THE COMIC AS ILLUSTRATING THE SUMMATION-IRRADIATION THEORY OF PLEASURE-PAIN.

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The comic and the tragic are in many respects the clearest exemplifications of the general law of emotion—the comic throwing especial light from the side of the conditions of pleasurable repose, the tragic from the side of the heightening of tone. The explosive character of these experiences, contrasted with the contemplative aspect which other forms of æsthetic enjoyment present, renders analysis comparatively easy. The culmination of the æsthetic moment is less intellectual, more sensuous, which means that it takes place in terms of grosser motor coördinations, whereas the æsthetic repose of beauty in other modes is a resolution in terms of accessory muscles, finer habits and adjustments, which do not arouse the elemental emotions or, when they do, subject them to a greater degree of control.

Up to a certain point the conditions of the comic and the tragic consciousness, as of laughter and weeping, are identical, as Darwin has sufficiently shown; but beyond that point they diverge, giving rise to distinct problems of dramatic art. It is not the purpose here to trace this divergence, but the connection is pointed out since, as will appear later, it is one of the corollaries of the present argument, that the make-believe of the tragic drama is essentially an expression of the spirit of Comedy.

I. THE SUMMATION-IRRADIATION THEORY.

The pleasurable emotion which accompanies laughter exhibits the two fundamental phenomena of emotion as it exists everywhere: the initial summation of stimuli, followed by an irradiation or discharge which may take place either abruptly or in a more gradual way. The summation of stimuli is not pecul-

iar to pleasure, but is the condition of all emotional experience, being characteristic, as well, of pain. Thus the cumulative process in the case of sneezing or tickling readily passes from a pleasurable into a painful experience. On the other hand, the phenomena of irradiation seem to be more distinctive of pleasure, pain being due to the failure of summated stimuli to find such discharge.

Agreeable emotion is connected with such massing of stimuli as leads to a response within the normal limits of the functional capacity of the organism, while pain accompanies the piling up of stimuli and the subsequent discharge when these exceed the limits of such normal functioning. Thus moderate stimulation and exploiting of a habit are pleasurable, while any serious thwarting is painful: the habit in the latter instance may function, but this takes place under normal stress and beyond the limits of its ordinarily easy and therefore agreeable operation. Excitement and the overcoming of obstacles is pleasurable only if it results in the final triumph of a habit. Educational and other intellectual processes when kept within the confines of what is called interest are pleasurable, but carried beyond that point for the sake, it may be, of what is called mental discipline, these processes become irksome. In Mark Twain's entertaining story of the first pair, Adam and Eve in naming the animals are represented as deciding to call the toad a toad because it looked so very much like a toad. Why is it that this inane statement calls forth a smile when a scientific statement of the morphological characters of the arciferous tailless amphibian would elicit only a yawn? Because the former involves the falling back physiologically upon preëxistent habit-systems, functioning agreeably, while the latter involves their tensional reconstruction beyond the limits of such functioning.

Generalized in the more technical phraseology, the law of emotional experience has been expressed thus: 'The conditions of pleasurable feeling are the irradiation, along lines of habitual response, of stimuli whose summation and discharge fall within the limits of the normal functioning of the organ or organs

¹ Bawden, 'The Nature of Æsthetic Emotion,' *PSY. REV.*, Vol. XV., pp. 265-291. Also in *Principles of Pragmatism*, Chapter IV.

involved. The physiological mechanism of laughter is one of these lines of habitual response, a prominent and important one in the case of the experience of the comic. But, in addition to the cruder mechanism of cacchination, there is the less well understood but equally important system of sensorimotor connections in the cortex, with their ramifications to the finer musculatures of optical, laryngeal, and facial expression. These are of permanent importance in the case of the comic as an æsthetic appreciation, since this experience seems to attain the highest level of development under circumstances in which the cacchinatory discharge is partially or wholly inhibited.

On the physiological side our knowledge of the sensorimotor adjustments here involved is still imperfect and incomplete, although the neurologists and experimental psychologists are laying the foundations upon which an explanation will some day be built. But the analytic psychologists have carried the study of the content of the consciousness of the comic to a point which, in certain directions, enables us to make significant correlations with such physiological knowledge as we do possess. A German psychologist, Zeising, has happily epitomized the successive stages in terms which enable us to interpret this analytic content in connection with the psychophysical processes: he describes the experience of the comic as 'tension, discharge, and recovery of poise as we free ourselves.' The tension or summation is expressed by the 'expectant attention,' 'great expectations unfulfilled,' of the classic treatises. The irradiation or discharge is seen in the typically abrupt or explosive character of the comic. The recovery of poise or control is the counterpart, in the comic, of what is elsewhere known as the æsthetic repose.

II. 'TENSION.'

The phenomena of summation or tension are readily recognized on the physical side in the overt reactions or incipient innervations of the motor apparatus involved, such, for example, as the convulsive paroxysms of the diaphragm and the half-born grimaces of the facial muscles. Expectancy, a prominent element in every experience of the comic, illustrates at once the 'set' of the habit-systems and the summative stimulation by

which the abrupt kaleidoscopic reorganization is to take place. The half-suppressed laughter of the titter, the giggle, and the snicker illustrate the instability of the motor mechanism. The ticklish places, as Darwin points out, are those most exposed to attack, in the sense of being the most organically vital. The musculatures clustered about such places are, accordingly, in most unstable equilibrium. The intensity of the comic experience, as we know, is dependent in part upon the state of the habit-systems immediately preceding the climax of the stimulation. This summation of stimuli is the state of expectancy. Such a state may either develop an increasingly unstable equilibrium up to the moment of discharge, as in the case of the less intellectual forms of the comic such as humor, or a distinctly antagonistic attitude may be intermittently evoked, thus enriching the cognitive content of the final discharge, as in the case of the more intellectual forms such as wit.

Expectancy is invariably utilized by a good story-teller. It matters little how the attitude is aroused. Anything will serve which will throw the listener into a state of motor instability or, what is the same thing, into a state of incipient response. Many persons secure this by themselves laughing as they recount the anecdote or tell the funny story. The contagious gestures and facial expressions of the speaker go far to put the hearer into an attitude to respond readily when the climax is reached, and all know that when such a dynamogenic attitude has once been induced, one will laugh at events and remarks which under ordinary circumstances utterly fail to evoke merriment. The reason why the ludicrous does not bear too frequent repetition and sometimes none at all, is found in this principle of expectancy.

On the mental side, the tension appears in the contrasts, contrarieties, and incongruities of the ideational content, which may take the form of practical disadaptations, intellectual contradictions, or ethical conflicts. Practical inadequacies abound in the conditions of the comic, as illustrated by the ludicrous in situation and incident and by the practical joke. The difference between this class and logical incompatibilities is simply that in the latter instance the conflict takes a less concrete and overt form.

The determination of our understanding 'to form simultaneously two contradictory statements,' to which Dumont traces the comic, is simply a psychological statement of the conflict of habit-systems. The same may be said of the theory of Sully who says that "the jest must contain something that is capable of deceiving for a moment," and of Schopenhauer for whom "the phenomenon of laughter indicates the sudden perception of an incongruity between a conceptual and a real object." The humorous character of many lapses of speech turn on such an equivocation or contradiction in meaning. The words of the preacher who in the midst of his sermon exclaimed: "Have we not all of us at times felt a half-warmed fish within us!" would not have been comic if the substitution of initial consonants had not made a certain semblance of sense. It was the arousal of this incongruous conflicting association-complex connected with 'half-warmed fish' that led to the humor of the situation when its accidental character was discovered.

The *double entendre* of the pun illustrates the rivalry of habit or apperceptive systems on a slightly higher level. The pun probably originated in a lapse. A cat chasing its tail is jumping at conclusions, to be sure, but since the fore-part of the sentence arouses one apperceptive system and the latter part such a very different one, a momentary conflict is set up which resolves itself agreeably as we at once vindicate the cat and save our logical terminology. The same general principle may be recognized as operative in the reply of David Garrick (who was small of stature) to a woman who had expressed the wish that the great actor were taller, that he might appear to better advantage on the stage: "Truly, madam," he said, "I am sorry that I cannot stand higher in your estimation."

Most theories of the ludicrous have dwelt on the factor of incongruity. And this is doubtless indispensable in order to bring about the tension whose sudden resolution results in the irradiation prerequisite to the pleasurable emotion. But equally important and even more fundamental is the factor of congruity. Mere surprise, abrupt transition or sudden movements will make the child laugh, but such cacchination is scarcely to be regarded as expressing an appreciation of the comic, being probably a

mere reflex. It is essential to the comic as an æsthetic experience that there shall be a more or less elaborate background of meanings the disturbance of which is the condition of the incongruity. The situation must first mean something before the irruption of a new meaning can create a conflict of meanings. Sully quotes Rolfe as saying that "he who cannot enjoy nonsense must be lacking in sense." Nonsense is not no-sense but a category of sense. This raises a question the satisfactory answer to which would involve a nice piece of discriminative introspection and analysis: How irrelevant may the details of a situation be and yet be ridiculous, or, in other words, what are the limits within which congruity and incongruity are comic?

It is evident that the disadaptation or incongruity must not be too great nor involve serious practical or ethical consequences, and, on the other hand, the unexpected congruity must not be too relevant or morally significant. When, with Lord Raleigh, we call the negro 'God's image carved in ebony,' the felicitous expression, for many persons with vivid memories of the issues of a bloody war, is too significant to be comic. So with Thomas More's remark to the headsman, that although he required assistance in mounting the scaffold, he would shift for himself in coming down. One may smile only when he is able to abstract from the actualities of the situation.

Discrepancies on the moral side are less easily interpreted. The fact of inconsistency with some ethical standard may have something to do with the tensional phase, and possibly the consciousness of superiority in the subject may explain the pleasure gotten from contemplating moral delinquency on somewhat the same principle that the savage and the child laugh at physical deformities and the uncultivated laugh at a stupid remark. But probably the comic element in the immoral lies in the momentary relapse of the conventional mind to some more primitive type of reaction. This is certainly borne out by the jokes on sacred subjects, the coarse jokes of the 'virile' man in uncovering sexual matters, etc. Many writers have hinted that there is something essentially immoral in the comic. Charles Lamb suggests that a leading element in the enjoyment of certain forms of comedy consists in the fact that they free us

from the burden of our habitual moral consciousness. Aristotle says that Comedy is "an imitation of characters of a lower type, and that the ludicrous is a subdivision of the Ugly, consisting in some defect or ugliness which is not painful or destructive." The Fuegians, says Sully, laughed uproariously at a white man's washing his face, and adds that the comic involves the "presentation of something in the nature of a defect, a failure to satisfy some standard requirement, as that of law or custom, provided that it is small enough to be viewed as a harmless plaything," such, for example, as failure to comply with a social convention, yet "so trifling that we do not feel called upon to judge the short-coming severely." This theory of degradation or principle of lowered dignity is often called the moral theory of the comic, since it holds that there is something unworthy or mean and contemptible in the ludicrous object.

III. 'DISCHARGE.'

The irradiation or discharge and subsequent recovery of poise as we free ourselves is due to the relatively abrupt coalescence and reinforcement of habit systems. The relative unexpectedness, abruptness, suddenness, surprise of the final resolution of tension has been dwelt upon in all attempts to analyze the comic situation. The ludicrous, as one writer has phrased it, is "an approximately instantaneous revelation of an incongruous congruity." Laughter, says Kant, "is an affection arising from the sudden transformation of a strained expectation into nothing."

In the more elementary forms of the comic the irradiation or discharge is of an abrupt and even explosive character. As has been said, mere abruptness of transition in itself, such as a sudden or jerky movement, is sufficient to make a young child laugh, and this is part of the stock-in-trade of the professional clown. It is true also that "brevity is the soul of wit." "When we hold our breath in expectation, and then undergo a violent change of tension through the expectation coming to nothing," says Bosanquet, "we certainly go through a process like that which Kant describes" in his famous definition of laughter.

Abruptness in the cruder sense is not however indispensable,

as is evident from those types of the comic in which one feels suffused with the humor of a situation or quietly wrapped in the pleasurable moment rather than swept away or convulsed by it. Thus the story is told of a lad who was kept after school and punished by being required to write an essay of one hundred words. He wrote the following composition: "Jack went to the door and called 'Kitty, kitty, kitty, kitty' . . . (ninety-three times)." All that seems necessary in many instances is the establishment of a connection, involving not too many transitions, with some apperceptive system which has pleasant associations, as, for example, when the patriotic geographer said that America was bounded on the North by the *Aurora borealis*, on the South by the torrid zone, on the East by the history of the past, and on the West by the Day of Judgment.

The factor of surprise in the emotion of the ludicrous is the emotional counterpart of the fact of irradiation. The relief of the laugh and the repose of the smile illustrate the effects of the pleasurable diffusion of accumulated energies. In ordinary cases of the comic, as Sully says, "the disagreeable feeling of disturbance begins at once to give way to a pleasurable form of consciousness," the whole experience being best described as a "transition (or rapid series of transitions) from a feeling of confinement or contraction to one of liberation or expansion."

IV. 'RECOVERY OF POISE.'

The prerequisite of the comic is that we shall be left in control of the situation; as Miss Puffer says, there 'must be a way out.' In accordance with the theory of emotion which has been set forth, the comic is connected with the fact of relatively abrupt relief from the tension which accompanies the vigorous exploiting of habit-systems. The smile, Sully remarks, is the position of the features when food is presented, the laugh being merely the smile combined with the *eh* sound which expresses relief from tension. The sense of relief comes from the fact that the apparent break or disadaptation suddenly turns out to be really an adaptation. Its pleasurable character is due to the fact that the summated energies of the organism are thereby enabled to irradiate along familiar lines before the inhibition

has been carried to the point of pain. The comic thus describes the same situation that, beyond a certain point, would be called tragic. As Horace Walpole put it, life is a comedy to him who thinks, but a tragedy to him who feels.

The consciousness of superiority or sudden glory in the subject, of which Hobbes speaks, 'taking somebody down,' or, what is the counterpart of this, the sense of inferiority or degradation in the object, would seem to be but clumsy ways of expressing this fact of control. Bain follows him in defining the occasion of the ludicrous as "the degradation of some person or interest possessing dignity in circumstances that excite no other strong emotion." Lipps says that in the incongruity there must be a belittling presentation. Carlyle in milder terms speaks of a sense of the ridiculous as a brotherly sympathy with the downward side. "Twenty-seven millions, mostly fools. Well, better fools than knaves."

The savage laughs at the sight of a man chastising his wife. We laugh at the little mischance of capsized pompousness, at inflated pride followed by a fall. We smile at the embarrassed youth, the bashful maiden, the naïveté of the child. We laugh at the German, mentioned by Sully, who when asked how his wife was, said: "She is generally lying, and when she is not lying she is swindling," meaning to say 'lying down' and 'feeling giddy' (hat Schwindel),—and at the child who when asked, "Isn't Grandpa very kind to play with you, Dear?" replied: "I'm playing with *him*,"—and at the old lady who said she could grasp the fact of the astronomers' finding new stars with their improved telescopes, but what she could not understand was how they discovered their names.

The ludicrous character of the grotesque, burlesque, satire, ridicule, the lampoon, and the practical joke all lend themselves to this interpretation. Humor and wit are less easily explained. And, yet, it is believed that a careful analysis will show that the principle holds here as well, as disclosed by the social value of a sense of humor. Laughter because of its contagiousness and its effect in cementing social distinctions is one of the most powerful factors in developing a sense of social solidarity in the individual. Ridicule is one of the instruments evolved by the

group for the socializing of its recalcitrant members: it rounds up the mavericks of the human herd — the prigs and pedants, cranks and dreamers, the absent-minded man, the man-of-one-idea, and the man-behind-the-times.

“Anything in the shape of a feeling of inferiority to, or even of respect for, the laughable person inhibits the laughter of the contemplator,” says Sully, or “if a person finds himself distinctly involved in a disgrace, the absurd situation, or whatever else provokes laughter, he no longer laughs, or laughs in another key. I see my estimable fellow-pedestrian lose his hat at a street corner where the wind lies in ambush: my soul expands exultingly. The moment after, I, too, may fall a victim to the ambushade, in which case I probably stop laughing and become the subject of a different emotion.” And another fact is still more decisive. “If no superiority is implied in our common laughter at others, how does it come about that we all have so very obstinate a dislike to being made its object?”

V. THE COMIC AND THE TRAGIC.

This suggests, in conclusion, that laughter is the most primitive æsthetic experience. To weep, it might be said, is equally elemental, but, save in Tragedy, it is not æsthetic, whereas the roots of the comic reach far back of the origins of Comedy. The essence of the æsthetic experience is a stimulating repose, just what we find, for the first time clearly, in primitive laughter — a rudiment upon which Tragedy is grafted at a comparatively late date by a curious process of inversion.

The primitive hunt dance, an extemporaneous celebration, perhaps, of some recent triumph, is only an elaboration of the sigh of relief and the consciousness of success which follow upon any strenuous activity. The more or less detail of stimulating ideational content which accompanies this emotional overflow is naturally derived from the serious occupation which has been thus brought to a satisfactory culmination. This content, if it serves to sustain and control such an emotional outburst, is in a fair way to become æsthetic, inevitably first taking the form of Comedy, since it is a universal law of emotion to expand pleasurable and restrict painful fields of consciousness. That

this would be so is borne out by the fact that in early pantomime the portrayal of tragic situations often passes insensibly into real tragedy, a mock war dance, for example, ending in a bloody conflict.

The tragic, while doubtless present to the fullest extent as a part of the material represented in such a dance, is there however not to excite a vicarious pity and fear, in the sense which Aristotle attached to these words, but simply as a feature of the revived content thrown into the central glow of the dramatic representation in so far as it contributes to the enhancement of the total pleasurable recall. It would seem to require a considerable advance in sophistication and self-analysis before the tragic emotions might be held in suspense on the attenuated thread of conscious self-illusion, and the development of a high level of inhibition and self-control before a vicarious might supplant the immediate response to so strong a stimulus. The comic, therefore, as a form of art, would appear to antedate the tragic, however intimately they may be originally associated in the direct experience.