Desire is a subject upon which, if I am not mistaken, true views can only be arrived at by an almost complete reversal of the ordinary unreflecting opinion. It is natural to regard desire as in its essence an attitude towards something which is imagined, not actual; this something is called the END or OBJECT of the desire, and is said to be the PURPOSE of any action resulting from the desire. We think of the content of the desire as being just like the content of a belief, while the attitude taken up towards the content is different. According to this theory, when we say: "I hope it will rain," or "I expect it will rain," we express, in the first case, a desire, and in the second, a belief, with an identical content, namely, the image of rain. It would be easy to say that, just as belief is one kind of feeling in relation to this content, so desire is another kind. According to this view, what comes first in desire is something imagined, with a specific feeling related to it, namely, that specific feeling which we call "desiring" it. The discomfort associated with unsatisfied desire, and the actions which aim at satisfying desire, are, in this view, both of them effects of the desire. I think it is fair to say that this is a view against which common sense would not rebel; nevertheless, I believe it to be radically mistaken. It cannot be refuted logically, but various facts can be adduced which make it gradually less simple and plausible, until at last it turns out to be easier to abandon it wholly and look at the matter in a totally different way.

The first set of facts to be adduced against the common sense view of desire are those studied by psycho-analysis. In all human beings, but most markedly in those suffering from hysteria and certain forms of insanity, we find what are called "unconscious" desires, which are commonly regarded as showing self-deception. Most psycho-analysts pay little attention to the analysis of desire, being interested in discovering by observation what it is that people desire, rather than in discovering what actually constitutes desire. I think the strangeness of what they report would be greatly diminished if it were expressed in the language of a behaviourist theory of desire, rather than in the language of every-day beliefs. The general description of the sort of phenomena that bear on our present question is as follows: A person states that his desires are so-and-so, and that it is these desires that inspire his actions; but the outside observer perceives that his actions are such as to realize quite different ends from those which he avows, and that these different ends are such as he might be expected to desire. Generally they are less virtuous than his professed desires, and are therefore less agreeable to profess than these are. It is accordingly supposed that they really exist as desires for ends, but in a subconscious part of the mind, which the patient refuses to admit into consciousness for fear of having to think ill of himself. There are no doubt many cases to which such a supposition is applicable without obvious artificiality. But the deeper the Freudians delve into the underground regions of instinct, the further they travel from anything resembling conscious desire, and the less possible it becomes to believe that only positive self-deception conceals from us that we really wish

for things which are abhorrent to our explicit life.

In the cases in question we have a conflict between the outside observer and the patient's consciousness. The whole tendency of psycho-analysis is to trust the outside observer rather than the testimony of introspection. I believe this tendency to be entirely right, but to demand a re-statement of what constitutes desire, exhibiting it as a causal law of our actions, not as something actually existing in our minds.

But let us first get a clearer statement of the essential characteristic of the phenomena.

A person, we find, states that he desires a certain end A, and that he is acting with a view to achieving it. We observe, however, that his actions are such as are likely to achieve a quite different end B, and that B is the sort of end that often seems to be aimed at by animals and savages, though civilized people are supposed to have discarded it. We sometimes find also a whole set of false beliefs, of such a kind as to persuade the patient that his actions are really a means to A, when in fact they are a means to B. For example, we have an impulse to inflict pain upon those whom we hate; we therefore believe that they are wicked, and that punishment will reform them. This belief enables us to act upon the impulse to inflict pain, while believing that we are acting upon the desire to lead sinners to repentance. It is for this reason that the criminal law has been in all ages more severe than it would have been if

the impulse to ameliorate the criminal had been what really inspired it. It seems simple to explain such a state of affairs as due to "self-deception," but this explanation is often mythical. Most people, in thinking about punishment, have had no more need to hide their vindictive impulses from themselves than they have had to hide the exponential theorem. Our impulses are not patent to a casual observation, but are only to be discovered by a scientific study of our actions, in the course of which we must regard ourselves as objectively as we should the motions of the planets or the chemical reactions of a new element.

The study of animals reinforces this conclusion, and is in many ways the best preparation for the analysis of desire. In animals we are not troubled by the disturbing influence of ethical considerations. In dealing with human beings, we are perpetually distracted by being told that such-and-such a view is gloomy or cynical or pessimistic: ages of human conceit have built up such a vast myth as to our wisdom and virtue that any intrusion of the mere scientific desire to know the facts is instantly resented by those who cling to comfortable illusions. But no one cares whether animals are virtuous or not, and no one is under the delusion that they are rational. Moreover, we do not expect them to be so "conscious," and are prepared to admit that their instincts prompt useful actions without any prevision of the ends which they achieve. For all these reasons, there is much in the analysis of mind which is more easily discovered by the study of animals than by the observation of human beings.

We all think that, by watching the behaviour of animals, we can discover more or less what they desire. If this is the case--and I fully agree that it is--desire must be capable of being exhibited in actions, for it is only the actions of animals that we can observe. They MAY have minds in which all sorts of things take place, but we can know nothing about their minds except by means of inferences from their actions; and the more such inferences are examined, the more dubious they appear. It would seem, therefore, that actions alone must be the test of the desires of animals. From this it is an easy step to the conclusion that an animal's desire is nothing but a characteristic of a certain series of actions, namely, those which would be commonly regarded as inspired by the desire in question. And when it has been shown that this view affords a satisfactory account of animal desires, it is not difficult to see that the same explanation is applicable to the desires of human beings.

We judge easily from the behaviour of an animal of a familiar kind whether it is hungry or thirsty, or pleased or displeased, or inquisitive or terrified. The verification of our judgment, so far as verification is possible, must be derived from the immediately succeeding actions of the animal. Most people would say that they infer first something about the animal's state of mind--whether it is hungry or thirsty and so on--and thence derive their expectations as to its subsequent conduct. But this detour through the animal's supposed mind is wholly unnecessary. We can say simply: The animal's behaviour during

the last minute has had those characteristics which distinguish what is called "hunger," and it is likely that its actions during the next minute will be similar in this respect, unless it finds food, or is interrupted by a stronger impulse, such as fear. An animal which is hungry is restless, it goes to the places where food is often to be found, it sniffs with its nose or peers with its eyes or otherwise increases the sensitiveness of its sense-organs; as soon as it is near enough to food for its sense-organs to be affected, it goes to it with all speed and proceeds to eat; after which, if the quantity of food has been sufficient, its whole demeanour changes it may very likely lie down and go to sleep. These things and others like them are observable phenomena distinguishing a hungry animal from one which is not hungry. The characteristic mark by which we recognize a series of actions which display hunger is not the animal's mental state, which we cannot observe, but something in its bodily behaviour; it is this observable trait in the bodily behaviour that I am proposing to call "hunger," not some possibly mythical and certainly unknowable ingredient of the animal's mind.

Generalizing what occurs in the case of hunger, we may say that what we call a desire in an animal is always displayed in a cycle of actions having certain fairly well marked characteristics. There is first a state of activity, consisting, with qualifications to be mentioned presently, of movements likely to have a certain result; these movements, unless interrupted, continue until the result is achieved, after which there is usually a period of comparative quiescence. A cycle

of actions of this sort has marks by which it is broadly distinguished from the motions of dead matter. The most notable of these marks are--(1) the appropriateness of the actions for the realization of a certain result; (2) the continuance of action until that result has been achieved. Neither of these can be pressed beyond a point. Either may be (a) to some extent present in dead matter, and (b) to a considerable extent absent in animals, while vegetable are intermediate, and display only a much fainter form of the behaviour which leads us to attribute desire to animals. (a) One might say rivers "desire" the sea water, roughly speaking, remains in restless motion until it reaches either the sea or a place from which it cannot issue without going uphill, and therefore we might say that this is what it wishes while it is flowing. We do not say so, because we can account for the behaviour of water by the laws of physics; and if we knew more about animals, we might equally cease to attribute desires to them, since we might find physical and chemical reactions sufficient to account for their behaviour. (b) Many of the movements of animals do not exhibit the characteristics of the cycles which seem to embody desire. There are first of all the movements which are "mechanical," such as slipping and falling, where ordinary physical forces operate upon the animal's body almost as if it were dead matter. An animal which falls over a cliff may make a number of desperate struggles while it is in the air, but its centre of gravity will move exactly as it would if the animal were dead. In this case, if the animal is killed at the end of the fall, we have, at first sight, just the characteristics of a cycle of actions embodying desire, namely, restless movement until the ground is reached, and then quiescence.

Nevertheless, we feel no temptation to say that the animal desired what occurred, partly because of the obviously mechanical nature of the whole occurrence, partly because, when an animal survives a fall, it tends not to repeat the experience.

There may be other reasons also, but of them I do not wish to speak yet. Besides mechanical movements, there are interrupted movements, as when a bird, on its way to eat your best peas, is frightened away by the boy whom you are employing for that purpose. If interruptions are frequent and completion of cycles rare, the characteristics by which cycles are observed may become so blurred as to be almost unrecognizable. The result of these various considerations is that the differences between animals and dead matter, when we confine ourselves to external unscientific observation of integral behaviour, are a matter of degree and not very precise. It is for this reason that it has always been possible for fanciful people to maintain that even stocks and stones have some vague kind of soul. The evidence that animals have souls is so very shaky that, if it is assumed to be conclusive, one might just as well go a step further and extend the argument by analogy to all matter. Nevertheless, in spite of vagueness and doubtful cases, the existence of cycles in the behaviour of animals is a broad characteristic by which they are prima facie distinguished from ordinary matter; and I think it is this characteristic which leads us to attribute desires to animals. since it makes their behaviour resemble what we do when (as we say) we are acting from desire.

I shall adopt the following definitions for describing the behaviour of animals:

A "behaviour-cycle" is a series of voluntary or reflex movements of an animal, tending to cause a certain result, and continuing until that result is caused, unless they are interrupted by death, accident, or some new behaviour-cycle. (Here "accident" may be defined as the intervention of purely physical laws causing mechanical movements.)

The "purpose" of a behaviour-cycle is the result which brings it to an end, normally by a condition of temporary quiescence-provided there is no interruption.

An animal is said to "desire" the purpose of a behaviour cycle while the behaviour-cycle is in progress.

I believe these definitions to be adequate also to human purposes and desires, but for the present I am only occupied with animals and with what can be learnt by external observation. I am very anxious that no ideas should be attached to the words "purpose" and "desire" beyond those involved in the above definitions.

We have not so far considered what is the nature of the initial stimulus to a behaviour-cycle. Yet it is here that the usual view of desire seems on the strongest ground. The hungry animal goes on making movements until it gets food; it seems natural, therefore, to suppose that the

idea of food is present throughout the process, and that the thought of the end to be achieved sets the whole process in motion. Such a view, however, is obviously untenable in many cases, especially where instinct is concerned. Take, for example, reproduction and the rearing of the young. Birds mate, build a nest, lay eggs in it, sit on the eggs, feed the young birds, and care for them until they are fully grown. It is totally impossible to suppose that this series of actions, which constitutes one behaviour-cycle, is inspired by any prevision of the end, at any rate the first time it is performed.\* We must suppose that the stimulus to the performance of each act is an impulsion from behind, not an attraction from the future. The bird does what it does, at each stage, because it has an impulse to that particular action, not because it perceives that the whole cycle of actions will contribute to the preservation of the species. The same considerations apply to other instincts. A hungry animal feels restless, and is led by instinctive impulses to perform the movements which give it nourishment; but the act of seeking food is not sufficient evidence from which to conclude that the animal has the thought of food in its "mind."

\* For evidence as to birds' nests, cf. Semon, "Die Mneme," pp. 209, 210.

Coming now to human beings, and to what we know about our own actions, it seems clear that what, with us, sets a behaviour-cycle in motion is some sensation of the sort which we call disagreeable. Take the case of hunger: we have first an uncomfortable feeling inside, producing a

disinclination to sit still, a sensitiveness to savoury smells, and an attraction towards any food that there may be in our neighbourhood. At any moment during this process we may become aware that we are hungry, in the sense of saying to ourselves, "I am hungry"; but we may have been acting with reference to food for some time before this moment. While we are talking or reading, we may eat in complete unconsciousness; but we perform the actions of eating just as we should if we were conscious, and they cease when our hunger is appeased. What we call "consciousness" seems to be a mere spectator of the process; even when it issues orders, they are usually, like those of a wise parent, just such as would have been obeyed even if they had not been given. This view may seem at first exaggerated, but the more our so-called volitions and their causes are examined, the more it is forced upon us. The part played by words in all this is complicated, and a potent source of confusions; I shall return to it later. For the present, I am still concerned with primitive desire, as it exists in man, but in the form in which man shows his affinity to his animal ancestors.

Conscious desire is made up partly of what is essential to desire, partly of beliefs as to what we want. It is important to be clear as to the part which does not consist of beliefs.

The primitive non-cognitive element in desire seems to be a push, not a pull, an impulsion away from the actual, rather than an attraction towards the ideal. Certain sensations and other mental occurrences have a property which we call discomfort; these cause such bodily movements

as are likely to lead to their cessation. When the discomfort ceases, or even when it appreciably diminishes, we have sensations possessing a property which we call PLEASURE. Pleasurable sensations either stimulate no action at all, or at most stimulate such action as is likely to prolong them. I shall return shortly to the consideration of what discomfort and pleasure are in themselves; for the present, it is their connection with action and desire that concerns us. Abandoning momentarily the standpoint of behaviourism, we may presume that hungry animals experience sensations involving discomfort, and stimulating such movements as seem likely to bring them to the food which is outside the cages. When they have reached the food and eaten it, their discomfort ceases and their sensations become pleasurable. It SEEMS, mistakenly, as if the animals had had this situation in mind throughout, when in fact they have been continually pushed by discomfort. And when an animal is reflective, like some men, it comes to think that it had the final situation in mind throughout; sometimes it comes to know what situation will bring satisfaction, so that in fact the discomfort does bring the thought of what will allay it. Nevertheless the sensation involving discomfort remains the prime mover.

This brings us to the question of the nature of discomfort and pleasure. Since Kant it has been customary to recognize three great divisions of mental phenomena, which are typified by knowledge, desire and feeling, where "feeling" is used to mean pleasure and discomfort. Of course, "knowledge" is too definite a word: the states of mind concerned are grouped together as "cognitive," and are to embrace not only beliefs,

but perceptions, doubts, and the understanding of concepts. "Desire," also, is narrower than what is intended: for example, WILL is to be included in this category, and in fact every thing that involves any kind of striving, or "conation" as it is technically called. I do not myself believe that there is any value in this threefold division of the contents of mind. I believe that sensations (including images) supply all the "stuff" of the mind, and that everything else can be analysed into groups of sensations related in various ways, or characteristics of sensations or of groups of sensations. As regards belief, I shall give grounds for this view in later lectures. As regards desires, I have given some grounds in this lecture. For the present, it is pleasure and discomfort that concern us. There are broadly three theories that might be held in regard to them. We may regard them as separate existing items in those who experience them, or we may regard them as intrinsic qualities of sensations and other mental occurrences, or we may regard them as mere names for the causal characteristics of the occurrences which are uncomfortable or pleasant. The first of these theories, namely, that which regards discomfort and pleasure as actual contents in those who experience them, has, I think, nothing conclusive to be said in its favour.\* It is suggested chiefly by an ambiguity in the word "pain," which has misled many people, including Berkeley, whom it supplied with one of his arguments for subjective idealism. We may use "pain" as the opposite of "pleasure," and "painful" as the opposite of "pleasant," or we may use "pain" to mean a certain sort of sensation, on a level with the sensations of heat and cold and touch. The latter use of the word has prevailed in psychological literature, and it is now

no longer used as the opposite of "pleasure." Dr. H. Head, in a recent publication, has stated this distinction as follows:\*\*

\* Various arguments in its favour are advanced by A. Wohlgemuth, "On the feelings and their neural correlate, with an examination of the nature of pain," "British Journal of Psychology," viii, 4. (1917). But as these arguments are largely a reductio ad absurdum of other theories, among which that which I am advocating is not included, I cannot regard them as establishing their contention.

\*\* "Sensation and the Cerebral Cortex," "Brain," vol. xli, part ii (September, 1918), p. 90. Cf. also Wohlgemuth, loc. cit. pp. 437, 450.

"It is necessary at the outset to distinguish clearly between 'discomfort' and 'pain.' Pain is a distinct sensory quality equivalent to heat and cold, and its intensity can be roughly graded according to the force expended in stimulation. Discomfort, on the other hand, is that feeling-tone which is directly opposed to pleasure. It may accompany sensations not in themselves essentially painful; as for instance that produced by tickling the sole of the foot. The reaction produced by repeated pricking contains both these elements; for it evokes that sensory quality known as pain, accompanied by a disagreeable feeling-tone, which we have called discomfort. On the other hand, excessive pressure, except when applied directly over some nerve-trunk,

tends to excite more discomfort than pain."

The confusion between discomfort and pain has made people regard discomfort as a more substantial thing than it is, and this in turn has reacted upon the view taken of pleasure, since discomfort and pleasure are evidently on a level in this respect. As soon as discomfort is clearly distinguished from the sensation of pain, it becomes more natural to regard discomfort and pleasure as properties of mental occurrences than to regard them as separate mental occurrences on their own account. I shall therefore dismiss the view that they are separate mental occurrences, and regard them as properties of such experiences as would be called respectively uncomfortable and pleasant.

It remains to be examined whether they are actual qualities of such occurrences, or are merely differences as to causal properties. I do not myself see any way of deciding this question; either view seems equally capable of accounting for the facts. If this is true, it is safer to avoid the assumption that there are such intrinsic qualities of mental occurrences as are in question, and to assume only the causal differences which are undeniable. Without condemning the intrinsic theory, we can define discomfort and pleasure as consisting in causal properties, and say only what will hold on either of the two theories. Following this course, we shall say:

"Discomfort" is a property of a sensation or other mental occurrence, consisting in the fact that the occurrence in question stimulates

voluntary or reflex movements tending to produce some more or less definite change involving the cessation of the occurrence.

"Pleasure" is a property of a sensation or other mental occurrence, consisting in the fact that the occurrence in question either does not stimulate any voluntary or reflex movement, or, if it does, stimulates only such as tend to prolong the occurrence in question.\*

\* Cf. Thorndike, op. cit., p. 243.

"Conscious" desire, which we have now to consider, consists of desire in the sense hitherto discussed, together with a true belief as to its "purpose," i.e. as to the state of affairs that will bring quiescence with cessation of the discomfort. If our theory of desire is correct, a belief as to its purpose may very well be erroneous, since only experience can show what causes a discomfort to cease. When the experience needed is common and simple, as in the case of hunger, a mistake is not very probable. But in other cases--e.g. erotic desire in those who have had little or no experience of its satisfaction--mistakes are to be expected, and do in fact very often occur. The practice of inhibiting impulses, which is to a great extent necessary to civilized life, makes mistakes easier, by preventing experience of the actions to which a desire would otherwise lead, and by often causing the inhibited impulses themselves to be unnoticed or quickly forgotten. The perfectly natural mistakes which thus arise constitute a large proportion of what is, mistakenly in part, called self-deception, and attributed by Freud

to the "censor."

But there is a further point which needs emphasizing, namely, that a belief that something is desired has often a tendency to cause the very desire that is believed in. It is this fact that makes the effect of "consciousness" on desire so complicated.

When we believe that we desire a certain state of affairs, that often tends to cause a real desire for it. This is due partly to the influence of words upon our emotions, in rhetoric for example, and partly to the general fact that discomfort normally belongs to the belief that we desire such-and-such a thing that we do not possess. Thus what was originally a false opinion as to the object of a desire acquires a certain truth: the false opinion generates a secondary subsidiary desire, which nevertheless becomes real. Let us take an illustration. Suppose you have been jilted in a way which wounds your vanity. Your natural impulsive desire will be of the sort expressed in Donne's poem:

When by thy scorn, O Murderess, I am dead,

in which he explains how he will haunt the poor lady as a ghost, and prevent her from enjoying a moment's peace. But two things stand in the way of your expressing yourself so naturally: on the one hand, your vanity, which will not acknowledge how hard you are hit; on the other hand, your conviction that you are a civilized and humane person, who could not possibly indulge so crude a desire as revenge. You will

therefore experience a restlessness which will at first seem quite aimless, but will finally resolve itself in a conscious desire to change your profession, or go round the world, or conceal your identity and live in Putney, like Arnold Bennett's hero. Although the prime cause of this desire is a false judgment as to your previous unconscious desire, yet the new conscious desire has its own derivative genuineness, and may influence your actions to the extent of sending you round the world. The initial mistake, however, will have effects of two kinds. First, in uncontrolled moments, under the influence of sleepiness or drink or delirium, you will say things calculated to injure the faithless deceiver. Secondly, you will find travel disappointing, and the East less fascinating than you had hoped--unless, some day, you hear that the wicked one has in turn been jilted. If this happens, you will believe that you feel sincere sympathy, but you will suddenly be much more delighted than before with the beauties of tropical islands or the wonders of Chinese art. A secondary desire, derived from a false judgment as to a primary desire, has its own power of influencing action, and is therefore a real desire according to our definition. But it has not the same power as a primary desire of bringing thorough satisfaction when it is realized; so long as the primary desire remains unsatisfied, restlessness continues in spite of the secondary desire's success. Hence arises a belief in the vanity of human wishes: the vain wishes are those that are secondary, but mistaken beliefs prevent us from realizing that they are secondary.

What may, with some propriety, be called self-deception arises through

the operation of desires for beliefs. We desire many things which it is not in our power to achieve: that we should be universally popular and admired, that our work should be the wonder of the age, and that the universe should be so ordered as to bring ultimate happiness to all, though not to our enemies until they have repented and been purified by suffering. Such desires are too large to be achieved through our own efforts. But it is found that a considerable portion of the satisfaction which these things would bring us if they were realized is to be achieved by the much easier operation of believing that they are or will be realized. This desire for beliefs, as opposed to desire for the actual facts, is a particular case of secondary desire, and, like all secondary desire its satisfaction does not lead to a complete cessation of the initial discomfort. Nevertheless, desire for beliefs, as opposed to desire for facts, is exceedingly potent both individually and socially. According to the form of belief desired, it is called vanity, optimism, or religion. Those who have sufficient power usually imprison or put to death any one who tries to shake their faith in their own excellence or in that of the universe; it is for this reason that seditious libel and blasphemy have always been, and still are, criminal offences.

It is very largely through desires for beliefs that the primitive nature of desire has become so hidden, and that the part played by consciousness has been so confusing and so exaggerated.

We may now summarize our analysis of desire and feeling.

A mental occurrence of any kind--sensation, image, belief, or emotion--may be a cause of a series of actions, continuing, unless interrupted, until some more or less definite state of affairs is realized. Such a series of actions we call a "behaviour-cycle." The degree of definiteness may vary greatly: hunger requires only food in general, whereas the sight of a particular piece of food raises a desire which requires the eating of that piece of food. The property of causing such a cycle of occurrences is called "discomfort"; the property of the mental occurrences in which the cycle ends is called "pleasure." The actions constituting the cycle must not be purely mechanical, i.e. they must be bodily movements in whose causation the special properties of nervous tissue are involved. The cycle ends in a condition of quiescence, or of such action as tends only to preserve the status quo. The state of affairs in which this condition of quiescence is achieved is called the "purpose" of the cycle, and the initial mental occurrence involving discomfort is called a "desire" for the state of affairs that brings quiescence. A desire is called "conscious" when it is accompanied by a true belief as to the state of affairs that will bring quiescence; otherwise it is called "unconscious." All primitive desire is unconscious, and in human beings beliefs as to the purposes of desires are often mistaken. These mistaken beliefs generate secondary desires, which cause various interesting complications in the psychology of human desire, without fundamentally altering the character which it shares with animal desire.