raining now'. Because all these descriptions are identical or equivalent, then it seems to me quite certain that the expression I gave first of all expresses a fact. In this way I verify whether or not my sentences indeterminately express a fact and whether or not the proposition I apprehend when I attach sense to these sentences is true. Suppose now I have a fact which I express by using the sentence 'I judge or I think that it is raining now'. My sentence expresses an instantaneous act. My 'now' is instantaneous. I cannot divide 'now' up into parts. I cannot divide up the fact I express by using the sentence 'I think that it is raining now' and say, as I have done above, 'now I am judging that it is raining', and a little later 'now I am judging that it is raining' and consider

each new 'now' as part of the original 'now'. I cannot utter sentences at different times and consider them as expressing facts which are parts of some fact of longer duration than the fact each separate sentence expresses. The only expression I can give of my fact is the original one. Thus I cannot by comparison of different expressions obtain evidence to support my sentence being an indeterminate expression of some fact. Thus I cannot verify the truth of the proposition I apprehend when I attach sense to the sentence 'I think that it is raining now' which indeterminately expresses a fact.

5.14 From the usage of 'I' in sentences of the form 'I R that p' I want to lead up to three topics raised by Ryle (Proc. Arist. Soc. 1929-30) in his article on 'What are propositions'. The first topic concerns 'acts of consciousness' and 'the objects of these acts'. From his paper it is clear that there is a problem raised by the question 'Is the act of apprehending (factual) anything other than what is apprehended?' I want to argue that this question is *no* question at all. The second topic concerns 'proposition' as defined as 'sentence-meaning'. He denies 'there are propositions' in this sense and yet his own theory seems to imply that 'proposition' may so be defined. The last topic concerns his statement that 'sentences are true when they state a fact'. This question is brought up again later. I want to expound first Ryle's 'list of the main reasons for which it has been held that "there are" propositions, as well as to describe the sort of being, in consequence, they have been alleged to possess' (page 91). Mr. Ryle gives 'four major arguments for the doctrine that propositions are genuine entities'. (1) The argument from the Intentionality of Acts of thinking. Brentano, whose view is stated as an example of this argument, considers all acts of consciousness to be consciousness of something. If we take 'my hat' or 'Tommy' it is easy to show, for my hat is something which goes on existing after I have ceased to look at it or feel it on my head, it gets faded, or torn; Tommy is something that grows up into a man, and has a banking account perhaps. Ryle says 'that the object is generally if not universally other than the act is easy to show for what I see is coloured but seeing is not green or blue. What is remembered is of the past but the remembering it is of the present'. The object is what which we are conscious of, 'the intentional accusative of an act of consciousness'. There is ambiguity in the word 'object' which it seems necessary at the outset to point out. Object may either mean what I have explained above, as my

hat which exists when I cease to look at it or feel it and gets faded or torn; or 'object' may mean the accusative of an act of consciousness. I want to say without further explanation, for it is a metaphysical and not a logical question, that my hat is never something of which I can be conscious; for my hat is something which cannot be identified either with (1) what I am conscious of when I perceive it, or (2) what is torn, (3) or looks shabby, but it is all these things together. It is in another sense that 'my hat' is used, so that what 'my hat' stands for is the intentional accusative of an act of consciousness. It is in this sense that Brentano uses 'the intentional accusative' of an act of consciousness, and I think the sense in which Ryle uses it. For Ryle says of Brentano that the distinction between act of consciousness and the accusative of the act is considered as an advance in psychology. Brentano is making a psychological distinction. If he had been using 'object' in this other sense he would have been making a metaphysical distinction. Among acts of consciousness we may isolate a class called 'acts of judgment' or 'acts of thinking'. This class includes acts of knowing, opining, believing, supposing, wondering, etc. They all have one common feature that they 'all alike find their expression in statement or in sentences in the indicative'. I may say 'I think that it will rain', 'I know that it will rain', 'I opine that it will rain', 'I believe that it will rain', and so on. 'That it will rain to-day' is the accusative of either an act of thinking, or an act of knowing, or opining, or believing, etc. etc. It is seen at once that we can make this distinction. For we can ask whether or not the accusative is independent of the act. Since we can if we like make this distinction then we had better show this distinction in our words. If we call the accusative either a 'thought' or a 'judgment' we might hide the distinction, because 'thought' is used both of the 'thinking' and what is thought, and 'judgment' is used both of the judging and what is judged. So Brentano calls the intentional accusative of an act of thinking a proposition.

(1) A proposition = an intentional accusative of an act of consciousness; df. It is this definition which I want to deny.

Argument 2. Those people who wish to avoid a subjective theory of knowledge must show that the 'physical' world is not 'adjectival to the "knowing" mind'. They therefore assert

that the accusative of an act of consciousness is other than the act (as the intentional psychologists assert) and also is independent of the act. This leads to the view not only "that 'physical objects' are real and not 'flashes in the brain-pan' but also concepts or universals, number laws and relations as well as 'judgments' or 'propositions' for these are also accusatives of acts of consciousness". There must be truths independent of anyone thinking them, and falsehoods also; all that which sentences in the indicative express belongs to the realm of the real. If existence be predicated only of things which are in space and time then these entities do not exist. They subsist, in a third realm which is neither 'physical' or 'mental'. Logic and Mathematics has these entities as its subject matter. A proposition may be defined as 'the accusative of an act of consciousness' as in argument 1 and because it is independent of this act we may say briefly:

(2) 'A proposition = df. the independent accusative of an act of consciousness'.

My denial of definition (1) will include a denial of definition (2).

(3) Special reasons for holding that what we think must be independent of our thinking it. Two or more people can think the same thing. Although it is very difficult, perhaps impossible, to prove that they can we assume that they can. Every time we write a letter, listen to a lecture or a speech we assume that we can share the same thoughts. The same cogitatum is therefore the object of numerically different acts; and this will be a proposition 'accusative' to all, but independent of any acts of thinking. From the assumption that we make that we can 'think the same thoughts' this conclusion does not follow. I do not think it possible to use 'same' in 'we can think the same thoughts' in the way we use 'same' when we say 'all these roads lead to the same town'. Ryle's solution on page 124 is perhaps the most plausible, 'we can all think of X as Y, for we can all think in the same sentence "X is Y"'. It is this 'that we can all think in the same sentence' that makes us believe we can use 'same' in the sense in which roads may lead to the same place. The <u>place</u> would be analagous to the <u>proposition</u>.

<u>Argument 3</u>. Arguments from the nature of language for the being of Propositions qua Sentence-Meanings. In order to be clear about symbols we must distinguish between (1) 'The symbols', (2) What the symbol symbolises, (3) The mental condition the speaker's utterances are evidence of: so Mr. Ryle

would look at the problem in this way. Suppose I say 'I fear it will rain' then I must distinguish between the symbols 'I fear it will rain', what state of mind my utterance evinces, i.e. 'my fearing', and what my symbols symbolise. Suppose I say that what my symbols symbolise is 'my fearing that it will rain', then I must distinguish in this 'my fearing' from 'that it will rain' and call, according to Ryle, the latter part a proposition. I do not know that anyone has ever done this. Or suppose I take it as the intentional psychologist did: that which the symbols symbolise is then merely 'that it will rain'. The mental condition in which he makes the statement 'that it will rain' is a fearing condition they would say. But I when I made the statement did not say 'that it will rain' but 'I fear that it will rain' so that what the symbols symbolise is not 'that it will rain' but 'I fear that it will rain'. I cannot make the distinction the intentional psychologists made. So that I am not liable if I hold this theory to say that 'a proposition = df. the accusative of an act of consciousness'. Ryle goes on to the arguments used before 'When a word means the same thing to Smith and to Jones we have two conceivings but only one concept'. 'When a sentence means the same thing to Smith and to Jones, two thinkings occur, namely, one in Smith's and the other in Jones' private lives, but the proposition that they think is not the perquisite of either'. I give however as an argument against this view that all that can be shown to be the same, that is, to be related by the 'is' of identity is the descriptions of these two thinkings. We cannot go any further. To say Smith and Jones think one and the same thing, that is, a proposition is an assumption. We may hold then that sentences have meanings, that sometimes two people may express their thoughts in identical or equivalent sentences. I think this is indisputable. We need not add either (1) that what they think is <u>one</u> and the same thing, nor (2) that what they think is not the 'perquisite' of either. For 'perquisite' is used in such a sense that to say 'what X and Y think is not the perquisite of either' entails and is entailed by 'what they think is one and the same thing'. A proposition may be defined as:

A proposition = df. { What a sentence means and what any identical or equivalent sentence means.

It is this definition that seems plausible and which although he denies, his own theory seems to imply.

<u>Argument 4</u>. Husserl and Meinong consider logic to be the study of the ways in which one thing follows from another, or

is incompatible or compatible with another, contradicts, necessitates another etc. They ask 'what are these things?' When we say 'it is true that X is Y' what is it that 'it' refers to? It is not someone's opinion because we should always be able to say Jones' opinion or James' opinion, and this we cannot in many cases do. It must be then the proposition 'that X is Y'. Again, what else but propositions are related by the relation of incompatibility, implication, contradiction, and so forth? The entities related cannot be substances, substances can coexist but they cannot be compatible. Nor can A if it is incompatible with B, be the name of a fact. For it must be nonsense to say 'the fact that X is Y is incompatible with the fact that X is Z'. 'Incompatibility' must disqualify at least one of the incompatibles from being a fact'. Nor can A and B denote states of mind, because A may be incompatible with B and yet I may believe A and also B or opine A and surmise B. 'States of mind may coexist though the things thought cannot both be true'. This last argument does not seem conclusive. If I know A to be incompatible with B then I cannot believe A and also B: I can if I like say that two states of mind are incompatible. For what are states of mind but what is thought when we are considering states of mind which are thinking states of mind? The problem recurs again which is dealt with in topic 1.

These four arguments conclude Ryle's exposition of theories for the independence of propositions. He then goes on to consider different objections to these theories. He prefers however to state a theory in which he has no need of propositions either as independent, genuine entities which subsist or as an intermediate link between sentence and fact and of which truth may be predicated. 'It is perhaps enough to show that substantial propositions are neither plausible or necessary'. He hopes 'to produce a positive theory which will enable us to dispense with propositions in so far as they are required in order to solve certain residual problems'. One of these residual problems is 'how two people can think the same thing?' His theory will be expounded in topic 2. I will proceed now to topic 1.

5.141 From Mr. Ryle's statement on page 94 it is clear that there seems to be some definite problem attached to such questions as 'Is the act of apprehending (factual) anything other than what is apprehended?' or 'Is the act of thinking anything other than what is thought?' Mr. Ryle says 'of

these "accusatives" also we can see at once that they are other than the acts in which they are thought' (page 94). (He refers to acts of thinking or judging the "accusatives" of which can be stated but not pointed at). I want to consider particular examples; so I raise the question in the form 'Is any specific act of apprehending (factual) anything other than what is apprehended?' 'Is any specific act of thinking anything other than what is thought'. Mr. Ryle agrees that 'any specific act of apprehending (factual) is other than what is apprehended' or 'any specific act of thinking is other than what is thought'. I want to show (1) that the proposition 'any specific act of apprehending is other than what is apprehended' is false; and (2) 'any specific act of thinking is other than what is thought' may be false. I give reasons for saying that 'any specific act of apprehending (factual) is not other than what is apprehended' is true. Briefly, my argument against acts of apprehension being other than what is apprehended goes as follows. People give examples showing this distinction by saying 'Consider the statement "I see that it is raining" or "I think that you had better follow this route"'. What I see is 'that it is raining' and this is the accusative of an act of seeing. What I think is 'that you had better follow this route' and this is the accusative of an act of thinking. That the act of which 'that it is raining' is the accusative is an act of seeing, is shown by the words which refer to it being 'I see that' and not 'I hope that' or 'I fear that'. Similarly with the 'act of thinking'. That the act of which 'that you had better follow this route' is the accusative, is an 'act of thinking' is shown by the words which describe it being 'I think that' and not 'I believe that' or 'I suppose that'. It seems plausible to say therefore that 'the act of consciousness' which in either case is in question, is referred to by such words as 'I think that', or 'I fear that' or 'I apprehend' and the object of these 'acts of consciousness' are what the 'that' clause describes. My criticism of the view I have attempted here briefly to describe rests upon what I have already said about the relation of a sentence to what it expresses. Thus to show that such sentences as 'the act of apprehension (factual) is not other than what is apprehended' is true; or to show that 'any specific act of apprehending (factually) is not other than what is apprehended' is true, is to show merely that these sentences are true according to one view. It is no

conclusive proof that they are true. What I want to show is that if the first view is held then the second must be held also. Suppose I say 'I see that it is raining' or 'I think that you had better follow this route'. What I wish to communicate is what the sentences are used to express. Suppose I am looking out of the window, and someone says to me as if to give me new information 'it is raining'; and I, who have already noticed this fact, reply 'I see that it is raining'. Then what I want to communicate is the fact 'myself seeing that it is raining' for this is what I apprehend (factually). It will not be enough to say 'it is raining' in order to communicate the fact I apprehend; I must say 'I see that it is raining'. Thus 'I see' on this occasion refers to part of the fact I am apprehending. Take the second example. 'I think that you had better follow this route'. The fact I wish to communicate is what the sentence 'I think that you had better follow this route' is used to express. The fact may be described as myself thinking that you had better follow this route'. If it were not this fact but some other, then it might be either 'that you had better follow this route', or 'thinking that you had better follow this route'. In the first alternative what I want to say is 'you had better follow this route'; in the second 'I think that you had better follow this route', but where 'I' is an incomplete symbol. If 'I' is not an incomplete symbol then it seems that to say 'I think that you had better follow this route' (provided I do so think at the moment I say it) entails as a description of the fact I apprehend 'myself thinking that you had better follow this route'. Suppose now I ask myself 'what do I apprehend?' it will not be enough to say 'that you had better follow this route', but 'myself thinking that you had better follow this route' for it is this fact which I want to communicate. Thus 'I think' refers to parts of the fact I here apprehend. I proceed as follows to show that 'any specific act of apprehending is not other than what is apprehended' is true. Suppose I take the sentence ' a dog is barking outside'. I apprehend the fact 'a-dog-barking-outside' and describe it by saying 'a dog is barking outside'. Suppose I say on another occasion 'I apprehend the fact that a dog is barking outside'; I may want to express by my sentence either (1) merely that a dog is barking outside, or (2) myself apprehending that a dog is barking outside, or (3) apprehending that a dog is barking outside, where 'I' is an incomplete symbol in my description of the fact. In case (2) what I refer to by 'I apprehend that' is part of what I apprehend; in (3) 'I' is an

incomplete symbol and it is what I apprehend refers to which is part of what I apprehend; in case (1) 'I apprehend that' may be omitted for I wish to communicate by 'I apprehend that a dog is barking outside' what 'a dog is barking outside' describes. In referring to the view I want to criticise I pointed out that what people refer to as 'an act of consciousness' is what in a sentence such as 'I apprehend a fact', 'I apprehend that' refers to. 'I apprehend that a dog is barking outside' may be divided into (1) an act of consciousness which in this case is an act of apprehension, and (2) what is apprehended which is 'that a dog is barking outside'. What I want to communicate, however, when I say 'I apprehend the fact that a dog is barking outside' is not only 'that a dog is barking outside' but 'myself apprehending that a dog is barking outside': thus I cannot divide up the sentence 'I apprehend that a dog is barking outside' into (1) the act of apprehension referred to by 'I apprehend that', and (2) what I apprehend; in this case 'that a dog is barking outside'. For I apprehend both (1) and (2): (1) and (2) together are what I apprehend. In every case of apprehension I may argue thus: thus what is usually called 'my act of apprehension' as distinguished from 'what I apprehend' is, in any specific case of apprehension, nothing more than part of what I apprehend. I may say 'any specific act of apprehending is not other than what is apprehended'. The distinction between 'act of apprehension' and 'the object of this act' is inapplicable. There is no such distinction. (2) Consider now such sentences as 'I think that you had better follow this route', or 'I think that the wind is cold to-day'. In either case what I want to communicate by using these words is a fact. Unless 'I' is an incomplete symbol or what I want to communicate is not 'I think that you had better follow this route' but 'you had better follow this route', the least indeterminate expression of the fact has as part the least indeterminate expression of what 'I think that' indeterminately expresses. So that the fact in either case may be expressed by using the words 'myself thinking that you had better follow this route' or 'myself thinking that the wind is cold'. In 5.122 I suggested that although we may clearly apprehend the fact we wish to express and describe it by attaching sense to the sentence which expresses it, and so apprehend a proposition which describes the fact in question; yet the fact may be such that we cannot in our minds distinguish between its parts and say 'this is the part to which this part of the sentence refers,

and this other is the part to which another part of the sentence refers. The expression of the fact may be related to the fact in such a way that we cannot say definitely what in the fact the different parts of our expression express. Nor could we *do* this, if we wanted to, even if we had, which is impossible, the determinate expression of our fact written down before us. Although we can if we want divide up a sentence into its parts, it is doubtful whether we can so divide a fact. It is doubtful therefore whether, when as we divide a sentence into the parts 'I think that' and 'you had better follow this route', or 'I think that' and 'there is a cold wind to-day', there is any corresponding clear division in the fact. The intentional psychologists wish to make this distinction. They wish to have a clear division between 'the act of consciousness', for example, 'I think that' and the object of this act 'you had better follow this route', or etc. etc. Not merely a vague ill-defined division. Suppose that, although we cannot clearly distinguish between different parts of the fact, we can if we like, apprehend some vague distinctions in the fact. Then perhaps one of these distinctions we may refer to by the words 'I think' and refer by other words in the sentence to further distinctions in the fact. This I think we can do. We are not making the distinction the intentional psychologists make; for it does not seem possible so to separate the parts of the fact that we may say 'all this other which I do not refer to by using the words "I think" is <u>what</u> I think'. The fact is a connected whole. Nor would the intentional psychologists wish to say that what 'I think' refers to is part of a fact apprehended. They would not want to say that an act of consciousness (a thinking act) is itself part of another act (an apprehending act) as I would like to say. It is then doubtful whether there is such a distinction as these psychologists make. Whether we can ever say that there is a distinction between an act of consciousness and the object of this act. Now a proposition is defined as 'the accusative of an act of consciousness'. Since we are doubtful whether there is such a distinction, then it is doubtful whether 'propositions' may be so defined. It is for these reasons that I deny the definition of a proposition given earlier, in 5.14. I deny:-

(1) A Proposition = the accusative of an act of consciousness. df.

(2) A Proposition = the independent accusative of an act of consciousness. df.

Topic 2. Propositions as Sentence-Meanings. It does not seem that Ryle has avoided a possible usage of 'proposition' as a 'sentence-meaning'. He could, so it seems, only have denied 'proposition' to stand for what 'sentence-meaning' stands for, if he had denied that there are 'sentence-meanings'. Although he calls 'sentence-meaning' by a different name, that is hypothetical facts, this in no way avoids the possibility that 'proposition' may be so used. Nor is it very important whether or not a proposition is so used. The important point is to decide whether or not there are sentence-meanings; this Ryle seems clearly to show. Ryle asserts without argument that 'what I know is a fact, of which the formulation takes, in the first instance, the shape of a sentence in the indicative or a statement' (page 111). He uses 'know' of facts, 'I know facts'. He uses 'facts' not only for that which sentences in which temporal or spacial words appear, expresses; but he also uses 'fact' in a wider sense for anything which a true sentence states (page 125). He uses 'statement' = df. 'sentence'. He says 'I want to distinguish knowing that X is Y from all others, so, and I think ordinary usage supports me, I shall reserve the umbrella-title 'thinking' for all those varieties of apprehension other than knowing' .... 'If I know that X is Y, I am not to be described as thinking that X is Y or vice versa. We say I don't think, I know: and I don't know but I think so and so' (page 113). It might appear that 'to know' meant 'to be certain that'. Yet Mr. Ryle talks of 'known fact'. An instance of 'known fact' is a fact about Julius Caesar (page 121); again on page 123 'a fact is what the sentence "Smith is taller than Jones" (if he is) expresses'. 'In the case of knowing' Ryle goes on, 'No intermediate something such as a substantial proposition, is lodged between my knowing and the fact. And when I state what I know, the fact that I know, and the meaning of my statement are not two things but one ' (page 111). It follows from this that a sentence is true, not some intermediate something which is called a proposition. What however if the statement or sentence is false? Suppose we say 'the earth is flat'. Ryle raises the question thus: 'When I am thinking of X as being Y or of P as being R to Q in terms of the sentence "X is Y" or "P is R to Q", of what is the statement presentative - when it is not the statement of a fact known to me and very likely not a statement of a fact at all' (page 118). The answer he gives is 'to think of X as Y is to think of it in

the same way as one would think of it if it were Y and we must add we know it' (page 122). This seems to mean that when I think X is Y what is in my mind is a picture (page 123) or image of what 'X is Y' stands for, which is the kind of picture I should have in my mind if I know X to be Y, that is, if I was (in my words) at the moment apprehending the fact that the sentence 'X is Y' is used to express. I think that it is very doubtful indeed whether I do ever do this (cf. Introduction, 1.1). If what I have said is true, we never do this; however that is of very great importance, and what Ryle wants to show, is that what we have in our minds is not a proposition in the sense of being an intermediary something between sentence and fact, or an independent substantial something (whatever this may mean). Ryle wants what he believes, when he says 'the earth is flat', to be not a falsehood and not even a truth but simply a geographical fact among geographical facts (page 118). This last sounds obscure. What we are doing is to imagine 'the earth as flat' as if it were flat and we know it to be so. We are imagining a hypothetical fact. What we have in our minds when we say 'the earth is flat' is a hypothetical fact. We have an image of the earth the same as we would have if we knew the earth to be flat. Ryle explains his point of view further: 'Understanding a statement embodies but does not consist in knowing the nature of the entities that the constituents of the statement, the words mean, and knowing the form of the fact which the grammatical form of the statement means. It goes beyond this knowledge and consists in knowing if what was the case would the statement state a fact. I understand a statement when I know what would make it a statement of a fact. I know the peculiar constituents and structure of the statement, and further I know that having precisely that constitution it would be a normal or standard statement if so and so were the case (for example, if the earth were flat and not round). So that understanding the statement 'X is Y' is a case of knowing, not knowing that X really is Y but knowing about the statement 'X is Y' that it is as if it were (it has the characters that it would have if) X is (or were) Y. What is known is a hypothetical fact about the statement' (page 122). Thus when we understand a sentence X is Y, we must understand not only what a sentence means, but also we must so think of 'X is Y' that we can think of X is Y as if it were a fact. We are imagining to ourselves that we know 'X is Y'. What is known is a hypothetical fact. It may be

that this psychological process is impossible. For strictly either we know 'X is Y' or we imagine 'X is Y', we cannot do both at once. Ryle's view seems to suggest that we can. To Ryle when I say 'X is Y' and understand it what I understand is a hypothetical fact: Ryle holds that two or more people can understand each other for 'they can all think in the same sentence "X is Y"' (page 124). What we all think of is a hypothetical fact. For this is what we think of if we understand the sentence X is Y. A hypothetical fact then is what we think of when we understand the sentence X is Y or any sentence with the same sense as 'X is Y' and is what any other person thinks of when he understands the sentence X is Y or any sentence with the same sense as this sentence. Consider now what Mr. Ryle says about 'sentence-meanings'. 'There are three things to be considered and kept separate: what the person says (the sentence or statement), that which his sentence means, and what mental condition his utterance evinces' .... 'If language is to be, what we must take it to be, a vehicle of inter- personal communication, it must be possible for two minds to find the same meaning in any given word or sentence ....' 'This means that "meanings", that is, concepts (word meanings) and propositions (sentence-meanings) are public property' (page 101). Thus a proposition is what the sentence means. Because we assume that there are equivalent sentences, then we have a set of 'propositions' which are what sentences with the same sense say. Thus a proposition is what a sentence means and any equivalent sentence means. But these propositions are 'public property'. Thus a proposition is what a sentence X is Y means or its equivalent means and is what X is Y means to anyone who reads intelligently the sentence X is Y or its equivalent. (I add intelligently to rule out those cases of parrot-like reading or absent-minded reading). Compare now 'a hypothetical fact' and 'a proposition'.

(1) 'A hypothetical fact is what we think of when we understand the sentence X is Y or another sentence with the same sense, and what any other person thinks of when he understands the sentence "X is Y" or another sentence with the same sense'.

(2) 'A proposition is what a sentence X is Y means or its equivalent means and what X is Y means to anyone who reads intelligently the sentence X is Y or its equivalent'.

As (1) and (2) stand it seems that what a hypothetical fact is stated to be entails what a proposition is here stated to be. 'What we think of when we understand the sentence "X is

Y"' entails 'that the sentence "X is Y" has a meaning'. Ryle has stated a sentence's meaning more precisely. He has said that the expression (or communication) of this meaning is always in the form of a hypothetical sentence. The sentence X is Y is presentative of a hypothetical fact. People may perhaps dispute that what 'X is Y' is presentative of is a hypothetical fact. They are disputing what X is Y stands for or means: not that 'X is Y' stands for nothing. Ryle has not shown that the definition of a proposition here given is self-contradictory. He has rather used the notion of sentence-meaning in his definition of an hypothetical fact.

5.143 Topic 3. I will take finally in discussing Mr. Ryle's views, the conclusions he draws on pages 124 and 125. He draws his conclusions shortly. He says there are no substantial propositions: there are facts and there are standard symbols, that is, symbols which state a fact. There are quasi-symbols, that is, symbols which do not state facts; they have the same grammatical form, however, as symbols that state facts. The name 'proposition' denotes the same as sentence (since 'statement' is used in the same way as 'sentence'), denotes the same as statements. A proposition is what we think and talk in. It is therefore sentences which are true. A true sentence is one that states a fact. Throughout the paper I have found it difficult to decide what precisely is implied when anyone urges that there are substantial propositions. It seems, however, that this at least is inferred when we say 'there are substantial propositions'. We may infer that propositions in some sense of the word 'exist' exist. If then we deny that 'there are substantial propositions' we may infer that propositions in no sense of the word 'exist' exist. It is clear that they do not exist in the sense in which lions and chairs exist. If then we ask 'what are propositions?' as we might ask 'what are lions?' we are using 'what are' in different senses in either case. For a usual answer to 'what are lions?' is 'this is a lion' and we point to a lion in its cage. Similarly, if we are asked 'what are chairs?' we point to one and say 'this is a chair'. If the sense of 'are' in which we say 'there are lions' is the sense of 'are' in which we say 'what are lions?' then it follows that the sense of 'are' in which we ask 'what are propositions?' differs from the sense of 'are' in which we ask 'what are lions?' We use 'are' on different occasions in the context of 'what are so and so's?' in different ways. In one sense it seems legitimate to say 'what are propositions?' It is a

legitimate use of 'are' if we mean by the question 'what are propositions?' what we mean when we ask 'in what ways is a proposition used?' or 'in what ways do we use propositions?' (I take these two questions as equivalent). Neither question implies that 'propositions' exist in the sense in which 'lions exist'. When we ask 'in what way is a chair used?' we may be asking the question in two different ways: we may be asking 'in what ways is a chair used?' and imply in the sense of 'are' that the chair exists and it is of this thing which exists and a 'chair' stands for that we ask the use. Or we may ask 'in what way is a chair used?', or the equivalent question 'in what ways do we use a chair?' and ask it of the symbols 'a chair'. In the written symbols this distinction appears for we write 'a chair' between inverted commas. When we ask for the usage of a proposition, which cannot be said to exist in the sense of chairs, it seems that we are almost always asking for its usage in this latter sense: we ask how the phrase 'a proposition' is used. I have no conclusive arguments for showing that there may be two corresponding questions as there are for the use of chairs which ask (1) the use of a proposition, and (2) the use of the words 'a proposition'. I think, however, that by far the most usual way of taking the question 'in what way do we use a proposition?' is to ask for the usages of the phrase 'a proposition'. To ask 'in what ways do we use the phrase "a proposition"?' The question in this form does not entail that propositions exist in any way whatever. All the question does suggest is that 'a proposition' is used in different ways. What I think I can find good arguments for accepting as true is that 'a proposition' is sometimes used in a way in which 'a sentence' is never used. So that I can find no good arguments for supposing that Ryle's conclusion is correct that 'a proposition' is used such that it always 'denotes what the grammarians have always used it to denote, the same as sentence' (page 125). It may well be that, although the ordinary use of language always predicates truth of propositions, we use 'proposition' when we say 'the proposition p is true' in the same way as we use 'sentence'. I cannot, however, find any reasons for supposing that we do use 'a proposition' in this way. It is because I cannot find reasons for supposing that we do so use 'proposition', and it is because I think that a plausible account may be given where truth is predicated of propositions, where proposition does not mean the same as sentence, that I cannot accept Mr. Ryle's conclusion that sentences are that of which truth is

predicated. Mr. Ryle asserts that it is sentences that state (or what I should like to say indeterminately expresses) facts. But it does not follow from this that it is sentences of which we predicate truth. Although I should like to hold that one condition for a proposition's truth is that the sentence to which we attach sense when we apprehend the proposition in question, indeterminately expresses, or in Mr. Ryle's language, states, a fact. It seems, lastly, that we must give some limitation to the statement 'a truth is just a true sentence, that is, one which states a fact' (page 125). Because we so use 'true' that we predicate it of compound propositions which state a formal relation between component propositions. If we do so use 'truth' then it is clear that not all propositions are true because they state a fact. I shall give reasons for asserting this later.

I want to make a distinction between token word, token sentence and type word, type sentence based on that of Mr. Ramsey (Mind 1923; Foundations of Math. Proceedings L.M.S.; Ser. 2; Vol. 25, Pt. 5) and a use of 'proposition' in order to lead up to the question what it is that is related by the relation of entailing and therefore logical equivalence. A token word may be distinguished from a type word by distinguishing between the ways in which they are used. When we consider a token word, we are considering certain marks or sounds. When we consider a type word we are considering marks and sounds as representative of a group of token words. I will start with the token word. I am considering token words when I say 'there are 100 words on this page'. For what I mean is that there are 100 marks of a certain kind on this page. I am considering token words again when I say 'I have written two words in this ring (the the) '. I am not considering token words, but type words when I say "the" occurs 30 times in this page, or when I say "the" occurs twice in this ring. The main difference between the two notions being, that of a token word we cannot say that it recurs, while of a type word we can say so. A written token word, and therefore a written token sentence, have these characteristics at least:-

(1) They are visual sense-data, and are therefore spacial and of non-perceptible thickness. (A Braille word or sentence would be a visual sense-datum, spacial, and of perceptible thickness).

(2) These sense-data are what we call marks. They are lines curved in specific ways. MAN is a series of marks, while 'man' is one mark. A token sentence is a series of marks.

(3) Token words and sentences are sense-data of physical objects.

(4) The physical objects fade, get rubbed out, etc. etc.

The token sentence or token word I distinguish from type sentence, or type word by preceding it by an arrow. The arrow warns me to consider the marks, that is, the sense-data, alone. It is very rarely, never except with effort, that I consider a sentence as a token sentence. I do so, for example, if I am trying to read a handwriting which is very difficult to read; for then I pay attention to the individual marks. I attend to the token word more often than I do the token sentence, for example, when I count the number of words on a page. Almost always I consider the type sentence or the type word. However, I here symbolise

the distinction between the type and token sentence by writing ' ⟶ the' for token word 'the' for the type word: ' ⟶ This is red' for the token sentence, 'this is red' for the type sentence.

(5) When I speak of marks and scratches I could, if I liked, speak equally well of 'signs' or 'symbols': 'sign' and 'symbol' are used of types also, so that I distinguish between the two by speaking of 'sign-tokens', 'sign types', 'symbol tokens' and 'symbol types'. 'A token-sentence' means the same as a'sign-token' or 'a symbol-token', means the same as 'marks and scratches which are sense data of a physical object'.

It seems clear that the 'token-sentence' never recurs: for the 'token-sentence' is sense data of a physical object. When we speak of things recurring we mean that that thing sometime in the past existed, ceased to exist, and is now existing again. We speak of 'the recurrence of the bad weather we had last week'; or 'the recurrence of toothache'. If my table ceased to exist (is burnt, for example) at some future date it cannot be said to recur. I can build another table like it. Then I may say that my new table is similar to my old table. It is the same with 'token substances'; they are three dimensional, although only in Braille or some such lettering as this are they perceptible so. So far as I am considering token sentences when I write 'this is red' and again 'this is red' I may say only that I have two physical objects of similar shape on the page. I can no more say that ' ⟶ This is red' has recurred when I write ' ⟶this is red' than I can say that my table has recurred if I make another like it. Since however we do use constantly words such as 'the' and sentences such as 'This is red' in such a way that they are representative of any one of a type, the distinction between token and type, and what it is that constitutes 'being of the same type' is important. Examples have already been given of words used in such a way that they are said to recur, that is, a type usage of words. Examples would be, for example, 'The word "the" is written twice in this circle (the the) '; or 'He said the message over to himself many times'. Examples of words used as representative of any one of a class, grouped together as a type, would be:- 'The word "the" is the definite article', or 'I understand $\hat{p}$ = df. 'I attach sense to $\hat{p}$'. In definition one set of symbols replaces another, it is in either case type symbols. If this were not so, that is, if it were ' ⟶ I understand $\hat{p}$' = df. ' ⟶ I attach sense to $\hat{p}$' then there would be no reason whatever for supposing that ' ⟶ I understand $\hat{p}$ <u>also</u>' = df.

' ⟶ I attach sense to $\hat{p}$'. It is clear, however, that in definition we so use sentences that they are representative of any instance of the type. The question now arises 'what constitutes being of the same type?' I will deal first with type words and letters. It is always token words which we group together under the same type. It is clear that spoken, as well as written, words may be grouped together as belonging respectively to the same type. It is clear also that we sometimes consider spoken words as sounds only, while in other cases we consider them as representative of a type. In either case the type usage of a word, for example, 'the' is such that 'the' stands for the class of token words each of which is related to this word, qua token word, in certain respects. I think it more convenient to consider token written words and token spoken words as belonging to different types, although closely connected, and not to the same type. ' ⟶ The' as written belongs to one type ' ⟶ the' as spoken belongs to another type. Both types help to determine each other's type.

(1) Of any two tokens belonging to the same type we might say that they have shape similarity. Of two written words 'the' and 'THE' that they have shape similarity in virtue of which we may group them as instances of the same type. The shape similarity between words entails shape similarity between letters. When we think of the variety of different ways in which we may write token words of the same type as 'T' it becomes very difficult to consider shape similarity as the criterion for 'being of the same type'. For ' ⟶ t' and ' ⟶ $\mathcal{T}$ ' are both instances of a type, while ' ⟶ u' and ' ⟶ v' are not. Yet ' ⟶ u' and ' ⟶ v' resemble each other, qua written words, much more closely than ' ⟶ t' and ' ⟶ $\mathcal{T}$ '. Shape similarity between letters in determining type is not a sufficient criterion; in some cases type determination seems to be, rather, a convention of the characters of a language (considered as written). The spoken tokens of ' ⟶ $\mathcal{T}$ ' and ' ⟶ t' have however sound similarity, while the spoken tokens of ' ⟶ u' and ' ⟶ v' have not. We may say that common usage attaches the same sound to the written ' ⟶ $\mathcal{T}$ ' as it does to the written ' ⟶ t', while common usage does not do so for ' ⟶ u' and ' ⟶ v'.

(2) It is clear however that sound similarity is not always a criterion for two written token words to belong to the same type. For 'meat' and 'meet' have sound similarity yet do not have shape similarity. The spoken tokens ' ⟶ meet' and ' ⟶ meat' belong to the same type, while

the written tokens ' ⟶ meat' and ' ⟶ meet' belong to different types. It is because sound tokens may be similar and therefore belong to the same type, yet the written tokens different and therefore belong to different types that I am led to distinguish between types made up of sound similarities and types made up of shape similarities. As regards to sound similarity ' ⟶ haus' and ' ⟶ house' may be grouped as members of the same type; yet the written tokens not only are of different shape but belong to different languages.

(3) Other examples show that sound tokens are different while shape tokens are similar. We may write ' ⟶ iron' and ' ⟶ iron'; the written shapes are similar but we may pronounce the word either i/ron or iron. It would, I think, be usual to group the sounds together as belonging to the same spoken type. Yet it might well be that two sounds resembling each other more closely than i/ron and iron, for example, 'irrelevant' and 'irreverent' might, might be grouped under different spoken types. The similarity in shape between the written tokens makes the spoken tokens i/ron and iron be grouped together under the same spoken shape.

There seems then to be no one criterion which determines whether or not any two written token words are of the same type; for the criterion is not (1) sound similarity between the spoken letters or words corresponding to the written tokens (cf. 2), nor (2) shape similarity between the token written words (cf. 1). Nor is there conversely any one criterion for determining whether or not two spoken token words belong to the same type. For the criterion is not (1) sound similarity between spoken token words (cf. 3), nor (2) shape similarity between two written tokens to which the sound token words correspond.

Although it is difficult to give any definite criterion for determining whether two tokens are or are not of the same type, people do not have difficulty in deciding if the two words in question are of the same type. Since token-sentences are made up of words and letters the same difficulties recur if we try to find some sufficient criterion for two sentences to belong to the same type. We do not have any difficulty in deciding whether they do belong to the same type. We know for instance that ' ⟶ Russell is a man' and ' ⟶ Russell est un homme' belong to different shape and different sound types. Considering 'Russell is a man' as a type we may say that 'Russell is a man' is a different type sentence from 'Russell est un homme'. The type usage of a sentence 'Russell is a man' like the type usage of a word,

for example, 'the', is a usage in which 'Russell is a man' stands for the class of token sentences ' ⟶ Russell is a man', ' ⟶ RUSSELL EST UN HOMME ' each of which is related to this sentence qua token sentence in certain respects. It is because we can say 'the sentence "Russell is a man" differs from the sentence "Russell est un homme"' that one clear distinction is made between sentence and proposition. For we say of these three sentences:-

(1) Russell is a man
(2) Russell is a man
(3) Russell est un homme

that (1) and (2) are the same sentence, but (1) and (3) are different sentences; while we say of (2) and (3) that they are the same proposition.

6.2 I come now to some considerations upon one usage of the word proposition. Consider what we do when someone asks us 'do you understand this?' when the 'this' is 'are a priori synthetic propositions possible?' Suppose I say 'yes I understand it': I first perceive a group of words, which I instantaneously perceive in their type usage. So far I am guided by introspective evidence. I attach sense to the sentence as a whole. Often it seems to happen that the understanding, that is the attaching sense is instantantaneous with the perceiving the words in their type usage. When I do this, I am understanding some type words or I am attaching sense to some type words. It is clear that what I have given are sense data of a certain kind, that is, marks on paper. So that the notion of token-sentence must enter in to this complex. This complex I will speak of as the apprehension of a proposition: in the apprehension of a proposition the following psychological processes are present (1) the awareness of certain sense-data, (2) the perceiving of these sense-data as type words, (3) the attaching of a sense to the sentence. I think that one example is sufficient to show the truth of (2). Suppose someone asks me 'do you understand this?', and utters the sentence, for example, 'Socrates is wise' and I reply. He then asks me again 'do you understand this?' and utters the sentence 'Socrates is wise'. I shall consider that in replying to his first sentence I have given him an answer to his second. If however in my understanding of the first sentence, I attached sense to token symbols ' ⟶ Socrates is wise', I should have no reason for believing that I had answered his second question if he again asked me 'do you understand this?' In my understanding of the sentence, and in his question we are both referring to the

type usage of words. It is clear therefore that if when I speak of 'apprehending a proposition' these three conditions at least are present, I am referring to a very complicated situation. Nor does it seem possible to distinguish any one element in that complex and call it the proposition which I am apprehending when I say 'I apprehend a proposition'. For it is not the token sentence. My usage of sentence differs from my usage of proposition. I use sentence in such a way that 'ceci est rouge' and 'this is red' are different sentences but the same proposition. If I cannot identify 'a proposition' with 'a sentence' then it does not seem possible to distinguish in this complex any one element of which I may properly say that it is the proposition which I apprehend. This conclusion is compatible with what was said at the beginning that we cannot point to a proposition as we can a table and say 'this is a proposition' or 'this is a table'. All we can point to is the token sentence. If then I ask 'what is a proposition' I cannot get an answer in the form of 'this is a proposition' as I can if I ask 'what is a grape fruit?' The only answer I am able to get is in terms of the usage of the word 'a proposition'. One usage of the word 'proposition' is such that we may speak of 'apprehending a proposition' but we cannot talk of 'this proposition which I apprehend' because there is no one thing which we may distinguish in this way. If I use 'proposition' in this way when I predicate truth of a proposition there is not any one thing of which I may say 'this is true'. I may say that I am apprehending a proposition whenever I say that I am asserting a proposition, or I am affirming or denying it, or I am stating it. I may state a proposition without affirming or denying it. If I affirm a proposition I assert it also. To affirm and to assert mean the same thing. In any of these usages of proposition the same complex occurs as is present in apprehending a proposition. If I assert a proposition I understand certain type symbols; I attach sense to certain symbols in their type usage. If I assert a proposition I must use an expression. If I use an expression I am (1) aware of certain sense data, (2) perceiving these sense data as type words, (3) attaching a sense to the type sentence. In making a statement or stating a proposition I also must use an expression, that is, a type sentence, a similar complex process occurs. In all these usages of propositions, either when I say 'I apprehend a proposition', 'I assert a proposition', 'I state a proposition', I may be said 'to be attaching a certain sense to a certain sentence used as a type sentence'. There

is however another usage of proposition in which I cannot be said to be attaching a certain sense to type sentences. This usage of 'proposition' is such that I may be said 'to be believing a proposition' or 'considering a proposition' when there is no expression to which I am attaching sense in the sense of 'expression' in which a type sentence is an expression. For I may be believing something or considering something without expressing it. If it is held that on all occasions when I am believing, I am believing a proposition and on all occasions when I am considering I am considering a proposition, then sometimes I believe but do not express my belief, and sometimes I am considering something but do not express my considerations. In neither case am I attaching sense to type symbols. I may be attaching sense to symbols not of the same kind as type symbols or I may not be attaching sense to any symbols, however the word is used. In either case however I cannot be said to be apprehending a proposition. For I cannot be said to be attaching a certain sense to type symbols and this is part of what I do whenever I am apprehending a proposition as I am using the word proposition. I shall be considering only that usage of proposition in which I apprehend a proposition. For it seems plausible to suppose that it is of propositions used in this way that I constantly predicate truth. It is propositions used in this way, I shall give reasons for supposing, that appear in such propositions as 'p is true and p entails q and therefore q is true'.

6.21 I come now to propositions which are grouped together under the same type. 'Different symbols' (writes Ramsey, Found. of Maths. Proc. L.M.S., Sec. 2, Vol. 25, Pt. 6) 'are instances of the same proposition because they have the same sense. .... When we speak of propositions we shall generally mean the types of which individual symbols are instances' (page 362). Thus:-

(1) Ceci est rouge;

(2) This is red

are instances of the same proposition because the sense which I attach to (1) and the sense which I attach to (2) are the same. I apprehend the same proposition when I apprehend the proposition 'Ceci est rouge' as I do when I apprehend the proposition 'This is red'. The tokens of a type-proposition would differ one from the other only in the symbols to which I attach sense. I should apprehend the token proposition 'This is red' when I attach a certain sense to the type symbols 'this is red'. Suppose I on another occasion apprehend the token proposition 'this is red' when I attached

sense to the type symbols 'this is red'. Then I should have apprehended identically the same token proposition. I may say therefore that I apprehend identically the same token proposition when I attach sense to the same type symbols. It would follow that I cannot say of two propositions 'Ceci est rouge' and 'this is red' that I apprehend identically the same token proposition when I apprehend the one, and then I apprehend the other. When then I say of (1) Ceci est rouge and (2) This is red that they are the same proposition and mean identically the same I am using 'proposition' in a different way: I am using it in its type sense. Suppose we use 'proposition' in its type usage. I use 'proposition' as a type when I use it to stand for any one of the instances of the type in question. Supposing I say 'I apprehend the proposition "this is red"' and use the proposition 'this is red' as a type proposition; then I so use the proposition 'this is red' that it stands for any one of its type. Now 'Ceci est rouge' is an instance of the same type as 'this is red' so if I use the proposition 'ceci est rouge' as a type proposition I am using it to stand for any one of its type. Suppose I say 'I apprehend the type proposition "ceci est rouge"' and use it to stand for any one of its type, and again say 'I apprehend the proposition "this is red"' and use it to stand for any one of its type, then I may say 'I apprehend identically the same proposition' in either case. When I assert that (1) 'Ceci est rouge', and (2) 'This is red' are instances of the same proposition I am considering both type and token usage of 'proposition' in one proposition. I first say that (1) and (2) are instances of a type, that is, are tokens of a type and therefore are not identical. I then say that they are instances of the same proposition, that is, of (1) and (2) and in either case as type propositions. So that unless type and token usages are distinguished we may be misled. In order that I may say that I apprehend the same type proposition I must attach the same sense to some type symbols or other. It follows from what I have said that whenever I may say that I apprehend identically the same token proposition I might if I had liked so use proposition that I could say that I apprehend identically the same type proposition. But the converse does not follow. I cannot say that whenever I apprehend identically the same type proposition I could also say if I had so used 'proposition', that I apprehend identically the same token proposition. If it is plausible to say 'that propositions which are logically equivalent have the same sense' then any two

propositions which are logically equivalent belong to the same type. They are token propositions not identically the same. In order to say that we apprehend identically the same proposition in either case we must use proposition in the sense of type proposition. We may then say that we apprehend identically the same proposition when we apprehend the one, or the other logically equivalent to it.

6.211 I will give now an account of logical equivalence and a reason for supposing that all logically equivalent propositions have the same sense; for I want to give an argument for supposing that the relation of entailing relates token propositions. It is important for my view to hold that the relation of entailing does so; because I hold that, that which may be said indeterminately to express a fact is a type sentence. It is because the type sentence expresses a fact as closely as possible that the proposition I apprehend when I attach sense to the type sentence in question is true. This proposition entails other propositions which are true because they are entailed by this proposition and which are the propositions of everyday usage.

6.2111 If x is logically equivalent to y we can if we like substitute in any conjunction of propositions x for y without altering the truth value of the original proposition. So that if I say 'the book is two to the right of the Principia in my bookcase and the pen is lying on my desk' I may substitute for 'the book is two to the right of the Principia in my bookcase' 'the book which the Principia is two to the left of in my bookcase' ... and have not altered the truth of the conjunction of propositions. Supposing however the propositions are not equivalent then I could not as a rule do this; for if the one proposition was 'the book is two to the right of the Principia in my bookcase' and the other is 'the book is three to the left of the Principia in my bookcase' then I cannot substitute the one for the other in a conjunction of propositions and still have the same truth value in the conjunctive propositions. That I can if I like substitute one proposition logically equivalent to another proposition, for that proposition in a molecular proposition and still retain the same truth value is not in itself a sufficient criterion for one proposition to be equivalent to another. For I can do this also if one proposition is entailed by another. Consider the proposition 'this tablecloth is blue'; it is entailed by 'this tablecloth is a royal blue'. Suppose now I say 'this tablecloth is royal blue but I prefer a green one for this room' I may also say without changing

the truth value of the proposition 'this tablecloth is blue but I prefer a green one for this room'. So that propositions other than logically equivalent ones satisfy the same truth values, that is, do not change a true molecular proposition into a false proposition or a false molecular proposition into a true proposition if the one proposition be substituted for the other. Again agreeing with the same truth possibilities does not constitute logical equivalence, that is, logically equivalent propositions do not agree with the same truth possibilities in the way explained by Ramsey. He says p)q, ~ p.v.q, ~ : p. ~ q., ~ q.). ~ p., have the same sense because they agree with the same set of possibilities p.q, ~ p.q, ~ p. ~q. Propositions which have the same sense are logically equivalent (as I shall try and show in a moment) so that propositions which agree with the same truth possibilities are logically equivalent. It is certainly true that if

> p)q is true then by definition p.q, ~ p.q, ~ p. ~ q. are also true; and if ~ p v q is true then by definition p.q, ~ p.q, ~ p. ~ q are also true; and so on with the rest.

But if p entails q, q entails p, that is, 'p is logically equivalent to q' I do not know in what way 'p' may be said to agree with the same truth possibilities as 'q' in order that it may be shown to have the same sense. For 'p' may well be an atomic proposition; all the propositions given above as having the same sense are molecular. It is because they are molecular and because the constituent propositions are combined in certain ways which are defined that they have these truth possibilities. We might say perhaps that 'p is logically equivalent to q' entails p.q is true: and therefore ~ : ~ p.v. ~q and so on: but p.q, ~ : ~ p.v.~q etc. are true when p is logically equivalent to q is not true. So that p.q. ~ : ~ p.v. ~ q are not truth possibilities which give sense to 'p is logically equivalent to q' as the joint assertion of p.q; ~ p.q; ~p. ~q gives a sense to the four propositions p)q; ~p v q; ~: p. ~q; ~q.). ~ p; in virtue of which they may be said to be the same proposition. Consider the propositions:

'A is to the right of B'; 'B is to the left of A': These are equivalent for:

'A is to the right of B' ent. 'B is to the left of A';

'B is to the left of A' ent. 'A is to the right of B'.

Let 'A is to the right of B' = p and 'B is to the left of A' = q. Then 'p is logically equivalent to q' if p entails q

and q entails p. From the notion of logical equivalence I want to arrive at a notion of 'having the same sense'. Take first the two propositions 'A is husband of B' and 'B is wife of A': These two propositions are logically equivalent for 'A is husband of B' entails 'B is wife of A' and vice versa. 'A is husband of B' entails 'A is male'; 'B is wife of A' entails 'A is male'. Consider two other propositions. 'A is to the right of B' and 'B is to the left of A'. 'A is to the right of B' is entailed by 'A is two places to the right of B'. This last proposition entails 'B is to the left of A'. We notice from these two examples that a proposition entailing or entailed by a proposition which is equivalent to another proposition also entails or is entailed by this other proposition. I take therefore as a proposition immediately seen to be true 'that if p is logically equivalent to proposition q then every proposition that is entailed by p (except q) is also entailed by q and every proposition that is entailed by q (except p) is entailed by p, and every proposition that entails p (except q) entails q and every proposition that entails q (except p) entails p'. This condition is fulfilled only by propositions that are logically equivalent. All propositions that are logically equivalent fulfil this condition. It is this condition which provides the condition for 'having the same sense'. I cannot give any conclusive proof that the sentences to which sense is attached when we apprehend propositions that are logically equivalent have the same sense. It is immediately seen to be true that all propositions in any one language which we apprehend when we attach the same sense to sentences are logically equivalent. It is not easy to show that all logically equivalent propositions in any one language have the same sense. I talk about 'propositions having the same sense' when the sentences to which we attach sense when we apprehend the propositions have the same sense. I give two reasons for suggesting that this view is true, namely that all logically equivalent propositions have the same sense. (1) A frequent method in order to show that two notions are of different sense is to point out that what one entails is not entailed by the other. For example, in order to show the difference between words used as types and words used as tokens we show that in the one recurrence is implied, in the other not. The proposition 'the word "man" is a very common word in English' implies (entails) the recurrence of 'man'. While 'I cannot decipher some of the words in this manuscript' does not entail the recurrence of any one word. In the

latter 'word' is used as a token, in the former as a type. If we cannot (however hard we try) find some proposition which is not entailed by the one and yet entailed by the other, then the two propositions are logically equivalent and we cannot use this method of showing that one proposition has a different sense from another. I think it very likely that whenever one proposition has a different sense from another then we can show that the one proposition entails a proposition not entailed by the other, that is, is not logically equivalent to that other. My second reason is that when we have a proposition in one language and a proposition in another, for example, 'Mr. Russell est un homme' and 'Mr. Russell is a man' we can, if we like, show that any proposition entailed by one of these propositions has a corresponding proposition entailed by the other proposition in the language of the other proposition. I should like to call propositions of the same sense in different languages 'correspondingly logically equivalent'. I do not say 'Mr. Russell is a man' entails 'Mr. Russell est un homme' and vice versa, but the sentence 'Mr. Russell est un homme' has the same sense as 'Mr. Russell is a man' and the propositions are correspondingly logically equivalent. If a translation of one sentence into another language was not a good translation I think I could always show this by showing that some proposition was entailed by the one which was not by the other. If I cannot show that a proposition is entailed by the one and not by the other; and if I can always show this if the sense of the two propositions is different, then it follows that logically equivalent propositions do always have the same sense. This is no conclusive proof, but seems plausible.

6.212 I have spoken above of propositions being related by the relation of logical equivalence. I now want to give reasons for supposing that the relation of logical equivalence relates propositions, where 'proposition' is used in the same way as 'token proposition'. If this is so then a proposition about a logical equivalence states that one token proposition is logically equivalent to another. The proposition '"A is to the right of B" is logically equivalent to "B is to the left of A"' is about token propositions, it states that the one token proposition is logically equivalent to the other. In the same way the proposition '"I understand $\hat{x}$ = df. I attach sense to $\hat{x}$"' is a proposition about symbols. It states that one set of symbols is the definition of another set of symbols. It has often been stated that a compound proposition which states a formal relation between its

component proposition is a proposition about its component propositions. That a proposition such as '"A is to the right of B" ≡ "B is to the left of A"' is a compound proposition which asserts something about its component propositions. In a sense then this proposition must be true or false. For what it asserts, in a sense, is either true or false. When I come to propositions dealing especially with formal relations between component propositions, I shall suggest a sense in which such propositions may be said to be true. First however I must give reasons for supposing that token propositions are related by the relation of logical equivalence and entailing.

Suppose it is token propositions which are logically equivalent then it is token propositions also that entail each other. In the definition 'p ≡ q = df. p entails q. q entails p', we could not have, it seems, the p's and q's on one side of the definition standing for type-propositions and on the other side of the definition the p's and q's standing for token-propositions. We could not have the definition of a logical equivalence between token propositions in terms of the relation of entailing relating type propositions. We could not say that

'The token proposition "A is to the left of B" ≡ The token propositions "B is to the right of A"' means what is meant by:

'The type proposition "A is to the left of B" entails the type proposition "B is to the right of A" and the type proposition "B is to the right of A" entails the type proposition "A is to the left of B"'.

I think it unlikely that anyone would want to hold this. What they might want to hold is that if we substitute 'the type proposition so and so ≡ the type proposition so and so' for 'the token proposition so and so ≡ the token proposition so and so' on the left hand side of the relation of definition. Then we should state a definition. Suppose we do this, and we use 'proposition' in the sense in which I have been using it; and in which in:-

(1) This is red;
(2) This is red;
(3) Ceci est rouge;

(1) and (2) may be so used that they are identically the same token proposition; (1), (2) and (3) may so be used that they are identically the same type proposition, but (1) and (3) are different sentences.

And we write:

'The type proposition "A is to the left of B" ≡ the

type proposition "B is to the right of A"' means what is meant by:

'The type proposition "A is to the left of B" entails the type proposition "B is to the right of A" and the type proposition "B is to the right of A" entails the type proposition "A is to the left of B"'.

The first difficulty that confronts us, so it seems, when we relate type propositions by the relation of logical equivalence is that each proposition, making up the compound proposition which states the definition of a logical equivalence, is identically the same proposition as every other making up the compound proposition. This follows from the type usage of proposition. Since the propositions 'A is to the left of B' and 'B is to the right of A' are logically equivalent then they have the same sense. I gave no conclusive proof that logically equivalent propositions have the same sense. I only gave what seemed plausible reasons for believing so. If logically equivalent propositions have the same sense then each one of pair of logically equivalent propositions used as a type is identically the same proposition as the other one of the pair used as a type proposition. It is agreed, I think, that propositions such as 'Ceci est rouge' and 'This is red' in their type usage are identically the same proposition. If these two propositions used as type propositions are identically the same so must be logically equivalent propositions used as type propositions. This difficulty comes about because, so far as I can tell, I never when I state that one proposition is logically equivalent to another, use 'proposition' in such a way that I consider the one proposition to be identically the same proposition as the other. Ordinary usage suggests also that I do not consider a type proposition; for we almost always write $p \equiv q$; since we use different letters of the alphabet, we suggest that the two propositions related are not identically the same. Whereas if we considered the propositions to be identically the same we should write $p \equiv p$. Further, if we did ever state such a relation as $p \equiv p$ we should then substitute, it seems, two propositions which qua token propositions were identically the same, not two propositions qua type propositions which were identically the same. If $p \equiv p$ then we should substitute for 'p' in either case, for example, 'this is red', we should not substitute for 'p' firstly 'this is red' and then 'ceci est rouge', although qua type propositions we should be justified in so substituting for 'p' in either case. That we

do not as a rule substitute different token propositions for the p's on either side of the relation of logical equivalence, shows that we as a rule consider propositions in their token usage. This is borne out by the way in which we usually state the relation of logical equivalence, when we state $p \equiv q$, and imply some difference in the two propositions related. If we relate token propositions by the relation of logical equivalence, it will follow that we are considering propositions not identically the same, but belonging to the same type because they have the same sense. This seems to me to be a much more plausible view of the matter. Moreover, I doubt whether things that may be said to be identically the same may also be said to be logically equivalent and may also be said to entail one another. Again, if we use proposition in its type sense when we relate by the relation of logical equivalence, then we may substitute within this relation different token propositions. For 'ceci est rouge' and 'this is red' are identically the same considered in their type usage. We could say, relating type propositions:

(1) 'A is to the left of B' $\equiv$ 'B is to the right of A' means what is meant by:

'A est au gauche de B' entails 'B est au droit d'A' and 'B is to the right of A' entails 'A is to the left of B'.

It seems that this is a way in which we never use language. We could say also if we relate type propositions by logical equivalence that the entailing relation may relate identically the same propositions. (1) Ceci est rouge; (2) This is red; (3) This is red, are in their type usage identically the same. We may say both that 'Ceci est rouge' entails 'This is red' and 'This is red' entails 'This is red'. We may say also that 'Ceci est rouge' entails 'this is coloured' for 'ceci est rouge' entails 'ceci est coloré' and 'ceci est coloré' in its type usage is identically the same proposition as 'this is coloured'. It seems to me that there also are ways in which we never use entailing or logical equivalence. If however it is thought that we can if we like so use 'equivalence' and 'entailing', then this would be a good argument for supposing that it is type not token propositions that are related by logical equivalence. If type propositions are so related, we have an added justification, because of the meaning of type proposition, for stating the relation of logical equivalence in this way. We are not justified in so doing when we relate token propositions. If we state the definition of the relation of logical equivalence between token propositions, for example:

'A is to the left of B' ≡ 'B is to the right of A' = df.

'B is to the right of A' entails 'A is to the left of B' and 'A is to the left of B' entails 'B is to the right of A'. We (1) relate different propositions; (2) cannot substitute for 'B is to the right of A' entails 'A is to the left of B' any but identically the same token proposition, that is, 'B is to the right of A' entails 'A is to the left of B'; (3) we have no justification other than an appeal to the ordinary use of language for saying that 'this is red' entails 'this is red', that is, that we may say, without making a nonsense, relate things that may be said to be identically the same also by the relation of logical equivalence. We have no justification other than an appeal to the ordinary use of language for using entailing such that we may say 'this is red' entails 'this is coloured' and also 'ceci est rouge' entails 'this is coloured'. For we have no justification for making the required substitution, since the token proposition 'this is red' is not identically the same token proposition as 'ceci est rouge'. It seems to me that we use proposition when we say that two propositions are logically equivalent, or that one proposition entails another, in its token usage. For we never do say, so it seems, 'this is red' entails 'ceci est coloré'; or 'this is red' entails or is logically equivalent to 'this is red'. That we never do state a definition such that:-

'A est au gauche de B' ≡ 'B est au droit d'A' = df.

'A est au gauche de B' entails 'B is to the right of A', and etc. etc.

That we never do consider propositions related by the relation of logical equivalence as identically the same proposition. Moreover it seems unlikely that two propositions related by the relation of logical equivalence may also be identically the same proposition. My arguments for this view are not conclusive.

6.2121 It is some particular type sentence that least indeterminately expresses a fact. When I attach sense to this type sentence and thus apprehend a proposition, I apprehend a token proposition as true. According to my account of truth a proposition is true if the sentence to which I attach sense expresses a fact as closely as possible. Most propositions, as we have seen, are true derivatively; they are true derivatively because they are entailed by a proposition which is true. These propositions are token propositions. It is important therefore, for my view to give reasons for believing that token propositions are related

by the relation of entailing. Again, if token propositions are related by the relation of logical equivalence then we may also say that some compound propositions which assert formal relations between their component propositions, assert the relation between their component propositions used as token propositions. Propositions which are made up of more than one proposition and assert a formal relation such as entailing or logical equivalence between component propositions are the kind of propositions that occur frequently in mathematics. Thus some of the propositions of mathematics are compound and relate token propositions. Before I go on to discuss those propositions that assert some formal relation such as 'definition', 'entailing' or 'logical equivalence' between component propositions and to suggest a sense in which these propositions may be true; I will say something about propositions stating a material implication between component propositions.

6.2122 I want to consider (1) what the relation of material implication relates; (2) the sense of a proposition stating a material implication between component propositions. I will deal with (2) first. According to *Principia Mathematica* p)q = df. ~ p v q. This way of stating the sense of the proposition 'p)q' or 'p materially implies q' is not so clear as Wittgenstein's way of stating the sense. Consider the T. F. notation:-

p	q	p)q
T	T	T
T	F	F
F	T	T
F	F	T

Or more shortly
' "T F T T" (p.q)'

Then we may note two things immediately: (1) p and q are considered in respect of their truth or falsity. First p and q are both considered as true, then p only is considered as true, then q only is considered as true; then both p and q are considered as false. Thus p and q are used in a sense such that we may predicate truth of them. They are propositions of which common usage predicates truth and falsity. So in some sense of proposition we are speaking of the propositions p and q. (2) When we look down the column with the heading p)q we find T F T T. So that we may understand by this that when we say 'p materially implies q' we mean the same as if we had said 'those three combinations of p and q are true if p materially implies q is true and one combination of p and q is false if 'p materially implies q'

is true. We speak of 'the combinations of p and q' as regards to their truth possibilities as is obvious from Wittgenstein's diagram. What we assert, then, when we say 'p)q = df. ~p v q' is that certain combinations of p and q, as regards to their truth possibility, are true, and a certain combination of the propositions p and q, as regards to their truth possibility, is false. When we assert 'p materially implies q' we assert only that certain combinations of p and q are true and certain false. Consider now question (1). It is clear that it is not token propositions used merely as token propositions that are related when we say 'p materially implies q'. For one token proposition 'ceci est rouge' is a different token proposition from 'this is red', since the one could be called p and the other q these could not be said to be related by material implication. For if 'this' and 'ceci' are true and stand for the same 'this' we could never say that the one was false and the other true. Both would be true or both false. They would in the symbolism of Principia Mathematica be equivalent. (T F F T). They would be what I have called 'correspondingly logically equivalent'. It is difficult to say also that propositions when related by material implication are used as type propositions. For everyone agrees that sometimes we may replace material implication in Principia by logical equivalence. If as I have maintained logical equivalence relates token propositions we could not say this. We should then have to alter the sense of p and q. When we assert 'p)q' we are using p and q as variables. What p and q stand for are, I think, token propositions; 'p' stands for any token proposition of one type and q stands for any token proposition of another type. The difference in lettering designates difference in the types to which any one of the token propositions respectively belongs. It does not designate a difference in token propositions taken singly, but a difference in groups of token propositions as regards to the different types to which they belong. The only limitation in the values which may be given to p and q when 'p)q' is to forbid substituting for p and q different token propositions of the same type. Otherwise any token propositions may be substituted for p and may be substituted for q provided it is true.

6.21221 Now ~p v q = df. (p.q) T F T T. If ~p v q is put in this latter way, it is clear that what the proposition '~p v q' asserts is that certain combinations of the two propositions p and q according to their truth possibilities are true and others false. This the T F notation clearly shows.

It shows that the combinations (1) 'p and q both true' is true; (2) that the combination 'p is false and q true' is true; (3) that the combination 'p false and q false' is true, and that the combination 'p true and q false' is false. If we deny that this is what '~ p v q' asserts, we are denying that we attach this sense to the type symbols '~ p v q'. We are asserting that we attach some other sense to the symbols, that is, that we use the symbols '~ p v q' in some other way. When we deny a proposition 'p', for example, 'that the sun is shining now' we mean what we might also mean by 'it is false that the sun is shining now'. A denial of the proposition p means what is meant by an assertion that p is false. Again, an assertion of a proposition p means what is meant by 'p is true'. So that if we deny that the four combinations of propositions given above is the sense of ~ p v q, we are saying that 'it is false that the four combinations of propositions given above is the sense of ~ p v q'. Again, if we assert 'that the four combinations of propositions given above is the sense of ~ p v q' we are saying that 'it is true that the four combinations of propositions given above is the sense of ~ p v q'. My question is 'what are the conditions which justify us in saying in such a case that the proposition in question is true, or is false?' It cannot be conditions identical with those which justify us in saying that 'the sun is shining outside' is true; for these conditions are that the proposition in question is entailed by a proposition which expresses a fact as closely as possible. A proposition asserting a material implication between two propositions is not entailed by a proposition which determinately expresses a fact. For a fact I have described as 'certain specific characters occurring at a time in a place', a proposition asserting a material implication is entailed by no proposition asserting anything whatever about characters occurring at a certain time in a certain place. Since the denial 'that the four combinations of propositions given above is the sense of the sentence ' ~ p v q' means what we might also mean by 'it is false that the four combinations of propositions given above is the sense of the sentence '~ p v q'; we are denying that '~ p v q' = df. (p.q) T F T T. We are saying that it is false that ~p v q = df. (p.q) T F T T. Since a definition is arbitrary; it might equally well be that ~ p v q = df. (p.q) T F F T. ~ p v q does not have this sense because Russell did not attach this sense to the symbols ~ p v q. If we accept the sense Russell attaches to the sentence ' ~ p v q', it is

not then arbitrary what definition we give to the symbols. We must give Russell's definition: we deny a definition or say that a definition is false, we say that we attach some other sense or no sense at all to the symbols in question. Our only justification in defining the symbols in some other way would be that these symbols are as a rule used in such a way that they do not have the sense which Russell attaches to them. Our justification for saying 'it is true that the four combinations of propositions given above is the sense of '~ p v q' ' rests upon an appeal to Russell's use of language, that is, to the sense he attaches to sentences. Our denial or our assertion that it is false that the four combinations of propositions given above is the sense of '~ p v q' rests also on an appeal to another use of language, that is, another sense attached to sentences. This other sense is again arbitrarily attached to symbols. Our assertion or our denial that '~ p v q = df. (p.q) T F T T' comes to no more than a disagreement about the sense attached to symbols. The only justification for saying that a definition is true is to say that this is the sense I attach to the symbols in question. The only justification for saying that the definition is false is to say that this is not the sense I attach to the symbols in question. The chief justification for deciding between the two definitions is to decide which definition is more in accordance with the ordinary use of language, that is, the ordinary sense attached to symbols. In doing this we have only carried the discussion one stage further back. For the same difficulties would again arise if we disagreed with the ordinary use of language. In the following I give reasons for suggesting that the justification for saying that propositions stating that one proposition is entailed by another, or that one proposition is logically equivalent to another, is the same as the justification for saying that one proposition is the definition of another.

I want in this section to deal with those compound propositions which state a relation of entailing or of logical equivalence between component propositions. I want to give reasons for the view that the justification for the predication of truth of these propositions is an appeal to the ordinary usage of language. The propositions I want to deal with are, for example, '"This is red" entails "this is coloured"' or '"A is to the right of B" is logically equivalent to "B is to the left of A"'. I want first to give what seems to me to be a conclusive argument for saying that 'facts' in the sense I have described do not make propositions, stating an entailing relation between component propositions, true. When I apprehend a proposition stating an entailing relation between component propositions the sentence to which I attach sense does not indeterminately express a fact. For if my sentence indeterminately expresses a fact we must have symbols (type words or type phrases) as part of the sentence to which I attach sense, whose meaning is temporal and type words or type phrases whose meaning is spacial. The sentence to which I attach sense when I apprehend a proposition which states an entailing relation between component propositions never has as parts symbols whose meaning is temporal, or symbols whose meaning is spacial. Thus the sentence to which I attach sense when I apprehend a proposition stating an entailing relation between component propositions never indeterminately expresses a fact. These propositions cannot be made true by reference to facts. The conditions for the truth of propositions stating entailing relations is different from the conditions for the truth of propositions about facts. It is the conditions for the truth of propositions stating relations of entailing between component propositions which I now consider.

7.11 In the building up of a language, we have not got a whole lot of words, like bricks in building a house, which lie idle before we begin to use them. The building and the words grow together. We have something we want to communicate, we use gestures and words to do so. These help us to make new words and therefore new distinctions. The building up of a language and the building up of differences in meaning go together. So that meanings are there to be symbolised and I use words to symbolise the meaning. These words in their turn are used on different occasions in slightly different ways and thus help to make new shades of meaning, for example, to wake up and 'to be awakened'. So

that meanings and words and words and meanings grow up together. In a language already built up, from noticing the usage of a word on different occasions we may discover its meaning. Unless we see a word in use, in combination with other words whose meaning we already know we cannot discover its meaning. So that the meaning of a word is given to it by its use and it means nothing unless it is, as a matter of fact, used. Supposing we know the ways in which the word is used, then in seeing or hearing it alone, it has meaning for us. The truth in saying that 'a word has no meaning in isolation' is that it has no meaning in isolation if by this is meant it has no meaning unless it is used, as a matter of fact, in combination with other words whose meaning we are familiar with. It is then used as a word of some language. When we so use a word we both show its usage and also the usage of the other words. So in considering each group's usage with the other we discover each one's meaning with the aid of the other. That 'dilapidated' is used in conjunction with clothes, houses, and that we never say of clothes or houses that they are both 'new and dilapidated' but 'old and dilapidated' tells us something about 'dilapidated' and also something about 'houses' and 'new' and 'old'. When we are starting to discover the meaning of a word, that is, to discover the way in which it is used, we have already a whole lot of words whose meaning we know, that is, whose usage we are already acquainted with before us. Now the general usage of a word is fixed in the sense that it is that usage which the word generally has. So the meaning of a word is fixed, for usage determines meaning. In this sense we do not consider its usage or meaning arbitrary. For we cannot pick and choose in what way we use the word if we wish to use it as it is generally used; that is, in its customary sense. But this is the only sense in which a given word or phrase or sentence is not arbitrary; that if we want to use a word as it is generally used, we must use it not in any way but in certain ways only. In giving these ways we are giving also some of the ways in which other words are used also. When we consider sentences and their combinations and the words which signify their combinations, we are doing exactly the same thing. Suppose we did not know the meaning of 'entailing'. We should see in what ways the type word 'entailing' is used. In doing this we should see also in what ways certain sentences are used. If we wish to use 'entailing' as it is usually used we must only use it in certain ways, that is, in accordance with general usage.

This alone is what is not arbitrary. So that 'entailing' may be used only between certain sentences and certain sentences only may be connected by the word 'entailing' if we want to follow general usage. If we were asked what does 'entailing' mean; we should give examples, that is, we should give examples of the general use of 'entailing': that certain sentences may be connected by the word 'entailing' adds to the sense we attach to them also. If we had only just learnt that 'this is red' entails 'this is coloured' we should know more about the sense of 'this is red' than we did previously and more about the sense of 'this is coloured' than we did previously. In the same way as the general usage of words such as 'dilapidated' is arbitrary so the general usage of 'entailing' and of sentences is arbitrary. There is no other reason except that we do not so use it, that the word 'dilapidated' should not be used in conjunction with 'new' and be predicated of a house. If we do so use it and say 'a new dilapidated house' then we have altered the usage and therefore the meaning of the word. Similarly there is no other reason except that we do so use them, that we connect 'This is red' and 'This is coloured' by the word 'entailing'. If we do not so connect these sentences with this word, but connect these sentences in some entirely different way and use the word 'entailing' in some entirely different way, all we can say is that we have altered the sense of the sentence and the meaning of the word. To say 'given these sentences and this word we must so connect them' says no more than 'given these sentences and this word if we want to comply with ordinary usage, then we must so connect them'. It is only when the ordinary usage of sentences, phrases and words has been settled, and therefore the sense of sentences and the meaning of words and phrases, that then we must so combine our words and phrases and sentences. For they then have meanings and senses which are fixed according to customary usage. All the 'must' says is 'if you accept the ordinary use of language then you have agreed to connect certain sentences only with the word "entailing"'. By connecting them in this way I give meaning to entailing and sense to the sentences. Before these sentences and this word were so used they had no such sense or meaning. There is nothing in the sense of 'this is red' and 'this is coloured' before we agree to comply with customary usage which makes us say that '"this is red" entails "this is coloured"'. The reason why we think that there is, if we do, is because 'this is red' has already sense to us; and we in giving it

a sense have already agreed to use the sentence in the way it is customarily used. When we say 'if this is red then this must be coloured' all we are doing is to attach to 'this is red' a sense in accordance with customary usage and to attach to 'this is coloured' a sense in accordance with customary usage, and in doing this we are saying that the one proposition we apprehend must follow from the other, for this is the customary usage of each. The necessity we feel relating the two is entirely due to our complete acceptance of the ordinary use of language. For this reason I may conclude that if there is disagreement about whether or not a given proposition entails another, the decision arrived at is justified only by an appeal to the ordinary use of language, to whether or not the propositions in question are used so that the one may be said to entail the other. As regards to the justification for the truth and falsity of propositions stating a relation of entailing between component propositions, the answer is similar to that given previously for definition. If we deny 'that the proposition p entails the proposition q', that is, assert 'that the proposition "the proposition p entails the proposition q" is false'; we say that we attach some other sense to sentences in question and some other meaning to the relation of entailing. Our only justification in attaching a different sense to the symbols in question is that these symbols are as a rule used in such a way that they do not have the sense here attached to them. Our justification for asserting 'that the proposition p entails the proposition q' or for saying 'it is true that the proposition p entails the proposition q' rests upon an appeal to the common usage of the propositions in question and the relation of entailing. Our disagreement as to the truth or falsity of propositions such as 'the proposition p entails the proposition q' and 'the proposition p $\equiv$ the proposition q' comes to no more than a disagreement about the sense usually attached to symbols.