

## VII.—DISCUSSIONS.

### THE PHYSICAL BASIS OF EMOTION. A REPLY.

IN the September number of the *Psychological Review* Professor James defends his theory of emotion against the various criticisms to which it has been subjected. It seems necessary to make some comment on the answer to my own objections, and also to bring out the full bearing of some statements of importance made in the course of the argument.

The most striking thing in Prof. James' article is the way in which he now defines his position. The theory which has caused so much trouble is after all, he declares, a very unpretending thing. It implies merely that the whole of consciousness, whatever its inner contrasts may be, is dependent on incoming currents (524). It assumes that there must be a process of some sort in the nerve centres for emotion, and it simply defines that process to consist of afferent currents (523). It merely asserts that emotion is not a primary feeling directly aroused by the exciting object or thought but a secondary feeling indirectly aroused (516). The primary effect is the organic disturbance (516), and this is the cause of the emotion (519).

In the *Principles of Psychology*, however, we find statements of entirely different import. "My theory is that the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur *is*<sup>1</sup> the emotion" (II. 449). "If we fancy some strong emotion, and try to abstract from our consciousness of it all the feelings of its bodily symptoms, *we find we have nothing left behind*" (II. 451). "What kind of an emotion of fear would be left if the feeling neither of quickened heart beats nor of shallow breathing etc. were present, it is quite impossible for me to think" (II. 452). "What emotion can there be but the unpleasant nervous feeling itself?" (II. 458). "In such cases the emotion *begins and ends* with what we call its manifestations or effects. It has no mental status except as either the vivid feeling of the manifestations *or the idea of them*, and the latter thus constitute its entire material and sum and substance" (II. 458).

<sup>1</sup> The 'is' appears thus emphasised in the text. Elsewhere I have supplied the italics.

It does not seem possible to reconcile these two conflicting accounts. If the whole thing comes to the bare assertion that emotion follows as effect on the bodily disturbance, all that is maintained is the dependence of the fact on the perception of organic change, and nothing is said about the nature of emotion as such. But if no more than this was ever meant, how shall we explain the explicit statements which occur in the original presentation of the theory? There we have without doubt a definite account not only of the conditioning of emotion but also of the nature of the psychical fact. The emotion, it is stated in one place, *is nothing but the feeling of a bodily state, and has a purely bodily cause* (II. 459, see also II. 449).

How far Prof. James has moved will be evident from the fact that he approves of my description of emotion as reaction on cognition and hedonic effect, as feeling in regard to an object. He not only agrees with the sharp distinction drawn in my article between emotion so understood and pleasure and pain, but draws the same distinction between emotion and cognition. Emotion, therefore, is now sharply opposed to ideation and perception; formerly it was described as organic sensation or even as the idea of bodily change.

A further modification of some consequence requires to be noted. Whence comes it, says Wundt, that if a certain stimulus be what causes emotional expression by its mere reflex effects, another stimulus almost identical with the first will fail to do so if its *mental* effects be not the same? To this objection, which recurs in all the published criticisms, the reply is that we must remember the force of association in Psychology. Objects are certainly the primitive arousers of instinctive reflex movements, but they take their place, as experience goes on, as elements in total situations, the other suggestions of which may prompt to movements of an entirely different sort. But whatever be our reaction on the situation, it is in the last resort an instinctive reaction on that one of its elements which strikes us for the time being as most vitally important (*Psy. Rev.* 518). All this is perfectly true, but the objection was urged with such unanimity precisely because Prof. James seemed to exclude these factors the importance of which he now insists on. In the *Principles* it was argued that particular perceptions do produce widespread bodily effects *by a sort of physical influence*, antecedent to the arousal of an emotion or *emotional idea* (II. 457). A passage from Lange was quoted where he says that the emotion produced by an unusually loud sound is a sort of fright, *though it is by no means combined with the idea of danger or in any way occasioned by associations, memories or other mental processes*. Cases were cited to prove not only that we may fear before any articulate idea of danger arises, but also be afraid when we positively know there is no danger (II. 457).

In disowning all this and insisting on the intellectual condition of emotion, Prof. James has materially altered his position. The bodily changes are now held to be determined not by the bare

presentation of the object, but by the way in which the whole situation is regarded. This intellectual regard becomes the all important condition, for in determining the nature of the organic effects it determines the nature of the emotion. The practical identification of instinct and emotion can no longer be maintained. In the case of instinct the bare cognition of the object brings about particular bodily effects, in emotion it is the varying intellectual regard which is active. Hence, in any given case, while only one purely instinctive reaction can occur, many emotional reactions are possible.

Piecing things together we find that while the bodily changes determine the nature of the emotion, they are themselves determined by the intellectual regard. The latter is ultimately the real condition, therefore, and it is difficult to see why its efficacy should be mediated by physical change. The probability surely is that Nature here as elsewhere takes the shortest road, and this *a priori* supposition is strengthened by a view of the facts of the case. While the intellectual condition is unaltered the emotion remains the same; when it changes the emotion changes with it. On the other hand, in any given case the bodily changes may vary within wide limits without affecting the emotion, and in certain cases of anaesthesia organic sensation may almost disappear without any marked result. As the condition interpolated by Prof. James does not seem to serve any special end, strong evidence in its favour is absolutely essential. No satisfactory proof, however, is offered of its priority to emotion in point of time, and in the nature of the case conclusive evidence on this head cannot be forthcoming. In addition, as we have seen, it does not fulfil the first essential of a condition. One expects at the very least that a condition should appear in definite form, when the fact it is supposed to condition is so present.

It will probably be maintained that the merit of this view is that it solves the problem of the physical basis of emotion. Now it is on the *sensation* of bodily change that the emotion follows, as the test case makes clear. In the case required the normal physical changes must all be present, and simply because they are not felt our author expects to find that emotional susceptibility has disappeared. Emotion is not then a direct effect of the physical process, and to say that it is conditioned by sensation does not help in the least to determine what brain process corresponds to the emotional, though the sensation in question be that of bodily change. The sensation of a bodily condition is in this respect of course on the same footing as any other sensation. When Prof. James maintained that emotion was nothing but the feeling of a bodily state, he could with right claim that on his theory the physical basis of the fact was known. He no longer holds this position, and draws a sharp distinction between emotion on the one hand and perception and hedonic effect on the other. He can no longer claim, therefore, that his theory is in any way different from any extant theory on the question of the relation of emotional states and brain states. The

only peculiarity of his view is that emotion is regarded as dependent on two psychical conditions, whereas one is usually considered sufficient. It is not clear then that we should gain anything by adopting this account of the origin of emotion, but it is clear that if things were as here described the state of matters could only be regarded as a freak on the part of Nature.

Despite disclaimers on the part of Prof. James that he ever meant more than the theory we have been discussing, the first version tends to appear very distinctly towards the end of the article (cp. pp. 523, 524, 526); despite explicit assertions that he meant as much, there are expressions from which one might infer that he even meant less. I had pointed out that the admission of æsthetic emotion as a primary feeling unmediated by bodily change was a tacit admission that the theory did not apply all round. Such an objection, we are told, is an *ignoratio elenchii* having nothing whatever to do with the real view which only affirmed the dependence on incoming currents of the emotional seizure or affect (525)<sup>1</sup>. My objection holds whether emotion be regarded as the feeling of bodily change or as the effect of this feeling, and if Prof. James did not mean so much as it implied, the glory of his theory tends to melt into the light of common day. The whole thing reduces itself to the unassuming statement that emotion is dependent on perception. Nothing is said about the nature of the resulting fact, and the intervention of somatic resonance between the perception of the object and the emotion is apparently an eccentricity peculiar to the coarser emotions alone. It appears, however, as if the position were only stated so modestly when the 'subtler' emotions are in view. This last version may therefore be disregarded, especially as the states in question may be included under those mild feelings to which the name of emotion is denied (525). In any case there is no doubt that the theory most prominent in the reply is very different from that originally laid down in the *Principles*, and that it is from the standpoint of the former that all criticisms are answered.

This change of ground has necessarily thrown the greater part of my criticism out of joint. When I strove to shew that there is in every emotional state a unique element distinguishable from hedonic effect and cognition of any sort, I was simply taking up the challenge to produce a spiritual element, an element that is which is not the feeling of some bodily state (see *Principles*, II. p. 455). I did not imply that I had "discovered by introspection a part of the emotional excitement which it was psycho-physically impossible that incoming currents should cause." My implied argument was simply that, if emotion has a unique character as feeling attitude, it cannot be right to describe it as sensation of any kind with or without hedonic colouring.

<sup>1</sup> To support my contention I need only refer to the *Principles of Psychology*, p. 468. The force of my objection is admitted by Mr Garner, who criticises my article in the same number of the *Psychological Review*, and is evidently in sympathy with Prof. James' general point of view.

In another place I urged that, if emotion is merely the feeling of the reflexes and these "vary indefinitely" in different individuals, the emotions must vary also and it is therefore a contradiction to say that the same emotion may have different expressions in different individuals. The reflexes, we are now told, do not vary indefinitely but within limits. Further, they preserve enough functional resemblance in the midst of their diversity to lead us to call the fears and angers of different men by the same name (519). Prof. James is thus committed to the task of determining what are the characteristic expressions of each emotion. When he claimed in the *Principles* that his theory freed Psychology from all bother of this sort, I drew attention to the fact that the task in question was a work of supererogation to any other theory except his own. Since the changes vary so much, the theory evidently can never be securely established until it is shewn that there are constant elements, which invariably accompany a particular emotion, and yet are different from those which appear in the case of other emotions.

The treatment of the various cases of anæsthesia seems to call for some remark. The test case requires a subject absolutely anæsthetic inside and out, who should say, when emotion inspiring objects evoked the usual bodily expressions, that no subjective emotional affection was felt. Prof. James lays stress on some cases examined by Dr Sollier and discussed by him in the *Revue Philosophique* (March 1894). One subject is almost completely anæsthetic, and is dependent for outward perception on hearing and the much enfeebled sense of sight. His psychical state is characterised by apathy, indifference, and extreme emotionlessness. The explanation of this is simple if we look into the matter. The mind of the patient is either asleep or in a dim twilight between waking consciousness and sleep. Things are for the most part not perceived, and if perceived he is not sure of them or able to catch their significance. He is not certain even of his own existence. This may be metaphysically a contradiction but psychologically a fact of wide-reaching consequence. When the saving sense of the reality of existence is gone, it is no wonder that interest in the blurred and uncertain world, which remains, goes with it. It is evident that this mental condition alone would destroy emotional susceptibility even if there were no anæsthesia. When laying down the conditions of this experimental test in *Mind* (1884, p. 203) Prof. James explicitly stated that there must be no mental alteration beyond that of the absence of emotion. Can it be asserted that in this instance the condition is fulfilled? Even as regards the physical state the circumstances are not favourable for a conclusive test. "The entire muscular apparatus is half paralysed so that locomotion is almost impossible." The emotional expressions therefore can never be complete, and in any case absolutely no attention is paid to these by the observer. Nor does the psychical state meet all requirements. The patient has at times a great fear that his daughter may be dead, and it is not even

stated that the solitary visceral sensation remaining to him is present on these occasions. In these circumstances one emotion is of course as damaging as a thousand, and, short of some process of immaculate conception, a physiological theory does not seem to have much explanation to offer<sup>1</sup>.

On the other hand a very damaging case is brought forward by Dr Worcester (*Monist*, 1893, pp. 293-4). The patient could hear a little and had the visceral sensations connected with the evacuative needs. Otherwise the anæsthesia was practically complete. Yet "all the emotional sensibilities were present and only a little less vivid than in the unæsthetic state." The only remark Prof. James makes is that certain degrees of visceral and muscular sensibility remained, and as these are the important ones emotionally she may well have felt emotion. But surely it cannot be pretended that this insignificant remnant of organic feeling is always accompanied by emotion, or is capable in any case of playing the part which must be assigned to it in Prof. James' theory. The same organic feeling cannot cause all the different emotions, and the few here indicated cannot vary so much as would be required to furnish a different condition for each separate emotion<sup>2</sup>.

A review of all the evidence brings to light the general principle, that the emotional state of anæsthetic individuals is approximately normal or the reverse according as the mental state is nearly normal or otherwise. This has the merit of applying to all the cases brought under our notice. With regard to several of these, on the other hand, Prof. James has no satisfactory explanation to offer<sup>3</sup>.

One important point still remains to be noted. Prof. James complains that the discussion tends to become a merely verbal one. Though this is not strictly true, there is no doubt that the word emotion has not got a very definite meaning. This arises from the fact that the theories at present in vogue concern themselves for

<sup>1</sup> In the other cases anæsthesia was provoked by hypnotic suggestion. Apart from the 'fallibility of this method' the evidence supplied by these experiments does not seem to deserve much attention. As Mr Garner says, "we are never sure that we have the full emotional expression in any case, the indications being rather the other way" (*Psy. Rev.* 546). Very few observations were made and these refer only to the two emotions joy and grief. With reference to these cases I need only refer to Mr Garner's excellent criticism (*Psy. Rev.* 545-6).

<sup>2</sup> Here it seems as if the presence of some visceral change of some kind is all that is necessary. On the other hand if it be pointed out that organic change unquestionably gives rise at times to a mere local bodily perception, the answer is that the "emotional diffusive wave" is in these cases not complete (*Psy. Rev.* 522).

<sup>3</sup> Prof. James admits in one case that "the inemotivity may be a co-ordinate result of the anæsthesia and not its mere effect." He apparently thinks that, if more such cases were found, the doubt would be in great measure removed. As the mental condition alone would account for the disappearance of emotion in the instance referred to, it is evident that no multiplication of cases would avail.

the most part with an account of the origin of emotion. This seems to be the case, for instance, with the theory which asserts that emotion is a fusion of hedonic effect and cognition. If you point out that emotion has a character entirely distinct from either of the elements mentioned, the "Fusionist" will probably reply that the result of fusion is in every case different from the constituents as such. In consequence of this state of affairs the fact is described in all sorts of ways. Prof. James, for example, tells us that he took for granted without discussion that emotion meant the rank feeling of excitement. The feeling of excitement is, however, merely the feeling of stimulated general activity when this presents a more or less uneven or agitated character. This feeling is not present in admiration, contempt, reverence, etc., and is absent in the case of all deep permanent feelings such as affection, dislike and hate. It may be an effect either of the emotion itself or of the circumstances which excite the emotion. When our general mental and physical activity is stimulated but not to excess, and the result is not an agitation but a harmony, we have that glow or warmth which is sometimes spoken of as an inseparable element at least in emotion. It is not a characteristic of emotion in general, however, any more than excitement. A widow who was described as glowing over her recent bereavement would have a right to feel injured.

To convince ourselves of the present undesirable state of Psychology on this point we need only note the haphazard way in which the emotions are enumerated. As little trouble has been taken to find out what emotion is in itself, no systematic attempt is made to determine what states are emotional. The result is that all sorts of things will be found classed as emotions—belief and doubt; modes of behaviour such as courage and desperation, especially those (like revenge) due to an emotion; surprise, and the shock of any sudden presentation; complex mental states such as envy, vexation, and wonder; pleasures and pains such as æsthetic pleasure and the intellectual pain of contradiction<sup>1</sup>. Hence classification has come to be regarded as an almost insuperable difficulty. The states seem to be more numerous than they really are and certainly more heterogeneous. A false analogy between perception and emotion has also exercised considerable influence. Emotion is of course conditioned by cognition, but the full particularity of the latter does not come into play. If I am injured in any way, the emotion which arises is not essentially modified by the fact that the aggressor had clothes of a certain cut, features of a certain cast, and was of a certain stature. The particular case is always subsumed under some general notion, injustice, injury, impending evil, present good and so on.

It was in view of this state of matters that I attempted to bring out the most prominent element of those states which all admit to

<sup>1</sup> It is not unusual to find the last mentioned states classed as emotions by those who maintain that emotion is a fusion of hedonic effect and cognition.



be emotional, and I hope to be able to shew the practical advantages of this method. Emotion regarded as a form of feeling attitude is connected with a permanent feature of our psychical constitution. It thus ceases to be an anomaly, and can be shewn to play an intelligible part in our mental life. This seems a matter of no slight importance, and a physiological theory will always fail in this regard. It gives emotion a place but not a function in the constitution of our nature.

DAVID IRONS.

## THE THEORY OF JUSTICE.

THE strong point of modern *a priori* ethical systems has on the whole been the theory of justice. Powerful attempts, such as that of Hobbes, have been made to derive its formulae and to establish its obligation on experiential grounds, but these have always seemed to leave something unexplained. Among recent theories on essentially the same lines may be mentioned that of W. H. Rolph, in his *Biologische Probleme*—a book to the distinctive ethical point of which justice was scarcely done in a review that appeared in *Mind*, vol. x. 281. A later attempt, in conscious dependence on Hobbes, is Mr Hugh Taylor's *Morality of Nations* (see *Mind*, XIII. 287, 425). This is worked out from the point of view of the special student of society; Rolph's starting-point being rather that of the naturalist. The essence of the doctrine in all its expressions is that the formulae of justice are the result of a conflict among societies, or among individuals; and that they are fundamentally "contractual," and suppose, in their abstract expression, the equality, in the particular relations involved, of the persons contracting. The formulae, when we appeal, as we must finally, to the ends for which they exist, have an egoistic reference. Their justification is that the interests of the individual are best attained by observing them in all cases.

Although there is a large portion of truth in this theory, it cannot quite maintain itself on its ground of pure egoism. When we suppose the rules of justice established by convention, we have to bring in some element of sympathetic imagination, or some intrinsic social character of men, before we can effectively get our formulae realised in action. Purely egoistic social units neither could nor would consistently practise the rules of justice. These rules, if we allow their partial origin in egoistic conflict, must somehow be attached to the sympathetic impulses that issue more directly in another class of virtues. Thus Hume, deducing the virtues of benevolence directly from sympathy, was able to incorporate in his ethics, with some modification, the theory of the egoistic origin of justice. According to Hume, in a society of which all the members were perfectly benevolent, justice would be superseded. It has its