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THE CONDITIONED REFLEX AND THE ELEMENTARY SOCIAL REACTION

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MANY explanations have been given of organic or unreflective sympathy, that fellow feeling which we experience when another member of our own species is in physical trouble or pain or some other such elementary situation. Typical accounts are those of Adam Smith and Professor McDougall. Adam Smith, that invaluable point of departure for the social sciences, gives a good example of the facts. "When we see a stroke aimed and just ready to fall upon the leg or arm of another person, we naturally shrink and draw back our own leg or our own arm." The explanation that he gives is that we "conceive what we ourselves should feel like in the same situation."¹ However, to a modern psychologist, this seems like an over intellectualization of the process. Whatever we do, we apparently do not thus think out the matter. The whole thing is much more automatic than this would imply. Accordingly, there has developed the type of theory which makes the process depend on some kind of instinct or special mechanism. Thus McDougall writes "We must not say, as many authors have done, that sympathy is due to an instinct, but rather that sympathy is founded on a special adaptation . . . that renders each instinct capable of being excited on the perception of the bodily expression of the same instinct in other persons."²

¹ See his "Theory of Moral Sentiments," part 1, chapter 1. This is the theory of "Sich-Hineinversetzens." See B. Groethuysen, *Das Mitgefühl*, *Zeitschr. für Psychol.* 34, 161, 1904.

² *Social Psychology*, p. 93.

But in spite of the disclaimer, this seems nearly as difficult as the older instinct theory, for no explanation is given of the nature of the special mechanism. It seems as mysterious and of as definitely a *deus-ex-machina* character as was ever the instinct of sympathy. Without accepting McDougall's conception of instinct, to which, indeed, the writer finds himself fundamentally opposed, an attempt will here be made to explain the nature of the adaptation of which he speaks, on the assumption that no special mechanism is involved. It will be maintained that the simpler types of sympathy, which are known by some as "organic" sympathy, are produced in accordance with the mechanism of the conditioned reflex, and an attempt will be made to trace out the consequences of this theory in certain further developments.

Axiomatic for the view here presented is the proposition that another human being is originally like any other stimulus to the infant, presenting no peculiar features and no intrinsic differences from any other combination of stimuli. The process of the gradual development of the environment, or stimulus concept, as opposed to the sensation, is a commonplace.³ After the marking off of the environment, now arises the distinction within the environment between things and persons. This has its origin in the physical similarity of one organism to another, and in the congruity of response in the two cases. The first factor has been clearly brought out in the literature, but the second will perhaps repay a brief account.

At an early age the cry of a baby and the cry of another baby seem to serve, either of them, as the stimulus for further crying. The sound of crying has, by the mechanism of the conditioned reflex, become a secondary stimulus for the reaction of crying. Similarly the sight of a moving hand may start the child moving his own hand, again by the conditioned reflex mechanism. At this stage, as far as the hearing or the sight of them goes, it seems to be relatively indifferent to the infant to whom the voice or the hand belongs, to itself or another. A similar state of things probably prevails with the other parts of the body. But there comes a time when the bodily reactions and the bodily parts of others are clearly set off from the infant's own bodily parts and reactions. The integration of the one goes to form the first elementary conception of the child's own personality. The integration of the other forms the conception of "a man like unto myself."

³ See e. g. Mead, J. H., *Mechanism of Social Consciousness*, *Journal of Phil. Psych.*, etc., 1912, 9, 401-406.

What then is the difference between the "self" integration and the "other person" integration? As far as the outward and visible sign goes, the two would appear to be of entirely the same calibre. Objectively, that is, the two are similar. The difference is on the subjective side. My own limbs are connected up with my own sensations, of a specific, subjective kind that do not belong to the limbs of others. But it is to be insisted again that as judged by the "distance receptors" so called, my own body and that of my neighbour are on a par, not identical but similar. My hand looks like my neighbour's, makes the same noise when it splashes the water as my neighbour's, perhaps smells like my neighbour's. But like the parsley in Bre'r Rabbit, it isn't my neighbour's.

Now, through the mechanism of the conditioned reflex and otherwise, I guide my actions by means of past experience. Originally the human being is equipped with certain reactions which are touched off at certain biologically adequate stimuli. Other stimuli reach the organism simultaneously with these originally adequate stimuli, and are given meaning, becoming secondary stimuli by Pavlov's well-known law.⁴ Chaos is reduced. Thus Pavlov's dogs, which learned to anticipate food when a green light was shown them, were using the mechanism to guide their present actions by past experience.

Now of this kind of learning, the greater part takes place by means of the distance receptors. The majority of secondary stimuli are of an auditory or visual nature, and it is within the bounds of possibility that the chief function of these organs is exactly this blossoming out of their data into conditioned stimuli. Certain it is that there are at birth very few discriminated reactions functioning through them. In addition to motor reactions, the pleasantness-unpleasantness feeling and the emotions also become conditioned, that is, are given stimuli secondary to those originally operative, and again, most of this kind of learning takes place through the medium of the distance receptor.⁵

Drawing together, then, the argument up to this point, it would be expected that, at the stimulus which has produced pleasantness or unpleasantness in my own past experience, pleasantness or unpleasantness will follow again, even though the stimulus in question originally

⁴ Simultaneously with the acquisition of conditioned stimuli goes of course the neural and muscular development of the organism.

⁵ Thus, e. g., Watson's well known experiments on the conditioned emotional reaction, and what is known as the "experience" theory of feeling, which latter is really a conditioned reflex theory of feeling.

came from my own body and now comes from the body of some one else. Pain one would not expect so to occur, pain being of course a sensation. Now this is exactly what happens. If I hold my hand in a candle, I experience the sensation of pain together with the feeling of unpleasantness. If some one else holds his hand in the flame, I do not experience the sensation of pain but I do have the feeling of unpleasantness, because the sight of my hand in fire has in the past been accompanied by feelings of unpleasantness. Similarly, the smell of burning flesh is highly distressing to most of us, and even the other accompaniments of intense nervous shock, such as nausea, often arise vicariously by this mechanism of conditioned stimulation. Here the primary stimulus is the burning of my hand, the secondary stimulus the sight and smell of burning flesh. Sometimes, though this is abnormal, even the actual sensation of pain is produced in such cases, as in an example given by Professor Burnham, where a mother seeing an injury to her boy actually felt a sharp pain in the same place.⁶

Exactly the same thing happens for more complex situations. If I see a man at the end of a precipice, my reaction is to the physical proximity of a body to the precipice. I judge the situation according to the habits which I have acquired for my own protection. It makes no difference that I have not actually seen myself at the edge of a precipice. All that is necessary is that the integration, or, to borrow the Freudian term, the "complex" of "Body-near-a-precipice" should be touched off. This mechanism shows, of course, wide variations corresponding to individual differences. Some of us do not flinch when others are cut. Most of us rather enjoy the thrill of the tightrope walker. That is because the reactions bring a mobilizing of the resources of the body that is pleasant despite the feeling of unpleasantness

⁶ The account above given of the more elementary or so called "organic" sympathy will seem at first to resemble Spencer's association theory, whereby one member of a herd of animals which have experienced, say, the emotion of fear, at a given stimulus *associates* the emotion with the expression of the emotion by fellow members of the herd. It may here be said, that even though the comparison were justified, yet the present theory would seem to be an advance over Spencer's formulation in that it gives an account of the mechanism of association. But the resemblance is more apparent than real. It is not so much the association of the emotion with the response, but rather the unreflective reaction of the organism to the situation, out of the organism's own previous experience, that is stressed in the conditioned reflex theory. Spencer's formulation, though, applies to many cases, giving a more elementary type of sympathy. The explanation of both types is the Conditioned Reflex. My attitude is different from that of the "Sich-Hineinversetzens" theory, though this also presents a parallel. See note on Adam Smith's theory (next page). Ebbinghaus, *Grundzüge der Psychologie*, Bd. II, s. 395 fol. has a good account of the classical positions. Here also should perhaps be mentioned the theory of Einfühlung. In the contention that our knowledge of other individuals comes from our own previous experience, the Einfühlung theory is in strict accord with that here presented. See, e. g., Lippes, *Leitfaden der Psychologie*, XIV, Cap.

that probably alternates. Hence the curiously mixed feelings with which we are apt to watch such spectacles.

When the plight of the observed organism becomes so serious that nature's first line of defence, the pleasantness-unpleasantness feeling, is no longer adequate, then the second line of defence is brought into play and the emotions called in. Thus if I myself walk too near the edge of a cliff, the situation becomes unpleasant and I move away. If, on the other hand, as I move away the ground begins to crumble beneath me, emotion will probably enter into my reaction and I become afraid, this emotion serving the definitely physiological purpose of mobilizing all my bodily resources, putting the body, so to speak, under martial law. This special reaction is the result of past experience. The general fear reaction is of course there from infancy, but we have to learn, by the mechanism of the conditioned reflex, which situations are dangerous, which is the same thing as to condition our general reactions by experience. Hence, when the complex or integration of "soil slipping beneath" is stimulated, emotion follows whether I am the agent or the onlooker.⁷ Kinæsthetic and other sensations, present in the one and not in the other case, probably account for what difference there is in the two cases. Hence the general thesis, that in such cases I react to the situations of others from my own experience, and by means of the mechanism of the conditioned reflex, and show joy, fear, sorrow, etc., automatically according to the reactions which in the past have been associated with that particular situation in myself.

In still more complex actions and systems of conditioned reflexes I also judge a man by my own experience. A deeply embedded habit becomes sacred to me, and I experience a feeling of unpleasantness when it is broken (Stout and Dewey). The unpleasantness is the natural compass, keeping us within the bounds of the action which has been found in the past to be satisfactory, and registering deviation from the path, and is roughly proportionate to the strength and depth of the habit and the amount of deviation. Now if some one else in the same situation *breaks my habit*, a parallel feeling of unpleasantness is caused, again by the mechanism of the conditioned reflex. This is

⁷ Compare Adam Smith, O. C., Seventh Edition, p. 10. "Sympathy, therefore, does not arise so much from the view of the passion as from that of the situation which excites it." Adam Smith had the knack of being right, though his reasons, to a later generation, often seem questionable. Here he goes on ". . . because, when we put ourselves in his case, that passion arises in our breast from the imagination, though it does not in his from the reality." The truth would seem to be that a certain situation had become conditioned to a certain response in the one case and not in the other.

the germ of a certain kind of social ban. Thus in England, to one who has always dressed for dinner and whose family has always dressed for dinner, sitting down for the evening meal en famille in morning clothes will seem an outrage, whether it be the person concerned or some one else that is the culprit. It is the very strength of the impulse leading to the deep seated habit and the fact that this habit has become so fundamental in the individual that makes the breach so painful. Similarly, if it has been my lifelong habit always to rise at six A.M., then to contemplate lying in bed till ten is unpleasant, whether I do it or some one else. Habits are chains of conditioned reflexes. The pleasantness-unpleasantness reaction seems to have for its purpose, in part at least, to call attention to any deviation from the habit. If then I observe another person in a situation that would normally be taken care of by one of my own habits, I am apt to be uncomfortable unless the situation serves as the stimulus for some stronger reaction such as those feelings connected with self gratification. In the early nineteenth century all foreigners were apt to be "nasty foreigners" in England, because they lived differently.

If further there is a person whose whole form of life, complex of habits, and personality, are alien to my own, I find that person irritating. Such a person is continually violating by proxy the habits which I have formed. This is the foundation of much married misery. Just why the untidy person should irritate the tidy one is difficult to answer on any other hypothesis. It cannot be put down altogether to the fact that the tidy person has to do the work ultimately, nor to encroachment on the personality of the tidy individual. These may sometimes play a part, but at least of equal importance seems the fact that actual feelings of unpleasantness are aroused by the acts in themselves, apart from their consequences. Thus the utilitarian school of morals would seem to be psychologically disproved in their assertion that our only criterion of actions can come from their results. At least in other people, it would seem that actions may be pleasant or unpleasant in themselves, apart from their effects. If again some one else's habits or individual actions go still more fundamentally against my most deeply ingrained habits, then the emotions may be called into action, and finally the situation becomes intolerable, as in many cases of "mutual incompatibility." This was clearly seen by Plato in his illustration of the perfectly good man, who would, he said, be scourged and ultimately crucified. It was not that the people dislike goodness, for in small doses most of us rather admire it. Rather

the spectacle of a man who systematically outrages all our most cherished habits of selfishness and other little meannesses is more than most of us can stand. We require a person that is "made human" by his faults. The Jews crucified Christ, and it is true, as the mediævalists have it, that in crucifying Christ we crucify ourselves.

The same explanation may be given of the intolerant attitude of a good many men of the mediocre type towards the artist. Such a mediocre person must above all be methodical and must conform. If the man of this class trusted to his intuition and threw aside convention he would go bankrupt spiritually and morally, and probably also materially. Nature working through the conditioned reflex has arranged it that when he throws over the conventions things are unpleasant for him. Hence the sight of broken conventions, of another reacting to a certain situation in a manner which breaks all his carefully elaborated and successful rules, is exceedingly distasteful to him. The artist is apt to flatter himself that this dislike is due to fear. This, though it may be so ultimately, is not the case at the beginning of the relations between the two, as is shown very neatly in Bernard Shaw's *Candida*. Here is depicted a good humoured tolerance on the part of a bluff, energetic, commonsense man for a somewhat neurotically inclined artist. The tolerance is easily seen to be the repression of a fundamental dislike, and is totally removed from indifference. Only later in the play does it develop into fear.

Thus in the simpler forms, at least, of social reaction the application of the theory of the conditioned reflex seems to provide an explanation. This is in line with two tendencies of today, namely, that which protests against the over intellectualization of psychology and that which seeks to do away with instincts and special mechanisms. Science attempts to reduce to general laws and as far as possible to eliminate the plea of "sui generis." The attempt to explain the simple social reaction by a wider principle is a step in this direction.