theoretical investigation; for the philosophy of (exact) science, in particular, there is no reason to investigate certain subtleties which present themselves in natural language and which are usually avoided in the construction of formalised languages.

I feel these points of agreement should be explicitly stated, as, naturally, in the above considerations they did not receive the stress which they deserve. I now come to the issues on which Carnap's views and mine seem to diverge.

(iv) In discussions on the foundations of logic, natural language plays a special role in those cases, where strict usage is desired; though there is no reason to exclude strict usage of formalised languages, strict usage is actually restricted to natural language; this is also the case in Carnap's writings;

(v) His neglect of the distinction between strict usage and amplified usage of a language has induced Carnap to defend assertions—and, in particular, the Principle of Tolerance—which cannot be accepted without restrictions; moreover, Carnap has not been able to avoid every appeal to logical or mathematical intuitions, or, what amounts to the same, to ontological commitments.

This criticism leaves the main body of Carnap's doctrines fully intact. It only calls for modifications and restrictions at its ultimate boundaries, which at the same time are the boundaries of our knowledge.

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16

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CARNAP'S VIEWS ON CONSTRUCTED SYSTEMS VERSUS NATURAL LANGUAGES IN ANALYTIC PHILOSOPHY

The Two Methods

I understand that the question on which I am to discuss Carnap's views is that of the comparative merits of two methods of philosophical clarification. To follow one method is to construct a formal system, which uses, generally, the ordinary apparatus of modern logic and in which the concepts forming the subject-matter of the system are introduced by means of axioms and definitions. The construction of the system will generally be accompanied by extra-systematic remarks in some way relating the concepts of the system to concepts which we already use in an unsystematic way. This is the method of 'rational reconstruction'; and indeed the system of elementary logic itself can be regarded as just such a reconstruction of the set of concepts expressed by the logical constants of daily life. Following the other method seems very different. For it consists in the attempt to describe the complex patterns of logical behaviour which the concepts of daily life exhibit. It is not a matter of prescribing the model conduct of model words, but of describing the actual conduct of actual words; not a matter of making rules, but of noting customs. Obviously the first method has certain advantages. The nature and powers of the apparatus to be used are clear. Its users know in advance what *sort* of thing they are going to make with it. The practitioner of the second method is not so well placed. Unless he is to be content with the production and juxtaposition of particular examples, he needs some metavocabulary in which to describe the features he finds. Ex hypothesi, the well-regulated metavocabulary of the first method is inadequate for his purposes. So he has to make his own tools; and, too often, hastily improvised, overweighted with analogy and association, they prove clumsy, lose their edge after one operation and serve only to mutilate where they should dissect.

Clarification and Science

The issue, or apparent issue, between the two methods is only too

easily trivialised or made uninteresting. I spoke of them both as methods of *clarification,* and one could understand this word in such a way that there was no interesting question as to which of the two methods was better for this purpose. Such a result would ensue, for example, from taking 'clarification' in the sense which Carnap seems to give to it in the first chapter of 'Logical Foundations of Probability'.[1] A pre-scientific concept C is clarified in this sense if it is *for certain purposes* replaced (or supplanted or succeeded) by a concept C' which is unlike C in being both *exact* and *fruitful.* The criterion of exactness is that the rules of use of the concept should be such as to give it a clear place 'in a well-connected system of scientific concepts'. The criterion of fruitfulness is that the concept should be useful in the formulation of many logical theorems or empirical scientific laws. An indication of the sense in which the new concept is said to *correspond to* and to *replace* the old may be given by examples. One example which Carnap gives is the replacement of the sensory quality concept of warmth by the quantitative concept of temperature. An example analogous to another which he gives would be the use by the entomologist of the word 'insect' in a way more restrictive and more exactly defined than the way (or ways) in which it is used by children and nursemaids. There is a further suggestion (though not an explicit assertion) in this chapter, to the effect that introducing a concept into a well-connected system of scientific concepts and constructing a formal axiom system which incorporates both it and them, are really just different names for the same thing.[2] And if 'clarification' is so understood as to include 'rendering exact', and 'rendering exact' is understood to include incorporation in a formal system, then clearly the thesis that clarification can be best achieved by system-construction appears as an understatement.

Even if we abjure this last step and think of clarification more vaguely as the introduction, for scientific purposes, of scientifically exact and fruitful concepts in the place of (some of) those we use for all the other ordinary and extraordinary purposes of life, the issue between the two methods remains less than exciting. I am not competent to discuss the extent to which theoretical scientists, in framing new concepts or refurbishing old ones, either examine minutely the behaviour of words in ordinary language or construct axiom systems. It seems to me extremely improbable that they do much of the first; and I suspect (but may be quite wrong) that logicians exaggerate the extent to which they do, or ought to do, the second. But my incompetence in this matter troubles me not at all. For however much or little the constructionist technique is the right means of getting an idea into shape for use in the

1Cf. *op. cit.,* 3-15.
2See 15.

formal or empirical sciences, it seems prima facie evident that to offer formal explanations of key terms of scientific theories to one who seeks philosophical illumination of essential concepts of non-scientific discourse, is to do something utterly irrelevant—is a sheer misunderstanding, like offering a text-book on physiology to someone who says (with a sigh) that he wished he understood the workings of the human heart.

The scientific uses of language, whether formal or empirical, are extremely highly specialized uses. Language has many other employments. We use it in pleading in the law courts; in appraising people's characters and actions; in criticising works of art; in recounting our states of mind; in getting people to fetch things; in narrating histories; in describing what things look and sound and feel like; in entering into engagements with one another; in identifying people—and so on. It is quite certain that such ways of using language as these may give rise to philosophical problems; that the concepts employed in these activities may generate perplexity, may call for philosophical clarification. How do we conceive of *responsibility?* What is the difference between describing states of mind and describing physical objects? What does it mean to say that the person now before us is *the very man who did* such-and-such a thing? This is a minute and random selection of typical questions concerning concepts employed in non-scientific discourse. Moreover the language used outside the research institutes has its general and structural features, running through quite disparate realms of subject-matter and purpose. These too have seemed to demand philosophical investigation. Thus we wish to know what it is to say that one thing is conditional upon another, is a case or instance of another, is real, is good, is the same. And it seems in general evident that the concepts used in non-scientific kinds of discourse could not literally be *replaced* by scientific concepts serving just the same purposes; that the language of science could not in this way *supplant* the language of the drawing-room, the kitchen, the law courts and the novel. It might at this point be objected that while it is trivially true that doing science is not doing not science, it does not follow that the employment of scientific concepts for the purposes for which non-scientific concepts are at present employed is impossible; i.e. that from the necessary truth that scientific uses of language are different from non-scientific uses of language, it does not follow that use of scientific language could not replace the use of non-scientific language for non-scientific purposes. And of course it does not follow; and, in certain cases, for certain descriptive purposes, the replacement might be effected. But it seems to require no argument to show that, in most cases, either the operation would not be practically feasible or the result of attempting it would be something so radically different from the original that it could no longer be said to be fulfilling the same purpose, doing the same thing. More of the

types of linguistic activity in which we constantly engage would succumb to such an attempt than would survive it; and there are many such types on which we should not know how to start. The kinds of concept we employ are not independent of the kinds of purpose for which we employ them; even though some concepts can fulfil more than one kind of purpose.

If these things are true, it follows that typical philosophical problems about the concepts used in non-scientific discourse cannot be solved by laying down the rules of use of exact and fruitful concepts in science. To do this last is not to solve the typical philosophical problem, but to change the subject. In the case of many a philosophically troubling concept, indeed, it is hard to know in what direction to look for a scientifically satisfactory concept which stands to it in the required relation of correspondence or similarity. But the general conclusion holds even for those cases where there is a clear correlation. I may mention again Carnap's own example of the clarification of the prescientific concept of warmth by the introduction of the exact and scientifically fruitful concept of temperature. Sensory concepts in general have been a rich source of philosophical perplexity. How are the look, the sound, the feel of a material object related to each other and to the object itself? Does it follow from the fact that the same object can feel warm to one man and cold to another that the object really is neither cold or warm nor cool nor has any such property? These questions can be answered, or the facts and difficulties that lead to our asking them can be made plain; but not by means of formal exercises in the scientific use of the related concepts of temperature, wavelength, frequency. Indeed, the introduction of the scientific concepts may itself produce a further crop of puzzles, arising from an unclarity over the relations between two ways of using language to talk about the physical world, the relations between the quantitative and the sensory vocabularies. This unclarity is another which will scarcely be removed by exhibiting the formal workings of the quantitative concepts.

So, then, since the clarification of philosophically puzzling concepts is not achieved by the introduction of related scientific concepts, it is not important for our purpose to discuss whether this introduction is best performed by the method of formalisation. Nor is it very important to discuss this, even if 'clarification of philosophically puzzling concepts' is taken to be *synonymous* with 'introduction of related scientific concepts'. For the answer is trivially 'Yes' for formalised sciences and trivially 'No' for others. If it is objected that the real question is whether all sciences would not be the better for axiomatisation, then the real question is one which I must leave, thankfully, to those equipped to answer it.

Clarification and 'Pseudo-questions'

It is possible, however, to understand the idea of clarification, and of the contribution which system-construction may make to it, in a different and more philosophical way; in such a way, in fact, that the issue stated at the outset remains open, requires to be argued further. But before I turn to this other approach, I want to consider a possible source of the uncompromising position I have just discussed. I think it arises partly from the view that philosophical questions and perplexities cannot really be taken seriously; that the only serious questions are *either* questions to be answered within the conceptual framework of a scientific theory or of some non-scientific mode of empirical discourse or pragmatic questions about the desirability of adopting such a framework. This view is strongly suggested by certain passages in Carnap's 'Empiricism, Semantics and Ontology'.[3] It is worth while to consider in detail some of the things which Carnap says in this article, since to do so will both illuminate our general question, and show how thin (despite appearances) may be the barrier which divides the philosopher who constructs systems from the philosopher who describes the workings of ordinary language. Carnap declares that the 'framework of propositions' (i.e. a use of language in which propositions appear as entities having such properties as truth, necessity, etc.) may be introduced by means of a set of rules, of which he indicates a few. Then he continues as follows:[4]

(i) It is important to notice that the system of rules for the linguistic expressions of the propositional framework (of which only a few rules have here been briefly indicated) is sufficient for the introduction of the framework. Any further explanations as to the nature of the propositions (i.e. the elements of the framework indicated, the values of the variables "p", "q", etc.) are theoretically unnecessary because, if correct, they follow from the rules.

(ii) For example, are propositions mental events (as in Russell's theory)? A look at the rules shows us that they are not, because otherwise existential statements would be of the form: "If the mental state of the person in question fulfils such-and-such conditions, then there is a p such that . . .". The fact that no references to mental conditions occur in existential statements [of the framework] shows that propositions are not mental entities. Further, a statement of the existence of linguistic entities (e.g. expressions, classes of expressions, etc.) must contain a reference to a language. The fact that no such reference occurs in the existential statements here, shows that propositions are

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[3] *Revue Internationale de Philosophie*, XI (1950), 20-40. But the article is itself a brilliant informal contribution to the philosophical clarification of the concept of existence. How would Carnap characterise what he himself is mainly concerned to do in the article?

[4] *Op. cit.*, 26-27. I quote a continuous paragraph, which I have broken up into numbered sections for ease of reference.

not linguistic entities. The fact that in these statements no reference to a subject (an observer or knower) occurs (nothing like "There is a p which is necessary for Mr. X"), shows that the propositions (and their properties, like necessity, etc.) are not subjective.

(iii) Although characterisations of these or similar kinds are, strictly speaking, unnecessary, they may nevertheless be practically useful. If they are given, they should be understood, not as ingredient parts of the system, but merely as marginal notes with the purpose of supplying to the reader helpful hints or convenient pictorial associations which may make his learning of the use of the expressions easier than the bare system of rules would do.

(iv) Such a characterization is analogous to an extra-systematic explanation which a physicist sometimes gives to a beginner. He might, for example, tell him to imagine the atoms of a gas as small balls rushing around with great speed, or the electro-magnetic field and its oscillations as quasi-elastic tensions and vibrations in an ether. In fact, however, all that can accurately be said about atoms or the field is implicitly contained in the physical laws of the theories in question.

It will be noticed that the existence of typical philosophers' questions about propositions is acknowledged (in (ii)); and it is said that answers to the questions mentioned follow from a consideration of the rules of use of the linguistic expressions concerned. But it is also said (in (i)) that, given the rules of use, 'further explanations of the nature of propositions . . . are theoretically unnecessary', just because 'they follow from the rules.' Further, it is said (in (iii)) 'that such further (extra-systematic) explanations, though 'strictly unnecessary', may be 'practically useful' in making it easier to learn the use of the expressions. Finally (in (iv)) such extra-systematic explanations are said to be analogous to the quasi-pictorial models which a physicist might use in introducing his theoretical concepts to a beginner. Several points in this deserve comment.

(1) The fact that answers to (some) philosophers' questions in some sense follow from the rules of use of the expressions concerned does not have the consequence that it is 'strictly speaking, unnecessary' to give these further explanations, unless one assumes that it is, strictly speaking, unnecessary to take philosophers' questions seriously. For one thing may well follow from another and yet someone may fail to see that it does, unless it is pointed out to him by means of 'further explanations'; and if this is the situation in this case, then the further explanations are, strictly speaking, necessary if the aim is to be achieved of resolving the puzzles, of showing how the answers to the conceptual questions are implicit in the rules of use of the expressions concerned.

(2) Carnap admits that extra-systematic explanations may nevertheless be useful: he says they may be *practically* useful in helping someone to *learn the use* of the expressions concerned. But of course it is characteristic of philosophers' perplexities and questions that they are felt and raised by people who know very well how to use the expressions

concerned, who have no practical difficulties at all in operating with the concepts in question. To the extent to which Carnap regards the role of extra-systematic conceptual explanation as simply that of resolving such practical difficulties, he ignores the role of conceptual explanation in resolving philosophical difficulties; and this perhaps springs again from the view that the latter are not real difficulties. And of course they are *not* (in general) real difficulties, if by 'real difficulty' is meant a difficulty in actually operating with the concepts in question in the course of framing and answering 'real questions', i.e. questions which arise within the framework to which the concepts belong.

(3) Carnap says that the extra-systematic explanations are analogous, to the pictorial models by means of which scientists may introduce theoretical concepts to a beginner (and, he might have added, which they may themselves make use of in extending and applying their theories). But it is easy to see that they are not analogous, just in so far as the conceptual explanations 'follow from', or are implicit in, the rules of use of the expressions concerned. For it does not appear to be the case, indeed it is not clear what would be meant by saying, that the scientists' pictorial models 'follow from' any 'rules of use' of the relevant scientific expressions. Another respect in which the two things are not analogous is that the scientists' models *do* seem to be of practical use in helping the beginner to learn to use the theoretical concepts in question and, perhaps, in helping the scientist to frame and extend theories; whereas the explanations which are of help to the philosopher do not in general have, or need, this power.

It seems not unreasonable, then, to find in this passage, as in others, evidence of a lack of sympathy with, and even of understanding of, that need for the elucidation of concepts which can coexist with perfect mastery of their practical employment. Now this is precisely the need for their philosophical elucidation. But if the idea of this kind of clarification is rejected, or not even entertained, then it does become intelligible that the title of 'clarification' should be reserved for some other activity. And this is why I said that a certain extreme view of the nature of clarification is perhaps traceable in part to the belief that philosophical questions and difficulties are non-serious and unreal. This was the extreme view that to clarify a concept used for non-scientific purposes consisted in looking away from it at a different, though in some way related, concept which was unlike the first in being scientifically exact and fruitful. It is true that we may be diverted from the wish to understand what we are doing, by encouragement to do something else; and that if the wish seems futile, the diversion may seem desirable; and then the complaint that the wish is not thereby satisfied will, no doubt, seem futile too.

Formal Constructions and Philosophical Understanding

Now I want to consider once again, but this time with a different purpose, the earlier part of the passage I quoted. I have tried to show how the passage can be used to explain in part how a certain extreme conception of clarification might come to be held. I now wish to show how it also points to a less extreme conception, and thereby to a still open issue between constructionism and the analysis of ordinary language. I noted that Carnap acknowledges the existence of typical philosophical questions about, in this case, propositions; and claims that they could be answered[5] by attention to 'the system of rules for the linguistic expressions of the propositional framework', the system of rules, that is, whereby the framework was 'introduced'. Now it may strike us that in advance of the explicit framing of a system of linguistic *rules*, there already exists in unformalised discourse an ordinary linguistic *practice* which might itself be said to constitute a propositional framework. That is to say, we commonly use quite a large range of substantival expressions which can occur as grammatical subjects of such grammatical predicates as 'is true', 'is incompatible with so-and-so', etc. These expressions will include clauses beginning with the word 'that'; and also expressions beginning 'the statement that . . .', 'the suggestion that . . . ,' 'the belief that . . .'; and also descriptive phrases which do not incorporate a 'that'—clause, like 'what you said just now', 'what X believes' and so on. Moreover, a comparison of the typical uses of these expressions with those of expressions used to refer to (designate) mental occurrences or linguistic entities or states of a person will show that the expressions in question are in fact used differently from expressions of any of these other classes; or, in other words, that the entities which the expressions in question are used to refer to cannot be identified with entities of any of these other classes. So we have, in ordinary unformalised discourse, something very like Carnap's framework of propositions. (We could not conveniently get on without it. And it is merely to echo the main thesis of Carnap's article to add that this is no reason either for despondency or for elation). Here, then, we have a (perhaps untypically) simple instance of an apparent choice of methods. Carnap claims that we can very easily read off answers to (some) typically philosophical questions from a study of the rules of the constructed system. On the other hand, it seems that the same or similar questions can be answered by the examination of the linguistic practice which precedes construction. Why should either method be preferred to the other?

I do not propose to debate the general issue on this narrow ground.

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[5] Notice that to deal with the philosophical worry which makes the questions seem so urgent, more is required than the answers. Carnap provides something on the necessary lines in the article as a whole.

I use the case only to bring out (what has not hitherto appeared) that, after all, the two methods can, up to a point, be represented as different ways of attaining the same or similar ends. Only if this is so can there be an issue between them as methods. But it is important to see how differently we must now conceive of the formalist programme of clarification. It is no longer a matter of replacing an unclear concept used for one (non-scientific) purpose with a clear, though related, concept used for a different (scientific) purpose. The constructed propositional framework may indeed be used by Carnap in attacking other problems; but this further use is irrelevant to its success or failure in the task of clarifying *this* problem. Unformalised concepts are to be clarified by formal construction; and the fact (if it is a fact) that the formal construction may then be put to work in new ways, is not now to be taken as germane to the purpose of clarification (of *this* piece of clarification) at all, but as an extra gift of fortune.

Even if agreement can be reached on a common aim of *understanding* ordinary concepts, however, the danger of trivialising the issue is not altogether averted. Let me state a little more fully the position the constructionist is now assumed to occupy. He is now to be seen not as offering his construction on the ground of its value for other purposes, nor as one who seriously maintains that his system of well-regulated expressions could actually displace ordinary usage for ordinary purposes. He offers his system as an object of contemplation which has the following features: first, it is intrinsically clear, in that its key concepts are related in precise and determinate ways (which the system exhibits), whereas, *ex hypothesi*, the ordinary concepts to be clarified do not have such precise and determinate relations to each other or to other ordinary concepts in terms of which one might seek to explain them; and, second, at least some of the key concepts of the system are, in important respects, very close to the ordinary concepts which are to be clarified. (The qualification 'at least some' is introduced to allow for the fact that the constructed system may legitimately accord a central place to new concepts which do not have any ordinary correlates, but which possess considerable power of unifying or systematising those elements of the system which do have ordinary correlates.) The system as a whole then appears as a precise and rigid structure to which our ordinary conceptual equipment is a loose and untidy approximation. The way in which the debate could once more reach an uninteresting deadlock is the following. It could be maintained dogmatically on the one hand that nothing but the mastery of such a system would really *be* understanding, in a philosophical sense, the concepts to be clarified; and to one who maintained this, phrases like 'the underlying logical structure of our concepts' might seem to carry the weight of his conviction. Or it might be

maintained dogmatically on the other hand that since, *ex hypothesi,* the ordinary concepts to be examined do not behave in the well-regulated way in which the model concepts of the system are made to behave, there can be no real understanding of the former except such as may be gained by a detailed consideration of the way they do behave, i.e. by an investigation of the ordinary uses of the linguistic expressions concerned. Here the deadlock is reached by each party refusing to count as *understanding,* a condition which is not reached by the method he advocates.

There may be something final about this deadlock. For there may here be something which is in part a matter simply of preference, of choice. Nevertheless, there are considerations which may influence choice. For surely, in deciding what to count as philosophical understanding, it is reasonable to remind ourselves what philosophical problems and *unclarities* are *like.* Such a reminder I shall briefly attempt in the next section. But I shall partly anticipate it now, in mentioning some general difficulties which arise for the constructionist in the position he is now assumed to occupy.

The constructionist would of course agree that it is necessary to supply an interpretation for the linguistic expressions of his theory. This is not secured merely by the formal relationships between the constructed concepts which the theory exhibits. At some point it is necessary also to explain the meaning of the linguistic expressions for the constructed concepts in terms which do not belong to the theory and the meaning of which is taken as already known. So *some* extra-systematic remarks are essential. This point need not in itself raise any particular difficulty. So long as a small number of extra-systematic points of contact are clearly made, the meaning of the remaining elements follows from their clearly defined relationships within the system to those to which life has been given by the extra-systematic remarks. (To give a simple instance: it is enough to explain, say, '·' and '~' in extra-systematic terms—and this is not a hard task—for the interpretation of the remaining constants of the propositional calculus to be fixed.) But if the constructionist claim to achieve clarification is to be vindicated, it is not sufficient, though it is necessary, that the interpretation of the linguistic expressions of his theory should be determined. For the claim to clarify will seem empty, unless the results achieved have some bearing on the typical philosophical problems and difficulties which arise concerning the concepts to be clarified. Now these problems and difficulties (it will be admitted) have their roots in ordinary, unconstructed concepts, in the elusive, deceptive modes of functioning of unformalised linguistic expressions. It is precisely the purpose of the reconstruction (we are now supposing) to solve or dispel problems and difficulties so

rooted. But how can this purpose be achieved unless extra-systematic points of contact are made, not just at the one or two points necessary to fix the interpretation of the constructed concepts, but at *every* point where the relevant problems and difficulties concerning the unconstructed concepts arise? That is to say, if the clear mode of functioning of the constructed concepts is to cast light on problems and difficulties rooted in the unclear mode of functioning of the unconstructed concepts, then precisely the ways in which the constructed concepts are connected with and depart from the unconstructed concepts must be plainly shown. And how can *this* result be achieved without accurately describing the modes of functioning of the unconstructed concepts? But this task is precisely the task of describing the logical behaviour of the linguistic expressions of natural languages; and may *by itself* achieve the sought-for resolution of the problems and difficulties rooted in the elusive, deceptive mode of functioning of unconstructed concepts. I should not want to deny that in the discharge of this task, the construction of a model object of linguistic comparison may sometimes be of great help. But I do want to deny that the construction and contemplation of such a model object can *take the place* of the discharge of this task; and I want also to suggest that one thinks that it can, only if one is led away from the purpose of achieving philosophical understanding by the fascination of other purposes, such as that of getting on with science. The point I am making is twofold. First, in so far as the purpose of a constructed system is philosophical clarification, the extra-systematic remarks, so far from being—apart from the minimum necessary to fixing the interpretation—comparatively unimportant trimmings, are just what give life and meaning to the whole enterprise. Second, these extra-systematic remarks must include exercises in just that method to which system-construction appeared as a rival.

Moreover, the general usefulness of systems of constructed concepts as objects of comparison with the unconstructed concepts in which our problems are rooted is necessarily limited. For the types or modes of logical behaviour which ordinary concepts exhibit are extremely diverse. To detect and distinguish them is a task in which one may well be hindered rather than helped by fixing one's eye too firmly on the limited range of types of logical behaviour which the concepts occuring in a formal system can there be shown to display. This is not to say that the metavocabulary of description and classification should not itself be made as systematic as possible. (*This* aim, it need hardly be said, is entirely independent of formal systematisation of the concepts which the metavocabulary is used to discuss.) But (1) an adequate set of metaconcepts for the dissection of the expressions of a natural language will scarcely be found by attending primarily to artificial languages; and (2)

clarity about the metaconcepts themselves will be achieved only by attention to the use that is made of them and hence, ultimately, by attention to the actual functioning of the concepts they are used to discuss. It is the same with the improvement and refinement of such metaconcepts. Classifications are found to be crude and misleading, to obliterate logical features, to blur distinctions; and these discoveries, too, are made by attention to the actual modes of functioning of actually used linguistic expressions.

Finally, I may suggest that the very success of logicians in developing techniques of formalisation has itself generated philosophical problems which cannot, in their very nature, be solved by further essays in the use of these techniques. This is not, of course, a reproach to the logicians. It is characteristic of major scientific advances that the effective use of the new concepts and methods introduced in making them may precede the adequate philosophical understanding of that use, and hence of the relation of these concepts and methods to others belonging to different, though perhaps overlapping, fields. Descartes' mathematical ideal of knowledge has such a source, and so have the recurrent perplexities about perception which the work of physicists and psysiologists engenders. Nor is it in any way to be regretted that these problems should arise; for their resolution results in a clearer, more self-conscious understanding of what we are doing both with new concepts and with old. But it is necessarily not within the field of the puzzle-generating advance that such problems as these can be solved. For these problems are defined as those which result from the attempt to make inappropriate applications of the concepts of the field. So may we see in the barely sketched but grandiose plan of logical atomism the outlines of an attempt to find in ordinary empirical discourse the real formal structure which the planners were encouraged by the advances of logic to believe must be there to be found. And so, to set a small thing beside a large one, we may see in the attempts to analyse the ordinary conditional in terms exclusively of the constants of modern elementary logic, the force of the conviction that concepts successful for some purposes must be adequate for others. From such attempts we may learn much; but not by their succeeding. Part of what we have to explain and free ourselves from, in dealing with them, is the undue fascination exercised by formal systems.

Philosophy and Ordinary Language[6]

It is, no doubt, rash to attempt to describe in general the nature of

[6]See Professor Ryle's article, "Ordinary Language," *The Philosophical Review* (April, 1953), for a discussion of this topic, and, in particular, for the removal of some misunderstandings about the phrase "ordinary language."

philosophical problems, difficulties and questions. But at any rate this much will be broadly agreed: that they are problems, difficulties and questions *about* the concepts we use in various fields, and not problems, difficulties and questions which arise *within* the fields of their use. (A philosophical problem about mathematics is not a mathematical problem.) To say more is to risk the loss of general agreement. Nevertheless, I think it is possible roughly to distinguish, though not to separate, certain strands or elements in the treatment of this diverse mass of conceptual questions. First, and very centrally, we find the necessity of dealing with paradox and perplexity. For it often happens that someone reflecting on a certain set of concepts finds himself driven to adopt views which seem to others paradoxical or unacceptably strange, or to have consequences which are paradoxical or unacceptably strange. (He may or may not himself embrace these conclusions with complacency.) Or—the obverse of this—it may happen that someone so reflecting becomes unable to see how something that he knows very well to be the case can *possibly* be the case. In this situation the critical philosopher must not only restore the conceptual balance which has somehow been upset; he must also diagnose the particular sources of the loss of balance, show just how it has been upset. And these achievements are not independent of each other. It also seems to me possible to say in general what kind of thing the source of conceptual unbalance is. Such unbalance results from a kind of temporary one-sidedness of vision, a kind of selective blindness which cuts out most of the field, but leaves one part of it standing out with a peculiar brilliance. This condition may take many different, though interconnected, forms. The producer of philosophical paradox, or the sufferer from philosophical perplexity, is temporarily dominated by one logical mode of operation of expressions, or by one way of using language, or by one logical type or category of objects, or by one sort of explanation, or by one set of cases of the application of a given concept; and attempts to see, to explain, something which is different, in terms of, or on analogy with, his favoured model. The distortions which result from such attempts are of equally many kinds. To correct the distortions, one must make plain the actual modes of operation of the distorted concepts or types of discourse; and, in doing this, one must make plain the differences between their modes of operation and those of the model concepts or types of discourse; and, in doing this, one must, if one can, make plain the sources of the blinding obsession with the model cases.

This, then, is one strand in the treatment of philosophical problems; and I call it central, partly because the need for it has in fact provided so strong an impetus to the whole activity. From it can be distinguished, though not separated, two other strands. One is the attempt to explain, not just how our concepts and types of discourse operate, but why it is

that we have such concepts and types of discourse as we do; and what alternatives there might be. This is not an historical enquiry. It attempts to show the natural foundations of our logical, conceptual apparatus, in the way things happen in the world, and in our own natures. A form which propositions exemplifying this strand in philosophy may often take, is the following: if things (or we) were different in such-and-such ways, then we might lack such-and-such concepts or types of discourse; or have such-and-such others; or might accord a subordinate place to some which are now central, and a central place to others; or the concepts we have might be different in such-and-such ways. It might reasonably be maintained, or ruled, that full understanding of a concept is not achieved until this kind of enquiry is added to the activities of comparing, contrasting and distinguishing which I mentioned first. Of course speculations of this kind are restricted in certain ways: they are limited by the kinds of experience and the conceptual apparatus we in fact have. But this is only the restriction to intelligibility; it leaves a wide field open to philosophical imagination. The distinction I used above between the way things happen in the world, and our own natures, is here, though vague, important. For it is a part of our nature that, things other than ourselves being as they are, it is natural for us to have the conceptual apparatus that we do have. But human nature is diverse enough to allow of another, though related, use of philosophical imagination. This consists in imagining ways in which, without things other than ourselves being different from what they are, we might view them through the medium of a different conceptual apparatus. Some metaphysics is best, or most charitably, seen as consisting in part in exercises of this sort. Of course, even when it can be so interpreted, it is not *presented* as a conceptual or structural revision by means of which we might see things differently; it is presented as a picture of things as they *really* are, instead of as they delusively seem. And this presentation, with its contrast between esoteric reality and daily delusion, involves, and is the consequence of, the unconscious distortion of ordinary concepts, i.e. of the ordinary use of linguistic expressions. So metaphysics, though it can sometimes be charitably interpreted in the way I suggest, in fact always involves paradox and perplexities of the kind I first mentioned; and sometimes embodies no rudimentary vision, but merely rudimentary mistakes.[7]

There is a third strand to be distinguished; something soberer than

[7]It might seem that in the foregoing I have committed myself to an unintelligible notion of *things as they are* as opposed to things as we see them through the medium of a conceptual apparatus. But to think this is to forget that I have made use of a rough distinction between things other than ourselves and our own natures, interests and needs. Features of each can intelligibly be imagined to vary—with varying conceptual consequences—while the other remains constant.

the second. That examination of current concepts and types of discourse to which paradox and perplexity so commonly give the initial impulse, can be pursued with no particular therapeutic purpose, but for its own sake. This is not to say that puzzlement is not in question here. One can, without feeling any particular temptation to mistaken assimilations, simply be aware that one does not clearly understand how some type of expression functions, in comparison with others. Or, having noticed, or had one's attention drawn to, a certain logico-linguistic feature appearing in one particular area of discourse, one may simply wish to discover how extensive is the range of this feature, and what other comparable features are to be found. Of course, the resulting enquiries may well pay therapeutic dividends. But this need not be the purpose for which they are undertaken.

In relation to the first and third of these three types of philosophical aim, the roles of the two apparently contrasted methods of philosophical clarification should already be clear. The description of the modes of functioning of actually employed linguistic expressions is of the essence of the third aim; and it is simply the least clouded form of a procedure which is essential to the achievement of the first. Here the arguments of the previous section apply. To observe our concepts in action is necessarily the only way of finding out what they can and cannot do. The right kind of attention to the ordinary use of expressions provides a means of refutation of theories founded on mistaken assimilations; it provides a description of the actual functioning of the problematic concepts, to take the place of the mistaken theory; and, finally, it helps, or may help, with the diagnosis of the temptations to the mistakes. This last it may do because the analogies which seduce the philosopher are not, in general, private fantasies; they have their roots in our ordinary thinking, and show themselves in practically harmless, but detectable ways, in ordinary language—both in its syntactical structure and in the buried figures which individual words and phrases contain. I have already acknowledged that system-construction may have an ancillary role in achieving these two types of aim, and given reasons for thinking that it must remain ancillary—and limited. Model objects of linguistic comparison may help us to understand the given objects; but it is dogmatism to maintain that the construction of model objects is the best or the only means of achieving such understanding.[8]

With the second philosophical strand I distinguished, the case is somewhat different. To understand the foundation of our concepts in natural facts, and to envisage alternative possibilities, it is not enough to have a sharp eye for linguistic actualities. Nor is system-construction a direct contribution to the achievement of the first of these two, i.e. to

[8]Cf. *The Logical Syntax of Language*, Introduction, 8.

seeing why we talk as we do. But it may be the second, i.e. to imagining how else we might talk. The constructionist may perhaps be seen as an enlightened metaphysician—one who, perhaps wistfully, envisages the possibility of our situation and our need for communication so changed and simplified that such a well-regulated system of concepts as he supplies is well adapted to both. It is only when the claim to exclusiveness is made on behalf of the constructionist method, and of particular constructions, that one must begin to query the enlightenment. For behind these claims may lie a formalizing mystique: the belief that the model systems embody the *real* structure of our concepts, hidden from us by the untidiness of our actual practice. But, again, this claim may be softened to the expression of a preference—which leaves one no more to say.

To conclude, then. There is not just one thing which is legitimately required of the philosopher who would increase our conceptual understanding. In particular, it is certainly not *enough* to say that he should describe the functioning of actually employed linguistic expressions. For simply to say this would not be to give any indication of the sort of description he should provide. That indication is given when it is shown how description of the right sort may bear upon our conceptual confusions and problems. Next we see how more may be required of him than the resolution of these confusions with the help of those descriptions; how a more systematic classification and ordering of the types of discourse and concept we employ may be sought; how a fuller understanding of both may be gained by enquiring into their foundation in natural facts; and how room may here be found for the envisaging of other possibilities. If the philosopher is to do all or only some of these things, it is true that he cannot stop short at the literal description, and illustration, of the behaviour of actually used linguistic expressions. Nevertheless, the actual use of linguistic expressions remains his sole and essential point of contact with reality; for this is the only point from which the actual mode of operation of concepts can be observed. If he severs this vital connexion, all his ingenuity and imagination will not save him from lapses into the arid or the absurd.

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REMARKS ON CARNAP'S LOGICAL SYNTAX OF LANGUAGE

AFTER I had accepted the task of evaluating Carnap's *Logical Syntax of Language*[1] for the present volume, I cherished for some time the thought of both presenting the main ideas of the *Logical Syntax* and of criticizing them in the light of the progress made in logic and methodology during the last twenty years. But one more careful reading of the book made me realize the absurdity of my original intention. How could one possibly summarize, and critically evaluate, the contents of a book in a few dozen pages, when every single one of its sections contains such a wealth of ideas, painstakingly elaborated, carefully explained and illuminatingly illustrated? Not all of these ideas were original with the author, but even when he adopted somebody else's flashes of genius—his debts to Frege, Russell, Wittgenstein, Hilbert, Gödel and Tarski are acknowledgedly great—he made them change their character and often gain in importance by incorporating them into his own general framework. How would one go about condensing a book when he is convinced that often not a single word can be omitted, not a single illustration discarded, not a single historical aside passed over, without becoming involved in some serious loss, and when he has, moreover, every few pages the impression that the author could and should have said much more on a certain subject and that only lack of space prevented him from giving us the enlightenment for which we now have to struggle all by ourselves. There are many pages containing short remarks that carry convincing proof that Carnap must have deeply thought about the problem treated there but would have needed many more pages to expand

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[1]The following abbreviations will henceforth be employed: *LSL* for *The Logical Syntax of Language* (London and New York, 1937), being an expanded and corrected translation of the German original *Die logische Syntax der Sprache* (Vienna, 1934); *TM* for "Testability and Meaning," *Philosophy of Science*, III (1936), 419-471, and IV (1937), 1-40, reprinted by Graduate Philosophy Club, Yale University, New Haven, Connecticut (1950); *ESO* for "Empiricism, Semantics, and Ontology," *Revue Internationale de Philosophie*, IV (1950), 20-40, reprinted in *Readings in Philosophy of Science*, ed. P. P. Wiener (New York, 1953), 509-522 (and quoted according to this reprint).