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A NEW THEORY OF LAUGHTER*

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In the first century the Roman Quintilian complained that no one had yet explained what laughter is, though many had tried. And even with all the philosophers and psychologists who have tackled the problem in the intervening centuries, the story is pretty much the same today – we are still without an adequate general theory of laughter. The major difficulty in constructing a comprehensive theory is that we laugh in situations which are so diverse that they seem to have nothing in common but our laughter. We laugh not only at humor, but also when we are tickled, when a magician makes an object appear or disappear, when we regain our safety after being in danger, solve a puzzle or win a game, run into an old friend on the street, anticipate some enjoyable activity, and feel embarrassed, to name a few representative cases.

In the face of this diversity, many have suggested that there could not be a single formula which covered all laughter situations. The correct approach, they say, is not to look for an essence of laughter, but to treat laughter situations in the way Wittgenstein treated games, as a set whose members showed only family resemblances. Most of the work currently being done by psychologists on laughter and humor takes this approach, and simply catalogs different kinds of laughter along with their more interesting features.

Now while I heartily agree with Wittgenstein's complaint that bad philosophy often springs from an aversion to dirtying one's hand with empirical details, I think that when we examine the details of laughter situations, we can find an essence to laughter. And a good way to gain the insights necessary for constructing a comprehensive theory of laughter is to examine the three traditional theories; though none of them is adequate as a general theory, they each have features which belong in a general theory.

The oldest, and probably still the most widespread theory of laughter is that laughter is an expression of a person's feelings of superiority over others. This theory goes back at least as far as Plato and Aristotle,[1] and was given its

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classic statement in Hobbes, who said that laughter expresses "a sudden glory arising from some conception of some eminency in ourselves, by comparison with the infirmity of others, or with our own formerly"[2]. In our century many have adopted versions of the superiority theory. Albert Rapp, for example, claims that all laughter developed from one primitive behavior in early man, "the roar of triumph in an ancient jungle duel".[3] Konrad Lorenz and others treat laughter as a controlled form of aggression; for them the baring of the teeth in laughing is a way of asserting one's prowess.

Now some have responded to the superiority theory by denying the reality of hostile and derisive laughter. Voltaire, for instance, wrote that "laughter always arises from a gaiety of disposition, absolutely incompatible with contempt and indignation"[4]. But this response is naive. Clearly people do laugh in scorn at other people, and have done so throughout recorded history. Even in Voltaire's day it was common for the rich to amuse themselves by taking a coach to an insane asylum to taunt the inmates. We may feel that people *should* not laugh in derision, but that is another matter.

The proper way to criticize the Hobbesian theory, I think, is to show that not all cases of laughter involve feelings of superiority, and hence that the expression of 'sudden glory' cannot be the essence of laughter. The laughter of the baby at being tickled or at peekaboo, for example, cannot be attributed to a sense of superiority in the baby, because these kinds of laughter occur before the baby is capable of self-evaluation, indeed before the baby even distinguishes himself or herself as a being separate from the surroundings. There are many situations in which adults laugh, too, where there need be no feelings of superiority. We can laugh on being tickled, on seeing a magic trick, or on running into an old friend, all without self-evaluation. Indeed, if there is self-evaluation in laughing at the magic trick, the laugher would have to judge himself inferior, in at least one respect, to the magician who has fooled him. Much merely verbal humor, such as the use of excessive alliteration or the pun, can make us laugh without triggering any feelings of superiority. And the same is true of lots of absurd humor, such as the sight gag in which a physical law is apparently broken. The superiority theory, then, will not do as a general theory of laughter.

The second theory I want to look at is the incongruity theory, which had its beginnings in some scattered comments in Aristotle, but did not come into its own until Kant and Schopenhauer. The basic idea behind this theory is very simple. We live in an orderly world where we have come to expect cer-

tain patterns among things, properties, events, etc. When we experience something that doesn't fit these patterns, that violates our expectations, we laugh. As Pascal said, "Nothing produces laughter more than a surprising disproportion between that which one expects and that which one sees"[5]. Or in Kant's terminology, "Laughter is an affection arising from the sudden transformation of a strained expectation into nothing"[6]. Schopenhauer explained the incongruity behind laughter as a mismatch between our concepts and the real things that are supposed to be instantiations of these concepts.[7]

Like the superiority theory, the incongruity theory clearly covers many laughter situations. In fact, I think that with proper refinement it can account for all cases of humorous laughter. But it is not comprehensive enough to cover all the non-humorous cases. The laugh of the 5-month-old baby at being tickled involves no incongruity, for the baby's cognitive capacities do not yet include noticing incongruity. Even adult laughter need not involve incongruity; consider our laughter on winning a game or on anticipating some enjoyable activity.

Here, too, we might mention one of the refinements which the incongruity theory would require to serve as an account even of humorous laughter, for it will be important when we come to construct our own general theory of laughter. It is that not just any incongruity which a person experiences will trigger laughter: the experience must be felt as pleasant by the person. An incongruity which evokes negative emotions such as anger, fear, or indignation, will not do the trick. If I opened my bathroom door to find a large pumpkin in the bathtub, for example, I would probably laugh. But if I found a cougar in the tub, I would not laugh, though this situation would be just as incongruous.

The last theory I want to consider is the relief theory. Though reference to the power of laughter to relieve us of nervous tension goes back to Aristotle's comments on catharsis in comedy, the notion that laughter is a release of nervous energy was not carefully worked out until the 19th century. In an essay called 'On the physiology of laughter'[8] Herber Spencer claims that our emotions are, or at least in our nervous systems take the form of, nervous energy. And nervous energy tends to beget muscular action. In fear, for example, we make incipient movements of flight; if the fear becomes great enough, we actually flee. As anger builds up we clench our fists and make other aggressive movements; if the anger reaches a certain intensity we may attack the person who has angered us. Now laughter differs from these kinds

of release of energy, according to Spencer, in that the muscular movements in laughter are not the early stages of larger movements associated with some emotion. Laughter, even if intense, does not lead to practical action such as flight or attack. Laughing, rather, is *just* a release of energy. It occurs, Spencer says, when some emotion has built up but then is suddenly seen to be inappropriate. If someone feels fearful because she thinks she hears an intruder in the house, for example, then upon discovering that it was only the cat she might break into laughter.

Spencer's theory influenced many subsequent theorists of laughter, including Dewey and Freud.[9] Freud's theory is complex, and involves much more than the notion of the release of excess nervous energy. Indeed, to discuss it thoroughly would involve a discussion of Freud's general psychoanalytic theory. But it is not necessary for our purposes to explore all the details of Freud's theory. If we understand the basics, we can see how it qualifies as a relief theory.

Freud's theory of laughter is found in his *Jokes and Their Relation to the Unconscious.* Here he distinguishes three kinds of laughter situations, which he calls 'jokes', 'the comic', and 'humor'. The core of the theory is that in all laughter situations we save a certain quantity of psychic energy, energy that is usually employed for some psychic purpose but which turns out not to be needed. The discharge of this superfluous energy is laughter. In joking, he says, we save energy that is normally used to suppress forbidden feelings and thoughts; in reacting to the comic we save an expenditure of energy in thought; and in humor we save an expenditure of energy in emotion.

Freud's distinction between joking, the comic, and humor, turns out to be highly artificial, and his explanation of how the different forms of psychic energy become superfluous and are released, is implausible in many places. But we need not go into all the weaknesses of Freud's theory here, for the basic fault it shares with other relief theories – its lack of comprehensiveness – is enough to make it unsuitable as a general theory of laughter.

Clearly there is a connection between some laughter and the relief of nervous tension. We have all had the experience of being in danger, say of falling, and then laughing on regaining our security. But it is a big jump from observations like this to the claim that all laughter involves, or *is*, the release of nervous energy. In many situations no emotion or excess nervous energy has built up before the laughter, and so the laughter could not be the release of emotion or excess nervous energy. (The laughing itself involves the

expenditure of energy, of course, as any muscular movement does, but that is not energy which has somehow been building up within the person.) Consider, for instance, the cartoon below.

Drawing by Levin © 1979, *The New Yorker Magazine, Inc.*

This cartoon can have its effect on us in a second or two, which is hardly long enough to arouse any emotion in us, much less to arouse some emotion and then show it to be inappropriate. But then, perhaps, as Freud suggests, we may have brought some repressed emotion into our situation of viewing this cartoon, which that viewing allows us to release.[10] That may be the case with some people who laugh at this cartoon, but it seems that we can also laugh without releasing any repressed feelings at all. The cartoon is not sexual, and so, presumably, in laughing we are not releasing repressed sexual feelings. And though someone might laugh in scorn at the two characters here, and thus release repressed hostility toward optometrists or people in general, we don't have to have repressed feelings of hostility in order to enjoy this cartoon.

Freud might try to handle a case like this by classifying it not as an instance of joking, but as an instance of the comic, where we are supposed to save an expenditure of energy in thought, or an instance of humor, where we save an expenditure of energy in emotion. But Freud's treatment of the latter two categories is highly problematic, for it never justifies the transition

from saying that a certain amount of energy, of thought or emotion, *is saved*, to saying that the energy saved *is a packet of actual energy* built up in the nervous system. When in a particular laughter situation we don't have to expend psychic energy in thinking or feeling emotion, 'saved energy' need not refer to real energy that has been summoned, has been found superfluous, and now requires discharge: it may simply mean energy that was never generated. Freud's reasoning in all his discussions of the saving of expenditure of psychic energy is faulty in the same way as a sales pitch I heard once in a TV commercial for a company that sold swimming pools: "And with all the money you save on the pool and the filter, you'll be able to buy our deluxe diving board".

The relief theory, then, like the superiority theory and the incongruity theory, will not do as a general theory of laughter. But although these three theories are inadequate, each of them draws our attention to important aspects of laughter. A comparison of these theories, in fact, suggests two general features of laughter situations which can form the basis for a comprehensive theory.

The first feature is the change of psychological state involved in laughter situations. This change may be primarily cognitive, as the incongruity theory shows – from a serious state of perceiving and thinking about things that fit into our conceptual patterns, to a non-serious state of being amused by some incongruity. The change may be primarily affective, as in certain cases described by the superiority and relief theories in which laughter accompanies a boost in positive feelings, a cessation of negative feelings, or the release of suppressed feelings. Or the change may be both cognitive and affective, as in cases of hostile humor. We'll say more about the various kinds of psychological change involved in laughter in a moment.

Not just any change in psychological state will trigger laughter, however. As the three theories considered earlier show, the change must be sudden. To laugh, we must be caught offguard by the change so that we cannot smoothly adjust to what we are experiencing. We can build this element of suddenness into our notion of a psychological change by henceforth talking not about psychological changes, but about psychological 'shifts', which will be understood to be *sudden* changes.

The second feature which must be added to our characterization of laughter situations is that the psychological shift is felt as pleasant. Enjoying self-glory, being amused by some incongruity, releasing pent-up nervous

energy – all these feel good, and can cause us to laugh. An unpleasant psychological shift, on the other hand, will not normally lead to laughter (though we shall have to say something later about the apparent counterinstance of laughter in embarrassment).

Now we can put these two features together into a single formula for characterizing laughter situations in general:

LAUGHTER RESULTS FROM A PLEASANT PSYCHOLOGICAL SHIFT.

I say 'results' here because laughter is not the psychological shift itself, nor the pleasant feeling which the shift produces. Laughter is rather the physical activity which is caused by, which expresses, the feeling produced by the shift. The feeling itself we might call 'amusement' or 'mirth' though we have no single, agreed upon word to designate the feeling which is expressed in laughter. (The lack of a word here is not merely linguistically troublesome, for it has caused some theorists to not distinguish clearly enough between laughter as a physical behavior, and the feeling – amusement, we'll call it from now on – which laughter expresses.)

Now the formula above is very general, but that is just what we should expect. Narrower formulas that are limited to just one kind of psychological shift, as we have seen, are not comprehensive. Generality would be a problem here only if it made our theory vacuous as applied to specific laughter situations. But as I'll show, this is not the case. And to see how our theory applies to laughter situations in an illuminating way, I would like to use it to explain the development of different kinds of laughter in the child; for here, especially in connecting non-humorous laughter with humorous laughter, is where previous theories have failed.

When an infant first laughs at about 3 or 4 months, it is not as a response to humor, of course, because his[11] simple psychology does not yet include such things as the appreciation of incongruity. Indeed, he is not even able to perceive objects or distinguish his own body from what is not his body. The earliest kind of psychological shift which the infant experiences is not conceptual, nor even perceptual; it is merely a shift in sensory input. The baby's first laughter will probably be caused by tickling, in which he alternately feels stimulation on his skin and underlying tissues, and does not feel stimulation. Being tossed in the air and caught provides another kind of shift, this one in kinesthetic sensations, that brings on laughter in young infants.

As the baby learns to perceive objects a new kind of shift, a perceptual shift, becomes possible, as in the game of peekaboo. At the cognitive stage where infants laugh the most at peekaboo, they can perceive objects but are not yet aware that those objects continue to exist when they are not being perceived. Before the age of about 8 months, as Piaget has shown, *esse est percipi* for infants. Peekaboo for them is not the alternate covering and uncovering of someone's face, but the alternate existence and non-existence of that face. Under the right conditions, this perceptual shift will be pleasurable to the baby and he will laugh. If the non-existence phase of the shift lasts very long, of course, the baby may feel distress at what from his point of view is his being abandoned; then he may break into tears instead of laughter. Indeed, even in peekaboo that amuses him, the shift is usually not merely perceptual but also affective – there is a mild, temporary negative feeling at the disappearance of the face, and a boost of positive feeling when it reappears. Babies enjoy peekaboo only with familiar faces of people they feel attached to.

The earliest kinds of laughter in the child, then, require no sense of humor but are based merely on sensory and perceptual shifts. Humor comes a few years later when the child is capable of enjoying another kind of shift, a conceptual shift. By the age of three or four, the child not only perceives objects but has a set of concepts for understanding them. He distinguishes people from animals, for example, and food from what is not food. He has a counting system, perhaps, and knows that some kinds of things, such as oranges, have typical colors. He has also learned other patterns among the things, properties, and events in his experience. Snow and cold go together, as do dogs and barking, and dropping glasses and their breaking. And you know the rest of the story from reading Hume. We do not need to get into the fine points of conceptual development here; for our purposes it is enough to understand that the child develops a conceptual system, or picture of the world, which is based on his experience and which is the basis for his expectations.

Once the child has such a scheme of the way things are supposed to be, and has operated with it for awhile, he can begin to enjoy humor. If someone puts on a dog's head from a costume, he won't simply be surprised, as the baby might be, by the newness of this experience – he will be jolted by the incongruity of this dog/human. His conceptual system, in which a dog is one thing and a person another, will have been violated. The child, too, will run

together incompatible ideas by himself, as in saying 'Daddy is a baby' and the like, to achieve this same conceptual shift. And as he gets older and his conceptual system grows more sophisticated, his capacity for enjoying and creating humor will grow. He will come to laugh at the incongruity in word play, in violations of social mores and the apparent violations of physical laws, etc. Wherever he develops a pattern in his thinking, in short, there is room for a violation of that pattern and so for humor.

Though humor always involves the enjoyment of a perceived or imagined incongruity, often this enjoyment is accompanied by and boosted by our simultaneous enjoyment of an affective shift. If I see a character in a film accidentally lean against the lever of a slot machine and thereby hit the jackpot, I might be amused by this incongruity. But if I were to do the same thing accidentally in a gambling casino, my laughter might be all the greater because my enjoyment of the incongruity would be boosted by my positive feelings toward my sudden good fortune. Similarly in hostile humor, our expression of feelings of superiority at our enemy's downfall, say, can boost our enjoyment of the incongruity involved. If I hate my neighbor because he flaunts his wealth, for example, then in watching him fall into his swimming pool in his new $500 suit, I might enjoy both the incongruity of this accident, and the suffering it causes him. A pleasant affective shift is never sufficient for humor, though it may be for non-humorous laughter; nor is a pleasant affective shift necessary for humor. And so both the superiority theory and the relief theory are off the mark in seeing the essence of humor in an affective shift rather than in a conceptual shift. Any particular instance of humorous laughter, nonetheless, *may* involve a pleasant affective shift boosting the enjoyment of the conceptual shift.

Our formula that laughter is an expression of pleasure at a psychological shift, then, applies in an illuminating way to the development of different kinds of laughter in the child. And if we return to the diverse laughter situations mentioned at the beginning of this paper, we can see that it applies to them as well. We have already discussed laughter at humor and laughter at tickling (though in older children and adults tickling is more complicated than in babies), so let's look at the other situations listed. The laugh on seeing an object appear or disappear is based on a shift similar to the perceptual shift experienced by the infant in peekaboo. We see an empty box, and then without any apparent change in the box, suddenly we see a tiger in it. All the other laughter situations mentioned, except for the laugh of embarrassment

(which we'll treat at the end), involve shifts that are basically affective in nature. In regaining our safety, say after almost falling, what makes us laugh is the sudden change from feeling fearful and tense to feeling secure and relaxed. In solving a puzzle or winning a game, there is a similar shift. If the solution or victory comes easily, we are not likely to laugh. But if we have had to struggle and have been feeling frustration and tension, then the shift from that emotional state to the positive one of solving the puzzle or winning the game may well make us laugh.

The shift which causes laughter, moreover, need not be from a negative emotional state to a positive one. It may be from a non-emotional state to a positive emotional state. In the situation where I run into an old friend on the street, I may well be experiencing no emotion at all before I see her. But then as I recognize her face and rush toward her, I feel sudden excitement. The shift from feeling no emotion to feeling strong emotion here will be pleasant, and my hearty laughter will be the expression of my pleasure. Even the shift from a neutral emotional state to simply thinking about something that arouses positive emotions can be enough to trigger laughter, as when we laugh in anticipating some enjoyable activity or in recalling some particularly fond memory.

The last case on our list, laughter in embarrassment, at first seems to be a counterexample to our theory, for though we may experience a psychological shift when we suddenly feel embarrassed, clearly it is not a pleasant shift. To see how the laugh of embarrassment does fit into our theory, we need to realize that although laughing is the natural expression of amusement, it is also a piece of behavior which is to a certain extent under our control. An analogy may be drawn here with a purely physical semi-voluntary behavior like coughing, which, though it evolved as a physiological mechanism to clear the throat, can also be performed as an action when there is nothing irritating the throat. Laughing is the natural expression of amusement, and in this respect is, like 'non-performed' coughing, an involuntary behavior. But the muscles involved in laughing are voluntary muscles, and so laughing can be performed as an action independently of our being in any particular psychological state. If we are in a play, we will laugh at the appropriate moment not because we're amused but because the script calls for us to perform this action. We often force a laugh, too, as when our boss tells a corny joke, in order to make someone think that a joke amused us. And this can work, of course, only because there is a natural connection between involuntary

laughter and amusement.

Laughing in an embarrassing situation is likewise a case of feigning amusement by feigning involuntary laughter, though in most people it is probably less calculated than laughing at the boss's jokes, because it is a behavior learned earlier in life and used more habitually. (In this respect it is similar to the itchless scratching many people do when they're nervous, and of which they're not aware.) When we are embarrassed we feel self-conscious and uncomfortable, but don't want to *appear* self-conscious and uncomfortable to the other people in the situation, for that would only make things worse. And so we perform the action of laughing as if it were not an action but an involuntary expression of amusement. If we are laughing and therefore are amused, the implicit message is, we must be enjoying the situation and not be uncomfortable.

Our account of laughter as a natural expression of amusement, to conclude, is not vitiated by laughter in embarrassment. It is a fact that the muscles involved in laughter are also under our voluntary control, so that we can feign involuntary laughter; but this does not invalidate our theory any more than our ability to cough on cue makes it false that coughing is a physiological mechanism for clearing the throat.

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NOTES

* An expanded version of this article will appear as Part One of my *Taking Laughter Seriously*, forthcoming from the State University of New York Press. I am grateful to the editors of *Philosophical Studies* for permission to use segments of this article in that book.

[1] Plato, Republic, III, 388; Republic, V, 452; Laws, VII, 816; Laws, XI, 935–936. Aristotle, Rhetoric, II, 1389b, 10–11; Nicomachean Ethics, IV, 1128.

[2] Thomas Hobbes, Human Nature, in Molesworth edition of Works (London, 1840), p. 46. Cf. Leviathan, I, 6.

[3] Albert Rapp, The Origins of Wit and Humor (New York, 1951) p. 21.

[4] Voltaire, Preface to L'Enfant Prodigue (Paris, 1829).

[5] Quoted in Anthony M. Ludovici, The Secret of Laughter (New York, 1933), p. 27.

[6] Immanuel Kant, Kritik of Judgment, tr. by J. H. Bernard (London, 1892), p. 223.

[7] Arthur Schopenhauer, The World as Will and Idea, tr. by R. B. Haldane and J. Kemp (London, 1964), Vol. 1, p. 76.

[8] In Essays on Education, Etc. (London, 1911).

[9] John Dewey, 'The theory of emotion', Psychological Review 1 (1894), p. 559. Sigmund Freud, Jokes and Their Relation to the Unconscious, tr. by J. Strachey (New York, 1976).

[10] In Freud's account of joking, the psychic energy discharged in laughter is not the

energy of the emotion that is no longer repressed, but the energy usually used to repress that emotion. This technicality does not affect our criticism here that we may laugh without releasing any repressed emotions.

[11] I'll presume a boy baby here.

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