

## Lecture X. Words and Meaning

The problem with which we shall be concerned in this lecture is the problem of determining what is the relation called "meaning." The word "Napoleon," we say, "means" a certain person. In saying this, we are asserting a relation between the word "Napoleon" and the person so designated. It is this relation that we must now investigate.

Let us first consider what sort of object a word is when considered simply as a physical thing, apart from its meaning. To begin with, there are many instances of a word, namely all the different occasions when it is employed. Thus a word is not something unique and particular, but a set of occurrences. If we confine ourselves to spoken words, a word has two aspects, according as we regard it from the point of view of the speaker or from that of the hearer. From the point of view of the speaker, a single instance of the use of a word consists of a certain set of movements in the throat and mouth, combined with breath. From the point of view of the hearer, a single instance of the use of a word consists of a certain series of sounds, each being approximately represented by a single letter in writing, though in practice a letter may represent several sounds, or several letters may represent one sound. The connection between the spoken word and the word as it reaches the hearer is causal. Let us confine ourselves to the spoken word, which is the more important for the analysis of what is called "thought." Then we may say that a single instance of the spoken word consists of a series of movements, and the word consists of a whole set of such series, each member of the set being very similar to each other member. That is to say, any two instances of the word "Napoleon" are very similar, and each instance consists of a series of movements in the mouth.

A single word, accordingly, is by no means simple it is a class of similar series of movements (confining ourselves still to the spoken word). The degree of similarity required cannot be precisely defined: a man may pronounce the word "Napoleon" so badly that it can hardly be determined whether he has really pronounced it or not. The instances of a word shade off into other movements by imperceptible degrees. And exactly analogous observations apply to words heard or written or read. But in what has been said so far we have not even broached the question of the DEFINITION of a word, since "meaning" is clearly what distinguishes a word from other sets of similar movements, and "meaning" remains to be defined.

It is natural to think of the meaning of a word as something conventional. This, however, is only true with great limitations. A new word can be added to an existing language by a mere convention, as is done, for instance, with new scientific terms. But the basis of a language is not conventional, either from the point of view of the individual or from that of the community. A child learning to speak is learning habits and associations which are just as much determined by the environment as the habit of expecting dogs to bark and cocks to crow. The community that speaks a language has learnt it, and modified it by processes almost all of which are not deliberate, but the results of causes operating according to more or less ascertainable laws. If we trace any Indo-European language back far enough, we arrive hypothetically (at any rate according to some authorities) at the stage when language consisted only of the roots out of which subsequent words have grown. How these roots acquired their meanings is not known, but a conventional origin is clearly just as mythical as the social contract by which Hobbes and Rousseau supposed civil government to have been established. We can hardly suppose a parliament of hitherto speechless elders meeting together and agreeing to call a cow a cow and a wolf a wolf. The association of words with their meanings must have grown up by some natural process, though at present the nature of the process is unknown.

Spoken and written words are, of course, not the only way of conveying meaning. A large part of one of Wundt's two vast volumes on language in his "Volkerpsychologie" is concerned with gesture-language. Ants appear to be able to communicate a certain amount of information by means of their antennae. Probably writing itself, which we now regard as merely a way of representing speech, was originally an independent language, as it has remained to this day in China. Writing seems to have consisted originally of pictures, which gradually became conventionalized, coming in time to represent syllables, and finally letters on the telephone principle of "T for Tommy." But it would seem that writing nowhere began as an attempt to represent speech it began as a direct pictorial representation of what was to be expressed. The essence of language lies, not in the use of this or that special means of communication, but in the employment of fixed associations (however these may have originated) in order that something now sensible--a spoken word, a picture, a gesture, or what not--may call up the "idea" of something else. Whenever this is done, what is now sensible may be called a "sign" or "symbol," and that of which it is intended to call up the "idea" may be called its "meaning." This is a rough outline of what constitutes "meaning." But we must fill in the outline in various ways. And, since we are concerned with what is called "thought," we must pay more attention than we otherwise should do to the private as opposed to the social use of language. Language profoundly affects our thoughts, and it is this aspect of language that is of most importance to us in our present inquiry. We are almost more concerned with the internal speech that is never uttered than we are with the things said out loud to other people.

When we ask what constitutes meaning, we are not asking what is the meaning of this or that particular word. The word "Napoleon" means a certain individual; but we are asking, not who is the individual meant, but what is the relation of the word to the individual which makes the one mean the other. But just as it is useful to realize the nature of a word as part of the physical world, so it is useful to realize the sort of thing that a word may mean. When we are clear both as to what a word is in its physical aspect, and as to what sort of thing it can mean, we are in a better position to discover the relation of the two which is meaning.

The things that words mean differ more than words do. There are different sorts of words, distinguished by the grammarians; and there are logical distinctions, which are connected to some extent, though not so closely as was formerly supposed, with the grammatical distinctions of parts of speech. It is easy, however, to be misled by grammar, particularly if all the languages we know belong to one family. In some languages, according to some authorities, the distinction of parts of speech does not exist; in many languages it is widely different from that to which we are accustomed in the Indo-European languages. These facts have to be borne in mind if we are to avoid giving metaphysical importance to mere accidents of our own speech.

In considering what words mean, it is natural to start with proper names, and will again take "Napoleon" as our example. We commonly imagine, when we use a proper name, that we mean one definite entity, the particular individual who was called "Napoleon." But what we know as a person is not simple. There MAY be a single simple ego which was Napoleon, and remained strictly identical from his birth to his death. There is no way of proving that this cannot be the case, but there is also not the slightest reason to suppose that it is the case. Napoleon as he was empirically known consisted of a series of gradually changing appearances: first a squalling baby, then a boy, then a slim and beautiful youth, then a fat and slothful person very magnificently dressed. This series of appearances, and various occurrences having certain kinds of causal connections with them, constitute Napoleon as empirically known, and therefore are Napoleon in so far as he forms part of the experienced world. Napoleon is a complicated series of occurrences, bound together by causal laws, not, like instances of a word, by similarities. For although a person changes gradually, and presents similar appearances on two nearly contemporaneous occasions, it is not these similarities that constitute the person, as appears from the "Comedy of Errors" for example.

Thus in the case of a proper name, while the word is a set of similar series of movements, what it means is a series of occurrences bound together by causal laws of that special kind that makes the occurrences taken together constitute what we call one person, or one animal or thing, in case the name applies to an animal or thing instead of to a person. Neither the word nor what it names is one of the ultimate indivisible constituents of the world. In language there is no direct way of designating one of the ultimate brief existents that go to make up the collections we call things or persons. If we want to speak of such existents which hardly happens except in philosophy—we have to do it by means of some elaborate phrase, such as "the visual sensation which occupied the centre of my field of vision at noon on January 1, 1919." Such ultimate simples I call "particulars." Particulars MIGHT have proper names, and no doubt would have if language had been invented by scientifically trained observers for purposes of philosophy and logic. But as language was invented for practical ends, particulars have remained one and all without a name.

We are not, in practice, much concerned with the actual particulars that come into our experience in sensation; we are concerned rather with whole systems to which the particulars belong and of which they are signs. What we see makes us say "Hullo, there's Jones," and the fact that what we see is a sign of Jones (which is the case because it is one of the particulars that make up Jones) is more interesting to us than the actual particular itself. Hence we give the name "Jones" to the whole set of particulars, but do not trouble to give separate names to the separate particulars that make up the set.

Passing on from proper names, we come next to general names, such as "man," "cat," "triangle." A word such as "man" means a whole class of such collections of particulars as have proper names. The several members of the class are assembled together in virtue of some similarity or common property. All men resemble each other in certain important respects; hence we want a word which shall be equally applicable to all of them. We only give proper names to the individuals of a species when they differ inter se in practically important respects. In other cases we do not do this. A poker, for instance, is just a poker; we do not call one "John" and another "Peter."

There is a large class of words, such as "eating," "walking," "speaking," which mean a set of similar occurrences. Two instances of walking have the same name because they resemble each other, whereas two instances of Jones have the same name because they are causally connected. In practice, however, it is difficult to make any precise distinction between a word such as "walking" and a general name such as "man." One instance of walking cannot be concentrated into an instant: it is a process in time, in which there is a causal connection between the earlier and later parts, as between the earlier and later parts of Jones. Thus an instance of walking differs from an instance of man solely by the fact that it has a shorter life. There is a notion that an instance of walking, as compared with Jones, is unsubstantial, but this seems to be a mistake. We think that Jones walks, and that there could not be any walking unless there were somebody like Jones to perform the walking. But it is equally true that there could be no Jones unless there were something like walking for him to do. The notion that actions are performed by an agent is liable to the same kind of criticism as the notion that thinking needs a subject or ego, which we rejected in Lecture I. To say that it is Jones who is walking is merely to say that the walking in question is part of the whole series of occurrences which is Jones. There is no LOGICAL impossibility in walking occurring as an isolated phenomenon, not forming part of any such series as we call a "person."

We may therefore class with "eating," "walking," "speaking" words such as "rain," "sunrise," "lightning," which do not denote what would commonly be called actions. These words illustrate, incidentally, how little we can trust to the grammatical distinction of parts of speech, since the substantive "rain" and the verb "to rain" denote precisely the same class of meteorological occurrences. The distinction between the class of objects denoted by such a word and the class of objects denoted by a general name such as "man," "vegetable," or "planet," is that the sort of object which is an instance of (say) "lightning" is much simpler than (say) an individual man. (I am speaking of lightning as a sensible phenomenon, not as it is described in physics.) The distinction is one of degree, not of kind. But there is, from the point of view of ordinary thought, a great difference between a process which, like a flash of lightning, can be wholly comprised within one specious present and a process which, like the life of a man, has to be pieced together by observation and memory and the apprehension of causal connections. We may say broadly, therefore, that a word of the kind we have been discussing denotes a set of similar occurrences, each (as a rule) much more brief and less complex than a person or thing. Words themselves, as we have seen, are sets of similar occurrences of this kind. Thus there is more logical affinity between a word and what it means in the case of words of our present sort than in any other case.

There is no very great difference between such words as we have just been considering and words denoting qualities, such as "white" or "round." The chief difference is that words of this latter sort do not denote processes, however brief, but static features of the world. Snow falls, and is white; the falling is a process, the whiteness is not. Whether there is a universal, called "whiteness," or whether white things are to be defined as those having a certain kind of similarity to a standard thing, say freshly fallen snow, is a question which need not concern us, and which I believe to be strictly insoluble. For our purposes, we may take the word "white" as denoting a certain set of similar particulars or collections of particulars, the similarity being in respect of a static quality, not of a process.

From the logical point of view, a very important class of words are those that express relations, such as "in," "above," "before," "greater," and so on. The meaning of one of these words differs very fundamentally from the meaning of one of any of our previous classes, being more abstract and logically simpler than any of them. If our business were logic, we should have to spend much time on these words. But as it is psychology that concerns us, we will merely note their special character and pass on, since the logical classification of words is not our main business.

We will consider next the question what is implied by saying that a person "understands" a word, in the sense in which one understands a word in one's own language, but not in a language of which one is ignorant. We may say that a person understands a word when (a) suitable circumstances make him use it, (b) the hearing of it causes suitable behaviour in him. We may call these two active and passive understanding respectively. Dogs often have passive understanding of some words, but not active understanding, since they cannot use words.

It is not necessary, in order that a man should "understand" a word, that he should "know what it means," in the sense of being able to say "this word means so-and-so." Understanding words does not consist in knowing their dictionary definitions, or in being able to specify the objects to

which they are appropriate. Such understanding as this may belong to lexicographers and students, but not to ordinary mortals in ordinary life. Understanding language is more like understanding cricket\*: it is a matter of habits, acquired in oneself and rightly presumed in others. To say that a word has a meaning is not to say that those who use the word correctly have ever thought out what the meaning is: the use of the word comes first, and the meaning is to be distilled out of it by observation and analysis. Moreover, the meaning of a word is not absolutely definite: there is always a greater or less degree of vagueness. The meaning is an area, like a target: it may have a bull's eye, but the outlying parts of the target are still more or less within the meaning, in a gradually diminishing degree as we travel further from the bull's eye. As language grows more precise, there is less and less of the target outside the bull's eye, and the bull's eye itself grows smaller and smaller; but the bull's eye never shrinks to a point, and there is always a doubtful region, however small, surrounding it.\*\*

\* This point of view, extended to the analysis of "thought" is urged with great force by J. B. Watson, both in his "Behavior," and in "Psychology from the Standpoint of a Behaviorist"

(Lippincott. 1919), chap. ix.

\*\* On the understanding of words, a very admirable little book is Ribot's "Evolution of General Ideas," Open Court Co., 1899. Ribot says (p. 131): "We learn to understand a concept as we learn to walk, dance, fence or play a musical instrument: it is a habit, i.e. an organized memory. General terms cover an organized, latent knowledge which is the hidden capital without which we should be in a state of bankruptcy, manipulating false money or paper of no value. General ideas are habits in the intellectual order."

A word is used "correctly" when the average hearer will be affected by it in the way intended. This is a psychological, not a literary, definition of "correctness." The literary definition would substitute, for the average hearer, a person of high education living a long time ago; the purpose of this definition is to make it difficult to speak or write correctly.

The relation of a word to its meaning is of the nature of a causal law governing our use of the word and our actions when we hear it used. There is no more reason why a person who uses a word correctly should be able to tell what it means than there is why a planet which is moving correctly should know Kepler's laws.

To illustrate what is meant by "understanding" words and sentences, let us take instances of various situations.

Suppose you are walking in London with an absent-minded friend, and while crossing a street you say, "Look out, there's a motor coming." He will glance round and jump aside without the need of any "mental" intermediary. There need be no "ideas," but only a stiffening of the muscles, followed quickly by action. He "understands" the words, because he does the right thing. Such "understanding" may be taken to belong to the nerves and brain, being habits which they have acquired while the language was being learnt. Thus understanding in this sense may be reduced to mere physiological causal laws.

If you say the same thing to a Frenchman with a slight knowledge of English he will go through some inner speech which may be represented by "Que dit-il? Ah, oui, une automobile!" After this, the rest follows as with the Englishman. Watson would contend that the inner speech must be incipiently pronounced; we should argue that it MIGHT be merely imaged. But this point is not important in the present connection.

If you say the same thing to a child who does not yet know the word "motor," but does know the other words you are using, you produce a feeling of anxiety and doubt you will have to point and say, "There, that's a motor." After that the child will roughly understand the word "motor," though he may include trains and steam-rollers. If this is the first time the child has heard the word "motor," he may for a long time continue to recall this scene when he hears the word.

So far we have found four ways of understanding words:

- (1) On suitable occasions you use the word properly.
- (2) When you hear it you act appropriately.
- (3) You associate the word with another word (say in a different language) which has the appropriate effect on behaviour.
- (4) When the word is being first learnt, you may associate it with an object, which is what it "means," or a representative of various objects that it "means."

In the fourth case, the word acquires, through association, some of the same causal efficacy as the object. The word "motor" can make you leap aside, just as the motor can, but it cannot break your bones. The effects which a word can share with its object are those which proceed according to laws other than the general laws of physics, i.e. those which, according to our terminology, involve vital movements as opposed to merely mechanical movements. The effects of a word that we understand are always mnemonic phenomena in the sense explained in Lecture IV, in so far as they are identical with, or similar to, the effects which the object itself might have.

So far, all the uses of words that we have considered can be accounted for on the lines of behaviourism.

But so far we have only considered what may be called the "demonstrative" use of language, to point out some feature in the present environment. This is only one of the ways in which language may be used. There are also its narrative and imaginative uses, as in history and novels. Let us take as an instance the telling of some remembered event.

We spoke a moment ago of a child who hears the word "motor" for the first time when crossing a street along which a motor-car is approaching. On a later occasion, we will suppose, the child remembers the incident and relates it to someone else. In this case, both the active and passive understanding of words is different from what it is when words are used demonstratively. The child is not seeing a motor, but only remembering one; the hearer does not look round in expectation of seeing a motor coming, but "understands" that a motor came at some earlier time. The whole of this occurrence is much more difficult to account for on behaviourist lines. It is clear that, in so far as the child is genuinely remembering, he has a picture of the past occurrence, and his words are chosen so as to describe the picture; and in so far as the hearer is genuinely apprehending what

is said, the hearer is presented with a picture more or less like that of the child. It is true that this process may be telescoped through the operation of the word-habit. The child may not genuinely remember the incident, but only have the habit of the appropriate words, as in the case of a poem which we know by heart, though we cannot remember learning it. And the hearer also may only pay attention to the words, and not call up any corresponding picture. But it is, nevertheless, the possibility of a memory-image in the child and an imagination-image in the hearer that makes the essence of the narrative "meaning" of the words. In so far as this is absent, the words are mere counters, capable of meaning, but not at the moment possessing it.

Yet this might perhaps be regarded as something of an overstatement. The words alone, without the use of images, may cause appropriate emotions and appropriate behaviour. The words have been used in an environment which produced certain emotions; by a telescoped process, the words alone are now capable of producing similar emotions. On these lines it might be sought to show that images are unnecessary. I do not believe, however, that we could account on these lines for the entirely different response produced by a narrative and by a description of present facts. Images, as contrasted with sensations, are the response expected during a narrative; it is understood that present action is not called for. Thus it seems that we must maintain our distinction words used demonstratively describe and are intended to lead to sensations, while the same words used in narrative describe and are only intended to lead to images.

We have thus, in addition to our four previous ways in which words can mean, two new ways, namely the way of memory and the way of imagination. That is to say:

(5) Words may be used to describe or recall a memory-image: to describe it when it already exists, or to recall it when the words exist as a habit and are known to be descriptive of some past experience.

(6) Words may be used to describe or create an imagination-image: to describe it, for example, in the case of a poet or novelist, or to create it in the ordinary case for giving information-though, in the latter case, it is intended that the imagination-image, when created, shall be accompanied by belief that something of the sort occurred.

These two ways of using words, including their occurrence in inner speech, may be spoken of together as the use of words in "thinking." If we are right, the use of words in thinking depends, at least in its origin, upon images, and cannot be fully dealt with on behaviourist lines. And this is really the most essential function of words, namely that, originally through their connection with images, they bring us into touch with what is remote in time or space. When they operate without the medium of images, this seems to be a telescoped process. Thus the problem of the meaning of words is brought into connection with the problem of the meaning of images.

To understand the function that words perform in what is called "thinking," we must understand both the causes and the effects of their occurrence. The causes of the occurrence of words require somewhat different treatment according as the object designated by the word is sensibly present or absent. When the object is present, it may itself be taken as the cause of the word, through association. But when it is absent there is more difficulty in obtaining a behaviourist theory of the occurrence of the word. The language-habit consists not merely in the use of words demonstratively, but also in their use to express narrative or desire. Professor Watson, in his account of the acquisition of the language-habit, pays very little attention to the use of words in narrative and desire. He says ("Behavior," pp. 329-330):

"The stimulus (object) to which the child often responds, a box, e.g. by movements such as opening and closing and putting objects into it, may serve to illustrate our argument. The nurse, observing that the child reacts with his hands, feet, etc., to the box, begins to say 'box' when the child is handed the box,

'open box' when the child opens it, 'close box' when he closes it, and 'put doll in box' when that act is executed. This is repeated over and over again. In the process of time it comes about that without any other stimulus than that of the box which originally called out the bodily habits, he begins to say 'box' when he sees it, 'open box' when he opens it, etc. The visible box now becomes a stimulus capable of releasing either the bodily habits or the word-habit, i.e. development has brought about two things: (1) a series of functional connections among arcs which run from visual receptor to muscles of throat, and (2) a series of already earlier connected arcs which run from the same receptor to the bodily muscles.... The object meets the child's vision. He runs to it and tries to reach it and says 'box.'... Finally the word is uttered without the movement of going towards the box being executed.... Habits are formed of going to the box when the arms are full of toys. The child has been taught to deposit them there. When his arms are laden with toys and no box is there, the word-habit arises and he calls 'box'; it is handed to him, and he opens it and deposits the toys therein. This roughly marks what we would call the genesis of a true language-habit."(pp. 329-330).\*

\* Just the same account of language is given in Professor Watson's more recent book (reference above).

We need not linger over what is said in the above passage as to the use of the word "box" in the presence of the box. But as to its use in the absence of the box, there is only one brief sentence, namely: "When his arms are laden with toys and no box is there, the word-habit arises and he calls 'box.'" This is inadequate as it stands, since the habit has been to use the word when the box is present, and we have to explain its extension to cases in which the box is absent.

Having admitted images, we may say that the word "box," in the absence of the box, is caused by an image of the box. This may or may not be true—in fact, it is true in some cases but not in others. Even, however, if it were true in all cases, it would only slightly shift our problem: we should now have to ask what causes an image of the box to arise. We might be inclined to say that desire for the box is the cause. But when this view is investigated, it is found that it compels us to suppose that the box can be desired without the child's having either an image of the box or the word "box." This will require a theory of desire which may be, and I think is, in the main true, but which removes desire from among things that actually occur, and makes it merely a convenient fiction, like force in mechanics.\* With such a view, desire is no longer a true cause, but merely a short way of describing certain processes.

\* See Lecture III, above.

In order to explain the occurrence of either the word or the image in the absence of the box, we have to assume that there is something, either in the environment or in our own sensations, which has frequently occurred at about the same time as the word "box." One of the laws which distinguish psychology (or nerve-physiology?) from physics is the law that, when two things have frequently existed in close temporal contiguity, either comes in time to cause the other.\* This is the basis both of habit and of association. Thus, in our case, the arms full of toys have frequently been followed quickly by the box, and the box in turn by the word "box." The box itself is subject to physical laws, and does not tend to be caused

by the arms full of toys, and therefore often it may in the past have followed them--always provided that, in the case in question, its physical position is such that voluntary movements cannot lead to it. But the word "box" and the image of the box are subject to the law of habit; hence it is possible for either to be caused by the arms full of toys. And we may lay it down generally that, whenever we use a word, either aloud or in inner speech, there is some sensation or image (either of which may be itself a word) which has frequently occurred at about the same time as the word, and now, through habit, causes the word. It follows that the law of habit is adequate to account for the use of words in the absence of their objects; moreover, it would be adequate even without introducing images. Although, therefore, images seem undeniable, we cannot derive an additional argument in their favour from the use of words, which could, theoretically, be explained without introducing images.

\*For a more exact statement of this law, with the limitations suggested by experiment, see A. Wohlgemuth, "On Memory and the Direction of Associations," "British Journal of Psychology," vol. v, part iv (March, 1913).

When we understand a word, there is a reciprocal association between it and the images of what it "means." Images may cause us to use words which mean them, and these words, heard or read, may in turn cause the appropriate images. Thus speech is a means of producing in our hearers the images which are in us. Also, by a telescoped process, words come in time to produce directly the effects which would have been produced by the images with which they were associated. The general law of telescoped processes is that, if A causes B and B causes C, it will happen in time that A will cause C directly, without the intermediary of B. This is a characteristic of psychological and neural causation. In virtue of this law, the effects of images upon our actions come to be produced by words, even when the words do not call up appropriate images. The more familiar we are with words, the more our "thinking" goes on in words instead of images. We may, for example, be able to describe a person's appearance correctly without having at any time had any image of him, provided, when we saw him, we thought of words which fitted him; the words alone may remain with us as a habit, and enable us to speak as if we could recall a visual image of the man. In this and other ways the understanding of a word often comes to be quite free from imagery; but in first learning the use of language it would seem that imagery always plays a very important part.

Images as well as words may be said to have "meaning"; indeed, the meaning of images seems more primitive than the meaning of words. What we call (say) an image of St. Paul's may be said to "mean" St. Paul's. But it is not at all easy to say exactly what constitutes the meaning of an image. A memory-image of a particular occurrence, when accompanied by a memory-belief, may be said to mean the occurrence of which it is an image. But most actual images do not have this degree of definiteness. If we call up an image of a dog, we are very likely to have a vague image, which is not representative of some one special dog, but of dogs in general. When we call up an image of a friend's face, we are not likely to reproduce the expression he had on some one particular occasion, but rather a compromise expression derived from many occasions. And there is hardly any limit to the vagueness of which images are capable. In such cases, the meaning of the image, if defined by relation to the prototype, is vague: there is not one definite prototype, but a number, none of which is copied exactly.\*

\* Cf. Semon, *Mnemische Empfindungen*, chap. xvi, especially pp.

301-308.

There is, however, another way of approaching the meaning of images, namely through their causal efficacy. What is called an image "of" some definite object, say St. Paul's, has some of the effects which the object would have. This applies especially to the effects that depend upon association. The emotional effects, also, are often similar: images may stimulate desire almost as strongly as do the objects they represent. And conversely desire may cause images\*: a hungry man will have images of food, and so on. In all these ways the causal laws concerning images are connected with the causal laws concerning the objects which the images "mean." An image may thus come to fulfil the function of a general idea. The vague image of a dog, which we spoke of a moment ago, will have effects which are only connected with dogs in general, not the more special effects which would be produced by some dogs but not by others. Berkeley and Hume, in their attack on general ideas, do not allow for the vagueness of images: they assume that every image has the definiteness that a physical object would have. This is not the case, and a vague image may well have a meaning which is general.

\* This phrase is in need of interpretation, as appears from the analysis of desire. But the reader can easily supply the interpretation for himself.

In order to define the "meaning" of an image, we have to take account both of its resemblance to one or more prototypes, and of its causal efficacy. If there were such a thing as a pure imagination-image, without any prototype whatever, it would be destitute of meaning. But according to Hume's principle, the simple elements in an image, at least, are derived from prototypes--except possibly in very rare exceptional cases. Often, in such instances as our image of a friend's face or of a nondescript dog, an image is not derived from one prototype, but from many; when this happens, the image is vague, and blurs the features in which the various prototypes differ. To arrive at the meaning of the image in such a case, we observe that there are certain respects, notably associations, in which the effects of images resemble those of their prototypes. If we find, in a given case, that our vague image, say, of a nondescript dog, has those associative effects which all dogs would have, but not those belonging to any special dog or kind of dog, we may say that our image means "dog" in general. If it has all the associations appropriate to spaniels but no others, we shall say it means "spaniel"; while if it has all the associations appropriate to one particular dog, it will mean that dog, however vague it may be as a picture. The meaning of an image, according to this analysis, is constituted by a combination of likeness and associations. It is not a sharp or definite conception, and in many cases it will be impossible to decide with any certainty what an image means. I think this lies in the nature of things, and not in defective analysis.

We may give somewhat more precision to the above account of the meaning of images, and extend it to meaning in general. We find sometimes that, IN MNEMIC CAUSATION, an image or word, as stimulus, has the same effect (or very nearly the same effect) as would belong to some object, say, a certain dog. In that case we say that the image or word means that object. In other cases the mnemonic effects are not all those of one object, but only those shared by objects of a certain kind, e.g. by all dogs. In this case the meaning of the image or word is general: it means the whole kind. Generality and particularity are a matter of degree. If two particulars differ sufficiently little, their mnemonic effects will be the same; therefore no image or word can mean the one as opposed to the other; this sets a bound to the particularity of meaning. On the other hand, the mnemonic effects of a number of sufficiently dissimilar objects will have nothing discoverable in common; hence a word which aims at complete generality, such as "entity" for example, will have to be devoid of mnemonic effects, and therefore of meaning. In practice, this is not the case: such words have VERBAL associations, the learning of which constitutes the study of metaphysics.

The meaning of a word, unlike that of an image, is wholly constituted by mnemonic causal laws, and not in any degree by likeness (except in exceptional cases). The word "dog" bears no resemblance to a dog, but its effects, like those of an image of a dog, resemble the effects of an actual dog in certain respects. It is much easier to say definitely what a word means than what an image means, since words, however they originated, have been framed in later times for the purpose of having meaning, and men have been engaged for ages in giving increased precision to

the meanings of words. But although it is easier to say what an image means, the relation which constitutes meaning is much the same in both cases. A word, like an image, has the same associations as its meaning has. In addition to other associations, it is associated with images of its meaning, so that the word tends to call up the image and the image tends to call up the word., But this association is not essential to the intelligent use of words. If a word has the right associations with other objects, we shall be able to use it correctly, and understand its use by others, even if it evokes no image. The theoretical understanding of words involves only the power of associating them correctly with other words; the practical understanding involves associations with other bodily movements.

The use of words is, of course, primarily social, for the purpose of suggesting to others ideas which we entertain or at least wish them to entertain. But the aspect of words that specially concerns us is their power of promoting our own thought. Almost all higher intellectual activity is a matter of words, to the nearly total exclusion of everything else. The advantages of words for purposes of thought are so great that I should never end if I were to enumerate them. But a few of them deserve to be mentioned.

In the first place, there is no difficulty in producing a word, whereas an image cannot always be brought into existence at will, and when it comes it often contains much irrelevant detail. In the second place, much of our thinking is concerned with abstract matters which do not readily lend themselves to imagery, and are apt to be falsely conceived if we insist upon finding images that may be supposed to represent them. The word is always concrete and sensible, however abstract its meaning may be, and thus by the help of words we are able to dwell on abstractions in a way which would otherwise be impossible. In the third place, two instances of the same word are so similar that neither has associations not capable of being shared by the other. Two instances of the word "dog" are much more alike than (say) a pug and a great dane; hence the word "dog" makes it much easier to think about dogs in general. When a number of objects have a common property which is important but not obvious, the invention of a name for the common property helps us to remember it and to think of the whole set of objects that possess it. But it is unnecessary to prolong the catalogue of the uses of language in thought.

At the same time, it is possible to conduct rudimentary thought by means of images, and it is important, sometimes, to check purely verbal thought by reference to what it means. In philosophy especially the tyranny of traditional words is dangerous, and we have to be on our guard against assuming that grammar is the key to metaphysics, or that the structure of a sentence corresponds at all accurately with the structure of the fact that it asserts. Sayce maintained that all European philosophy since Aristotle has been dominated by the fact that the philosophers spoke Indo-European languages, and therefore supposed the world, like the sentences they were used to, necessarily divisible into subjects and predicates. When we come to the consideration of truth and falsehood, we shall see how necessary it is to avoid assuming too close a parallelism between facts and the sentences which assert them. Against such errors, the only safeguard is to be able, once in a way, to discard words for a moment and contemplate facts more directly through images. Most serious advances in philosophic thought result from some such comparatively direct contemplation of facts. But the outcome has to be expressed in words if it is to be communicable. Those who have a relatively direct vision of facts are often incapable of translating their vision into words, while those who possess the words have usually lost the vision. It is partly for this reason that the highest philosophical capacity is so rare: it requires a combination of vision with abstract words which is hard to achieve, and too quickly lost in the few who have for a moment achieved it.

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