

I.

THINKING THOUGHTS AND HAVING CONCEPTS

GILBERT RYLE

There are many philosophical contexts in which we need to determine the structures, the types and the levels of truths and falsehoods; to consider, for example, what makes it legitimate or illegitimate to infer one from another or to support one by another. In the course of such enquiries we often need to consider the affiliations, types and levels of the concepts into which these truths and falsehoods are analysable. Thus we may need to determine that one concept differs from another as genus from species, as species from fellow-species, as relation from quality, and so on. We could crudely label such problems as «*logical*» or «*near-logical*» problems.

There are also many philosophical contexts in which we need to consider problems about the thinking that people are, from time to time, actually engaged in — their wonderings, doubtings, discoverings and concluding; their being surprised or unsurprised, perplexed or unperplexed, careful or careless, inventive or conservative, and so on. We could label such problems as «*epistemological*» or «*phenomenological*» problems.

At certain places these *epistemological* or *phenomenological* questions necessarily interlock with those logical and near logical questions, and then we find ourselves somewhat embarrassed to describe how the truths and falsehoods and their component concepts, that were under investigation in the former contexts, enter into our epistemological accounts of the live thinking that people really do.

For example, the concepts of *planet* and *orbit* are concepts of different types, both of which enter, in different ways, into certain ranges of astronomical truths. Or the concepts of *square root of* and *seven* are concepts of different types, and both may enter, in different ways, into arithmetical truths. So, in some way, the astronomer engaged in comparing the orbit of one planet with the orbit of another planet is operating with the concepts of *orbit* and *planet*; and the student of arithmetic who, at a particular moment, is trying to find out the number of which 7 is the square root, is operating with the concepts of *square root of* and *seven*. But what is involved in this vague notion of «operating with concepts»? Have we to say, for example, that

at a certain moment of their morning's work the astronomer and the student were in process of *having in mind* the concepts of *orbit* and *square root of*? What would it be like to be just having in mind a concept? Is there a particular, recollectable experience of having in mind the concept of *square root of*? Can it occur by itself? If not, why not? Can you obey me if I tell you to dismiss all else from your mind and just conceive the concept of *square root of*? Why not?

It might be suggested that at the moments when the astronomer says to himself, in his head, «... orbit ...», then, at that moment, he is actively having in mind what the word «orbit» means — provided, of course, that he is thinking what he is saying to himself, and not just absent-mindedly parroting the word. But, for one thing, this suggestion does nothing but raise the same question over again. Is there a particular, recollectable experience of actively having in mind what is signified by the word that is currently coming off one's tongue? We are reminded of the unprosperous attempts made by Locke, Berkeley and Hume to locate «ideas» among the recollectable experiences of a person who has just been thinking about something in particular.

A more important objection to this suggestion is this. Suppose you are asked to find the smallest prime number after 1300. You begin, perhaps, by selecting the first dozen or two dozen odd numbers that run up from 1301, since obviously no even number will be a candidate. You then eliminate those ending in «... 5», since these will be multiples of 5. You then eliminate those the digits of which add up to 3 or multiples of 3, since these will all be divisible by 3, and so on. Now in an important way, all these operations of yours, being directed towards the discovery of a number greater than 1300, which is divisible only by itself and 1, are somehow operations with the concept of *prime number*. You are working *with* the concept during the whole five-minutes search, though the *phrase* «prime number» comes off your lips, if at all, only once or twice during those five minutes. Similarly, the concept *if* somehow governs the whole of a, perhaps lengthy, hypothetical proposition, though the word «if» is over and done with by the time the second word in the sentence is produced. In short, the temptation to postulate the existence of special intellectual acts or experiences of «concept-conceiving» or «idea-having» needs to be resisted, *ab initio*. It is not in this sort of way that the concept of *orbit* enters into the live thinking of the astronomer while he is working out the differences between the orbits of Venus and Mars. A stretch of thinking is not a procession of ephemeral incidents of having-concepts-in-mind. There are no such incidents, and if there

were, a mere procession of them would not amount to thinking. So now let us approach the problem from a new angle.

There was a time before which I had not got the concept of *square root of*; there was a later time since when I have had it; and there was an interim period, short or long, during which it was not yet quite mine, though no longer not mine at all. Whatever it is that I possess when I have got the concept of *square root of*, the acquiring it is a case of learning something.

But there are no separate lessons in say, legal or arithmetical concepts, separate, that is, from lessons in law or arithmetic themselves — save that a teacher might tell his students to learn by heart a battery of definitions of legal or arithmetical terms, in the silly expectation that retention of these definitions would constitute possession of the corresponding legal or arithmetical concepts.

Instead of asking the Lockean question How did we form the abstract idea, or acquire the concept of *square root of*? let us ask instead What were we unable to do until we had acquired it? It is at once clear that the answer to this question is interestingly general. We were unable, *inter alia*, to understand the question What is the square root of 16?, or of any other number. We were unable to try to decide between two rival answers to this question. We were unable even to wonder whether all numbers have square-roots. We were unable to infer from the information that 81 is the square of 9, that 9 is the square-root of 81. We were unable to see the joke, such as it is, in «Some vegetables have round roots and some numbers have square roots». We were unable to paraphrase sentences containing «square root» into sentences not containing it. And so on.

To acquire the concept is to become able to cope with that indefinite range of intellectual and even merely conversational tasks which share with one another this common feature of having something or other to do with a number's being what a square number is the square of. What has been learned is being actively applied when, for example, the joke is being appreciated, the calculation is being made or attempted, the question is understood or posed, and so on, indefinitely.

To try to find out what is the square root of 289, and to appreciate the joke, such as it is, about round roots and square roots are two bits of very different kinds of thinking. They have, certainly, something quite specific in common. But to point to what they have in common is not to point to a separately recollectable experience or a separately performable act. To borrow an analogy from Plato, when you pronounce the monosyllable «top» and I pronounce the monosyllable

«but», what you have pronounced has indeed something in common with what I have pronounced, namely the consonant «t». But there was no separate pronouncing of a separately audible «t»-noise.

As nothing less than an integral syllable can be pronounced, yet two otherwise different syllables can still have something, e.g. a consonant in common, somewhat similarly nothing less than an integral joke can be appreciated, an integral equation be challenged or an integral arithmetical problem be tackled, yet these otherwise very different integral intellectual acts can still have something in common, e.g. the concept *square root of*.

We could have reached the same negative phenomenological conclusion from the other end, namely from the logical or near-logical end. For we could have asked this question: Given a sentence which conveys a truth or a falsehood, say the sentence «If John is the uncle of Sarah, then at least one of Sarah's parents was not an only child», how is the truth that the sentence as a whole conveys related to what is signified by the particular words in it? For example, is the meaning of «if» or of «uncle» or of «not» a genuine part of this integral truth? Is the truth just an assemblage of the several meanings of the several words in the sentence?

Familiar considerations show that this could not be the case. For the same words in a different order might have produced a falsehood, or a different truth, or a piece of nonsense. The meanings of the words in a sentence are functionally interlocking. Concepts are not bricks, out of which truths and falsehoods are built, any more than vowels and consonants are components out of which syllables are composed. Rather a concept, say the concept *if* or *uncle of*, is what can be common to an indefinite range of otherwise different integral truths, falsehoods, questions, commands, entreaties, etc. It is abstracted from them, not extracted out of them. It is not itself an integral *significatum*, any more than a consonant is itself an integral *pronunciatum*. It is a factor, not a slice.

I have one last point which I want to make because it has, I think, been too little discussed. A boy, who has learned to count and is now beginning arithmetic, is told that numbers divide up into odd numbers and even numbers. He asks which are which and is told *first*, that 2, 4, 6, 8 and 10 are even numbers, while 1, 3, 5, 7, 9 are odd numbers; *second*, that the number of the left hand page of any book is an even number; *third* that any number is an even number which is next-door-neighbour to 1, 3, 5, 7 or 9, or to any number ending in one of these; *fourth* that any number which is 2 or a multiple of 2 is an

even number. After his first lesson he can tell us correctly which of the numbers under 11 are even and which are odd.

After his second lesson he can tell which of the numbers up to, may be, 500 or 600 are even — when he has access to a book.

After his third lesson he can tell us, for *any* number, whether it is even or odd.

After his fourth lesson he can tell us not only what numbers are even but also, so to speak, what *makes* them even.

And now we ask, at which stage has he «got the concept of *even number*»? For at each stage there is some task which he can perform, which he could not do before, and by the third stage he can answer correctly all questions of the form «Is ... an even number?» Yet we are inclined to say that so long as he has not yet realised that even numbers are divisible by 2, he has not really got the concept of *even number*; or else that he has not yet got the whole of it. Having been told what a prime number is, he might still seriously and methodically search for that logical impossibility, an even prime number between 30 and 50.

I suggest that the question «Has he really got the concept or has he got the whole of the concept *so and so*» is like the question «Has he really learned the art, or has he learned the whole art of skating?»

DISCUSSION

Prof. EBBINGHAUS

When I first read your paper it took me some time until I had clearly understood what it really was you wanted to make clear. Was it at bottom a revival of the theory conventionally imputed to Berkeley that the concept of a general concept has no meaning at all? But the paper showed that you did not wish to agree with Berkeley — nor did you repeat the well-known instances of Berkeley by which he seems to prove that the idea of an abstract idea would be a contradictory one. What you really said in your paper was restricted to the negation of concepts as isolated mental occurrences, which people could remember as formerly having experienced. You deny, in other words, the possibility to dismiss all other stuff from our mind and then just to conceive the concept of say a square root of.

In this I entirely agree with you. But the question which arises and which I want to ask you as my first one, is this: who do you imagine are those people (I mean among philosophers) to whom you

are so vigorously opposed? There are indeed many authors of old-fashioned textbooks of logic, who seem to be quite satisfied with the independent existence of concepts, from which (if they are decently put together) propositions arise — evidently by some sort of miracle. But even when an author keeps up the traditional arrangement of elementary logic, beginning with concepts and going from there through judgments to syllogisms, he must not needs be unaware of the fact that the logical meaning of a concept is nothing else than its possible function as a predicate. That is to say: red as a general concept does not mean anything for itself but means the being red of something — as well as the general concept of man means the being-a-man or rather (if you will give me leave for such bad English) the man-being of something.

We might even — and I think again with general approval — enlarge your thesis in drawing it from concepts to propositions. Nobody goes around dismissing all else from his mind and amusing himself by thinking «all men are mortal» or «some British are scholars». And even if he be an acquaintance of Uncle John and Sarah, I wonder if he ever should fill up his mind only by thinking isolately: If John is the uncle of Sarah, then at least one of Sarah's parents was not an only child. But if somebody tells him, that neither of Sarah's parents has either brother or sister, he will probably ask his interlocutor, how then, for heaven's sake, could John have become her uncle? And in saying so, he reveals to us that now the propositional implication we are speaking of must really have occurred to him.

Generally speaking: such general truths as well as general concepts never are present to the mind only for themselves. They need in order to be evoked some mobilisation, and therefore the understanding must be alarmed by some incident which gives it the signal to work — just as a country's army must be alarmed by some signal — before it goes to war. If you mean only this — you will scarcely escape general agreement. But I venture to ask you — as my first question: whom do you think to sit in front of you on the opposition bench?

2.

From this, I may come to my second question: Why do you think to be in disagreement with Hume's theory of what he calls abstract ideas? This theory denying as firmly as possible any actual presence of such ideas to our mind, seems to me as for its negative part in

entire agreement with your own sentiment. For the positive part it assumes a certain disposition or readiness of our mind, acquired by the customary use of some name, to survey and of those *particular* ideas which are associated with that name by its former use. This readiness is put into operation every time we begin to reason upon any of our ideas. For instance, we may be confronted by some reason or other with the question whether the angles of a triangle are equal or not. The word triangle according to Hume may happen to bring before our mental eye the particular idea of an equilateral one. This would seduce us to the affirmation that all triangles are equiangular. But now the requirement of a decision, by means of the just mentioned readiness, immediately makes «crowding upon us» other individual triangles as a scalene or an isosceles. These make us aware that not all triangles are equiangular — in the same manner as we become conscious of the fact that not all men are white coloured nor all trees lose their leaves in the winter.

This seems to me the recollectable experience by which Hume replaces abstract ideas by individual ones, which on their part as he literally says, «are not really and in fact present to the mind, but only in power». If therefore you impute to his theory a suggestion of a particular recollectable experience of actively having in mind what is signified by the word currently coming off one's tongue, you impute to him a flat contradiction to the very presupposition of this same theory — under the condition however that you are really speaking of words signifying more than one particular idea. But if you are — how can you be entitled to such an imputation, when Hume on the contrary teaches without any possible doubt, that the general signification of the words is not present to the mind within the scope of any idea whatsoever, but only as the mind's own disposition to reproduce indefinite sets of particular ideas customarily associated to these words?

This is the second question I wish to ask you.

3.

Now, when I questioned your concept of Hume's linguistic theory, it is no wonder that I also should question the importance of your objection to it. This objection is based on the observation that we may be working for some time with the concept of prime number although the phrase prime number comes off our lips, if at all, only

once or twice during that time. But why should it not ? Hume does not bid you constantly murmur prime number, prime number, prime number when you are researching for one of them among a given series of numbers. With him the word has sufficiently done its duty, if it has helped you to convey to your mind the idea of what you are asked to do. The words by which the task is explained to you certainly vanish one after the other by being spoken. But does that mean the ideas, evoked by these words within your mind have the same scale of vanishing from your consciousness ? And if not, how could Hume be refuted by your observation that in a hypothetical proposition «though the concept *if* somehow governs the whole of the proposition, the word «if» is over and over done with by the time the second word in the sentence is produced ? Hume did not teach that an idea reproduced from our memory by some word should be restricted in its mental activity by the time the word is sounding through the air. And if he did not, as he actually did not, why should your observation be an important objection to his improved edition of Locke's and Berkeley's linguistic suggestions ?

This is my third question to Prof. Ryle.

4.

In the second part of your paper you are giving an illustration of the impossibility of isolating those elements of our ideas which may be common to them. You illustrate it by an analogy. But I want to ask you, and this is my fourth question, if this analogy is not more puzzling than it is enlightening the faculty of the mind of having any consciousness of such common features whatsoever ? Your starting point in exposing the analogy is the impossibility, of pronouncing the consonant «t» independently from some other sound complementing the «t» to a whole syllable. There is no need of «but» or «top» as specimens of such syllables. Only by saying «t» we pronounce a syllable and not a single consonant. But now I shall ask you my question:

How should it be possible to illustrate the impossibility of isolating concepts by an inseparability, which precisely is not an inseparability with regard to concepts but to the single perceptions. For as you are well aware, there is not the slightest difficulty to separate the *concept* of the consonant «t» from the *concept* of the vowel «e». But the inseparability of concepts from what is thought of as their common basis naturally must be conceivable with regard to the possibility of

having concepts and not, as you propose, of hearing noises and sounds. And thus my question is this: What do you mean by saying the factual inseparability of a consonant from some vowel could have some analogy with a link, by which concepts may be «functionally interlocking» ?

5.

Finally I should like to question your explanation of really getting the concept or of getting the *whole* of the concept so and so. Here I feel some doubt, whether you mean we never can get the whole of a concept or what we can. As for empirical concepts I am quite satisfied that we cannot. With this restriction I accept your parallel between getting concepts and learning the art of skating. The concept of water to us means no longer an element, as it did with Aristotle, and the concept of Gold has been very much changed by nuclear physics. Heaven knows, what these two concepts may embrace, when another set of hundred years will have passed by. But being imbued by modern logic you like numbers better than such unreliable things as water and gold. On this field however your idea of getting by stages the whole of the concept for instance of even number becomes again unintelligible to me. Here the completeness of the concept is granted by the definition. But when I now turn back to the preceding stages of what you present as an acquirement of the concept even number, I wonder what those stages possibly could mean with regard to this acquirement. The boy who knows that 2, 4, 6, etc... are even numbers knows only that these numbers are called by that name. But has he for that any concept of what the being-an-even-number is ? And if he has not, in what sense could you say he has acquired whatever small piece of that concept ? If on the contrary he once knows being an even number is being the number two or a multiple of it, he has got at the same time the complete concept of it without any hope for a possible further perfection of it.

This may be a hint, that learning cannot be the ultimate source of our faculty of having concepts. But if it is not — which then would it be ? This is my fifth and last question.

M. BARZIN

Je voudrais seulement faire deux remarques:

(1°) Si une des thèses soutenues par M. Ryle est que «La proposition

est logiquement antérieure aux termes ou notions qui la composent», je voudrais signaler que la voie très originale par laquelle il atteint cette conclusion converge avec des efforts philosophiques de nature très différente.

Léon Brunschvicg, au début du XX^e siècle, a fait de cette thèse, un des pivots de la philosophie.

La logique moderne — c'est-à-dire la logique de Frege — a considéré comme premier étage du système, le calcul des propositions, le calcul des prédicats — c'est-à-dire des notions — ne devant venir que plus tard et en s'appuyant sur les conclusions du calcul des propositions.

Enfin, les axiomatistes nous ont habitué à fonder les systèmes deductifs sur une série de postulats contenant des notions fondamentales qui n'ont pas de définition explicite dans le système. Il a été facile de constater que, pour ces notions, les axiomes jouaient le rôle d'une définition implicite. Le sens des notions fondamentales est, en effet, précisé quand on en a donné un certain nombre d'emplois, qui sont les axiomes considérés comme des propositions vraies.

Cet exemple perdra toute étrangeté, si on réfléchit que c'est ainsi que nous avons appris la signification de la plupart des mots de notre langue maternelle. Nous les avons entendu employer dans une série de phrases, qui précisaient de mieux en mieux leur sens à mesure que la série s'allongeait;

(2^e) Cette dernière constatation m'amène à ma deuxième remarque. Il me semble que M. Ryle se montre trop sévère pour nos définitions, parce qu'elles sont toujours incomplètes et provisoires. Mais n'est-ce pas là la situation où nous sommes vis-à-vis de nos propositions scientifiques ? Je crois que nul d'entre nous ne les considère comme des vérités définitives — il s'agit bien entendu non de propositions formelles mais de nos vérités expérimentales. Et pourtant, tout en les sachant provisoires, nous accordons à ces vérités, une haute valeur.

Il me paraît que nos définitions méritent le même respect. Nous les remanions au cours des progrès du savoir. Nous les remanierons sans doute encore dans le futur. Mais telles qu'elles sont, elles méritent notre respect, et elles sont des instruments précieux.

Prof. PASSMORE

There is clearly such a thing as not having a concept at all. A native tribe might not have the concept of number larger than five. This does not mean, simply, that they cannot define the expression: «num-

ber larger than five». No tribe could do this. It means they cannot give such answers as «eight» to questions. When we say that someone has *fully* grasped a concept, this means that they can answer the questions we now learn about: we never know what new questions might arise. Knowing a definition is not either sufficient nor necessary for understanding a concept: the test whether we grasp the definition is the same as the question whether we grasp the concepts the definition contains. So the notion of grasping a concept is prior to the notion of grasping a definition.

J. HYPPOLITE

Il y a une différence entre l'usage d'une notion et la pensée seconde sur cet usage même.

A première vue, cela me paraît équivalent à la différence entre langage naturel et réflexion.

Professor L. J. RUSSELL

I should like to ask Professor Ryle what is attitude is to the views of the 19th Century British Idealists, who held that the only really concrete existence was experience (which included not only cognitive, but also conative and affective aspects) and who considered propositions, concepts and so on as only aspects within experience, and as abstract when taken by themselves. The views of R. L. Nettleship, in his lectures on Logic (in his *Philosophical Remains*) are in this respect far more uncompromising than those of Bradley and Bosanquet, and seem to me not unlike those of Professor Ryle.

J. N. FINDLAY

I want at this point to utter a *cri du cœur*. I should like to ask Professor Ryle why he thinks that his entirely acceptable view that having a concept entails being able to apply it in certain way in various classificatory and argumentative contexts should justify the patently false view that there is no such thing as a particular recollectable experience of having a concept in mind, dwelling on it, soaking oneself in it, realizing what it involves, profoundly understanding it, etc... It seems to me that there certainly are such recollectable experiences and as far we know they are essential to most sorts of profound thinking. There was a time in my life when I practised a sort

of religious meditation in which I dwelt a great deal on what it really means to have this or that virtue or to stand in this or that relation to the world, other people, God, etc... Now these meditations certainly involved a lot of going back and forth among instances and illustrations and consequences, but they always also involved a perpetual return to the central theme of this exercise and a simple brooding upon it. It was a most definite, clockable, remarkable experience.

Now it seems to me plain that such a meditation and such a brooding on concepts simply is an indispensable, integral part of *every* sort of thorough-going thinking. A mathematician must feel the primeness and the factorizability of number intermittently, perhaps, but definitely. I certainly do feel it myself. I recognize multiples of certain numbers as old friends recognizable by their savour while the recalcitrant individualists of genuine primes impresses one with equal strictness. A mathematician if he is more than a mere manipulator must certainly savour concepts in this manner before he applies or employs them, and he certainly tests their application or elaboration by his subsequent meditative enjoyment of the outcome. I do not myself know how one could possibly proceed in mathematics or in anything else without this constant recourse to what I may call such recollective synthesis. I am sure Professor Ryle has such experiences and cannot see why he should wish to suppress or minimize the fact. I can only think he does so because he thinks that separate thought - experiences would necessarily be atoms instead of elements containing within themselves the structure of the whole to which they belong.

Prof. KLIBANSKY

If we were to accept the views proposed by Prof. Ryle I should like to ask him what is exactly the status of the concept, if it is the outcome of learning.

M. PERELMAN

La réponse à la question du professeur Klibansky me semble devoir exiger non pas une analogie, mais l'indication de cas, aussi différents que possible, où l'usage du concept «concept» est légitime et ceux où il ne l'est pas.