

A theory of humor

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Abstract

Humor, that certain psychological state which tends to produce laughter, is fully characterized by three conditions which individually are necessary and jointly sufficient for humor to occur. The conditions of this theory describe a subjective state of apparent emotional absurdity, where the perceived situation is seen as normal, and where, simultaneously, some affective commitment of the perceiver to the way something in the situation ought to be is violated. This theory is explained in detail and its logical properties and empirical consequences are explored. Recognized properties of humor are explained (incongruity, surprise, aggression, emotional transformation, apparent comprehension difficulty, etc.). A wide variety of biological, social/communicational, and other classes of humor-related phenomena are characterized and explained in terms of the theory. Practical applications are suggested, including ways to figure out misunderstandings in everyday life.

Humor is affective absurdity

Across history from Aristotle¹ to Freud, and across all the intellectual disciplines of the humanities and human sciences, thoughtful and sensitive people have always sought an understanding of the problem of humor. Humor is an inherently mysterious and interesting phenomenon which pervades human life. The serious study of it is "part of the field" (if only marginally) in a great many academic disciplines, including at least anthropology, the classics, communications, education, linguistics, literature, medicine, philosophy, psychology, religious studies,

and sociology. Theories of humor do not tend to respect disciplinary boundaries, though writers often address themselves to the concerns of disciplinarily-restricted audiences. No particular theory or disciplinary perspective so far appears to have attained the goal of this most natural and human intellectual enterprise. Many of today's seasoned warriors on this ancient and varied intellectual battlefield feel that no single, simple theory of humor is possible: With so many theories and approaches, all with their own useful perspective, none monopolizes the truth, and another wrinkle on the elephant always hides awaiting discovery. This wise view has held true through long experience and scholarship. However, if only for the sake of the intellectual's faith that full understanding is indeed possible, one must still strive for the goal, a scientifically adequate theory of humor. Such a theory should capture the valid insights of previous thinkers, be falsifiable, accurate, complete, and insightful, and if possible, both simple and useful.

This paper is one of many² attempts at such a theory of humor. The theory is given in the form of three necessary and (jointly) sufficient conditions for humor perception. The claimed properties of necessity and of sufficiency give the theory the strongest possible force: it specifies both what is funny and what is not funny. The conditions themselves are shown in this paper to explain and predict a wide variety of facts. The theory makes strong, testable empirical predictions, and provides useful and integrated insight into previously mysterious and unrelated phenomena. There appears to be no case of either perceived humor or lack of perceived humor which the theory does not explain. It leads one to think in ways that repeatedly seem to lead to deeper insight and to satisfying explanations. The theory can be used to gain insight into other people's thoughts and feelings on the basis of their humor perceptions—even on the spot, as humor understanding and misunderstanding occurs between people in everyday situations. While subtle aspects of the theory may be improved upon, I believe it presently forms the most useful available framework for understanding humor and the minds and feelings of laughing people.

Let us postulate that there exists a *certain psychological state which tends to produce laughter*, which is the natural phenomenon or process we will refer to as humor, or humor perception. For expository purposes some word is needed to get the reader to think of properties of a mental event rather than to think of laughing, and "perception" was chosen for this. In this paper, "perception" adds no qualification to "humor": Humor

and humor perception are the same. There is only one natural phenomenon referred to here.

The term, "perception," was not an easy choice. "Perception" refers to a range of processes that have long been studied by psychologists, and the term can carry much theory and controversy with it. I use it, however, not to suggest all the (often contradictory) connotations the term has for psychologists, but simply because no better term could be found. "Interpretation," "comprehension," "understanding," or other terms serve as well in various contexts. "Perception" was chosen as primary because humor occurs involuntarily, because it appears to subjects (falsely, I would argue) to be inherent in situations rather than derived by process of reasoning, and because it is not purely cognitive.

Not all perceptions of humor actually produce overt laughter, thus "tends to produce" rather than "produces" in the fundamental postulate above; this allows for laughter with or without humor and vice versa. So there may be unobservable instances of humor perception, where it is impossible to tell if someone finds something funny or not.³ It is also possible to perform laughter, without genuinely perceiving humor, as in certain strategic, communicative acts.

The theory presented here uses the phrase "necessary and (jointly) sufficient conditions." "Necessary" means that if any of the conditions is absent, then humor perception will also be absent. "Jointly sufficient" means that if all of the conditions are present, then humor perception will be present. The theory is scientifically adequate only if necessity and joint sufficiency are in fact properties of the three conditions. If there is a case of humor which lacks any of the three conditions, then the theory "undergenerates" and is false: the missing condition is not in fact necessary. If there is a case of nonhumor which contains all three of the conditions, then the theory "overgenerates" and is also false: the three conditions together are not sufficient. A scientifically adequate theory of humor must get all the cases right: It must both include the humorous cases and exclude the nonhumorous cases. Here is the theory.

The necessary and (jointly) sufficient conditions for the perception of humor are:

- V: The perceiver has in mind a view of the situation as constituting a violation of a "subjective moral principle" (cf. next section). That is, some affective commitment of the perceiver to the way something in the situation ought to be is violated.

N: The perceiver has in mind a predominating view of the situation as being normal.

Simultaneity: The N and V understandings are present in the mind of the perceiver at the same instant in time.

More briefly and less precisely, humor occurs when it seems that things are normal (N) while at the same time something seems wrong (V). Or, in an only apparent paradox, Humor is (emotional) pain (V) that does not hurt (N). An intuitive feeling for the theory may be developed by briefly feeling bad about something (V) and then making oneself feel that that very thing is actually okay (N). Levity can arise from this simple emotional mixture alone, without any further details of situational grounding.

First, issues of notation and definition. In saying that the perceiver views the situation as normal, N, and simultaneously as a moral violation, V, I will sometimes use N and V, which are symbolic abbreviations that represent the most fundamental of emotional differences or categories. As categories in opposition to one another, V is the absence of N, and N is the absence of V. N says things are okay; V says things are not okay, something is wrong. In the psychology of emotions, N and V represent the most fundamental distinction of all, which may be described variously as nonaversive versus aversive; or normal versus moral violation; or okay versus not okay; or acceptable versus unacceptable; or good, positive or neutral versus bad or negative; and so on. The main point is that the various forms of both positive and neutral evaluations fall together as against negative evaluations in the view. The term "normal" is correctly ambiguous between neutral and positive states of affairs, which is why it is used here. Even the difference between neutral and positive evaluations is less important than the V versus N distinction between negative versus non-negative affects. It can be argued that the intricate variety of feelings and all the shades of emotional interpretation are derivative of or overlaid onto this most basic distinction, which underlies all emotional evaluations. Certainly it is quite generally possible to categorize emotions in terms of this difference.

One could discuss the biological logic of this difference: Aversive behavior is biologically more important than attraction, because it is more important to avoid catastrophe and get out of danger (of death or injury) than it is to move from a neutral state to a more desired or pleasant, positive state. But it is more concrete and useful to point out the social

aspects of this difference, which is the approach taken in the next section, where the connection is made with *moral* affects.

In discussing this theory, the subjective interpretations referred to by N and V may clearly be described in many stylistically different ways, which can lead to an unfortunate confusion as to whether or not the emotional categories referred to are well-defined. Using these category labels helps to make clear that certain fixed and fundamental entities are involved, despite the somewhat different terms in which they may sometimes be described. As you become familiar with the theory, you may develop the knack of measuring each emotional stance in situations described in this paper — and in observations of life around you — in terms of the interpretation being one of N or one of V; normality or violation; things being okay, or things being wrong. This knack of seeing through to the emotional essentials will enable you to see the argument as nearly self-evident and to learn how the theory can be used to understand practical situations.

Both N and V are “views of a situation” which carry emotional or affective content. The probably artificial but nonetheless useful distinction between affect and cognition may be worth considering here. “Affect” here refers to emotional content or attitudes, as opposed to “cognition,” which refers to substantive, factual content. Thus propositions describing the facts of a situation may form a cognitive representation, while other propositions describing emotional attitudes toward aspects of the situation form a representation of the subjective perceiver’s affects.

A “situation” may be defined as including what is in the attention or interpretive focus of the perceiver (which may include many related propositions including associated affective interpretations). Any view of any situation includes propositional content about the entities in the situation and their properties and relationships. Therefore N and V views of any situation certainly constitute cognitive representations. At the same time, humans interpret situations as carrying an additional emotional or affective content, if only the null interpretation that the situation is perfectly unremarkable. N and V may be seen as cognitive representations with partially-specified affective content, using the most fundamental and basic of affective distinctions. Thus the terms of the theory determine *both* affective *and* cognitive psychological properties.

As pointed out above, the theory’s claim that the three conditions are jointly sufficient means that if all three conditions are present in some

individual's mind then humor will also be present, or in other words, that every case with all three will also contain humor perception. The claim of necessity further states that if any of the three necessary conditions for humor are lacking, the humor will not be perceived by an individual. Consider each condition's absence:

V. According to the theory, situations in which nothing seems wrong to the perceiver are not perceived as funny. Note that the perception of a subjective moral violation in a situation, *V*, is a function of both the situation and the perceiver. That is, a somewhat different situation may have no apparent violation and thus lose its humor, and a different perceiver may have different views of the way things are supposed to be, or different affective commitments to those views, and will consequently perceive humor differently. Thus humor perception is doubly subjective, not only in that it is a psychological event in a subjective perceiver, but also in that different subjects may differ in their perceptions.

N. If a view of the same situation as normal is lacking, then there can be no perceived humor, according to this theory: If the situation cannot be interpreted as normal, then it cannot be funny. *N* may be lacking entirely, or it may be driven out of the perceiver's interpretation by a strong *V* interpretation. In the first instance, an unambiguous moral violation is not funny; in the second, an affectively ambiguous situation also fails to be perceived as funny when the violation interpretation is so strong that the normality interpretation cannot predominate or loses out when the perceiver decides that things are not okay after all. The latter may occur when the perceiver has too strong an emotional attachment to the violated principle; this kind of situation is discussed in a later section. In instances where *N* is lacking, the perceiver is offended or threatened by a *V* interpretation rather than being amused.

Simultaneity. The theory claims that if the two interpretations are not simultaneously present, then humor perception cannot occur. One feeling followed by another gives a sequence of feelings, not humor. Surprise, ambiguity, and other ways of packing two views of a situation into one mind at the same time thus have important roles in humor. Also, while conflict, ambivalence, various forms of ambiguity, etc., all have the character of a simultaneous experience of contrasting thoughts or feelings, it is only in conjunction with the other two conditions that

humor occurs: any one (or two) of the conditions is not sufficient without the remaining conditions.

The N and V interpretations interact with one another in the mind. If the perceiver is strongly attached to the principle violated, then it may be impossible to hold both N and V interpretations at the same time, because the situation is such a violation that the perceiver cannot maintain seeing it as normal, and consequently the intensity of the V interpretation drives out the N interpretation. It is the relative strength of the two interpretations which is essential; the N interpretation must predominate over the V interpretation, or be felt as more consciously real or correct. That is, the perceiver must feel that the situation really is normal, despite the violation; the normality interpretation is seen as fundamental or primary.

This article explains and explores this simple and well-defined theory and its consequences, and applies it to explain a variety of ways in which stimuli can generate laughter, and, equally important, to explain how stimuli can fail to be funny as well. The general theoretical issues are dealt with earlier, and humor-related phenomena are explored later in the different sections of the paper.

A (V)iolation of what? The subjective moral order

As pointed out above, N and V represent the most fundamental division among emotional evaluations, between the positive and neutral on the N side, and the negative on the V side. To be as concrete, useful, and clear as possible, the present theory states that a situation is perceived as funny only when it constitutes a "subjective moral violation" (V) in the eyes of the laughing perceiver. A "subjective moral violation" is a violation of a moral principle that the perceiver cares about. That is, it violates a principle about which the perceiver believes, "This is the way things should be," and which the perceiver backs up with some affective — that is to say, emotional — commitment, such as a propensity to anger, offense, or fear, when it is violated. These principles define the way things are supposed to be, the right way to do things — that is, the proper arrangement of the natural and social world, and the proper conduct of behavior. It seems reasonable to refer to this as the perceiver's view of the "moral order" of things, or the subjective moral order.

This section explains and justifies this unified answer to the question in its title: What is violated in a humorous situation? The subjective moral order is violated. Some readers may understand this use of "moral" as entirely sensible and fitting with what morality is, while others may instead take it to be a mere circularity, where, by a certain implicit definition, "moral principles" are simply those principles that are found to be violated in a humorous situation. I believe my usage fits both interpretations, but not by definition: it is not circular. Justifying this requires that we discuss what "morality" means.

A fundamental force holding society together and enforcing the general conformity and mutual compliance of its members is a particular form of human activity, namely that of emotionally judging and evaluating things, an activity on which we all expend large amounts of time and energy. By means of this activity, conducted jointly with other people, we construct our views of how the world both is and ought to be. Whenever we care about a situation being a certain way, our reactions reveal our feelings or our stance toward the situation to the people around us, and they, in turn, react to our communicated stance, frequently with sympathy and compliance. Much of what people like and dislike, much of the intricate patterning of human conduct, is learned from others through exposure to such reactions.

These activities would seem to reflect a rich cognitive and emotional system of opinions about the proper order of the social and natural world. It is this system of opinions that I will call, "morality." It is an evolving set of principles that people take more or less seriously in governing their behavior and their views about what goes on around them. It defines the perceived or subjective moral order of things.

Individuals and cultures have extremely different moralities in this sense. Different people care about different things. People are willing to argue and fight over different kinds of problems; they have very different views of what a "good life" is like; they are pleased and offended, attracted and repulsed by different sets of things; they praise and condemn different kinds of actions. In short, they have different views of the moral order, backed by different kinds and intensities of affective responses.

Again, using these different moral systems, people continuously construct evaluative interpretations of their own and each other's behavior. Moral systems influence the way people think and talk about the way things ought to be; they influence the way people exert control over one another to make each other conform to their standards. Further,

perceived violations of morality are met with affective responses, such as anger, or desires to restore the situation to order — or, in this theory, laughter.

If violation of a principle receives no affective response — if only a galvanic skin response — it is not a moral principle in this sense. For example if John Doe steps on someone's foot, or spills the milk, or steals a car, these actions may rankle those affected as well as observers whose affective, often verbally expressed responses demonstrate their moral commitment to principles that John Doe has violated: "Don't do that!" or "You shouldn't have done that!"

Even babies must be understood to have moral systems; they are attached, for example, to the existence of things and people around them. It seems that there is an emotional attachment of some kind, since they are so distressed when confronted with their non-existence; and it is a natural inference that babies feel that these things and people *should* continue to exist, or that their continued existence is part of the natural, moral order of their world.

Many people consider morality to be a rather high-minded thing having to do with formalized and universal systems of ethics, or with philosophical conundrums about what to do when people are dying and some difficult decision or other must be faced, or with advanced classes in philosophy or theology. The kind of moral theories that moral philosophers and ethicists in the British and American analytical traditions actually work on, however, are ones which simple-mindedly assume a general moral consensus, and elaborate their theoretical complexities around questions such as the proper way in which "the greatest good for the greatest number," for example, is to be applied to difficult situations. A universal ethical code may be derived which is taken as a self-evident and universally acceptable, general moral system. Such moral theorists are concerned with the question What is right? But this apparently compelling moral question becomes relatively uninteresting when it is observed that different people's moral commitments are quite different. If moral systems are different from one group or individual to the next, who can take seriously a non-relativistic approach to morality which assumes that we all care about the same things in the same ways? Moral systems are subjective.

An empirical rather than philosophical and universalist approach to morality asks a number of quite different, and, I think, more interesting questions: What are the different systems of values that different cultures

and individuals have? How do these systems relate to their life experiences? What function do they have in the regulation of their social interactions? By what means are these systems constructed and changed? or How does a set of people come to believe in certain values?

The reality of morality, in this relatively empiricist view, is more down-to-earth and interesting than traditional notions of morality found in analytical academic discussions of ethics, theology and complicated situational dilemmas. The basis of this empiricist, comparative view of morality is that different people have different moral views, and thus we notice first that Minnesotans and Californians, Japanese and Mexicans, babies and adults, men and women, even family members who happen to have had different experiences, are all threatened and offended, or amused, or unresponsive, to different sets of things.

These differences may be said to reflect their different subjective moral systems. For present purposes, a condition is moral if and only if, first, the perceiver thinks *it ought to be a certain way*, and second, *the perceiver cares about it*. While some may disagree with my extremely broad use of "morality" here to refer to "the issues people actually care about," I believe most people will agree that it is these kinds of affective attachments that constitute the actual, living, moral views that guide us in our constant activities of judging and evaluating the situations that we confront. It is this view of morality which is assumed in the present theory of humor.

The scientific study of intentions or mental states is hardly advanced, and we are on slippery ground when talking about such things, as we must do in proposing a theory which posits moral principles in the minds of perceivers. However, to avoid positing such unobservable entities in this theory would require us to make purely formal and ad hoc links between a person's actual laughing behaviors and independent behaviors which establish their degree of affective attachment to violated moral principles. The analysis may be much simplified by positing a unifying, underlying moral attitude or intentionality; this is the reason it is necessary to refer here to internal attitudes and representations which are independent of behavior.

Perhaps a better way may be found of giving a unified characterization of "what can be violated in humor," but the approach taken here is concrete, well-defined, and so far, quite successful. The subjective moral order is an independently motivated psychological complex of affective opinions, and can therefore legitimately be referred to within this theory's claim that violations of the subjective moral order are a necessary ingredient in humor.

Is the theory circular? Independent evidence of moral commitment

While not all emotional and moral commitments of individuals are independently verifiable, those that can be verified must, according to this theory, be compatible with the individuals' actual interpretations of situations as humorous, non-humorous, or offensive. This view of humor would be circular if there were no independent evidence for the degree of moral attachment attributed to the perceiver of the situation. If a person has no reaction, or if they laugh, or if they are offended, this behavior itself may be the only evidence of their personal stance regarding the principle that happens to be violated in the given situation. The fact that this is sometimes the case is no objection whatsoever. We do not have independent evidence about any scientifically understood phenomenon in all of its occurrences. We simply infer from those cases where we can find out what the determinants of the phenomenon are, that those same determinants are present in other cases as well.

If we could *never* provide independent evidence about the relationships between affective attachments of individuals and their humor perceptions, then the argument would be circular and meaningless. However, in many cases we can establish independently some degree of personal moral attachment to the principles involved. For example, we may compare different individuals whose moral commitments may be independently established, or we may compare the same individuals' reactions at different times, reflecting increased distance and decreased emotional involvement with the violation in the situation.

Since perceivers have different moral attachments to particular principles, differing reactions to a situation may be compared with the differing moral views of the perceivers, whether these are different individuals, or the same individual at different times. In the following predictions, X, Y, and Z, may refer to different individuals, or to the same individual at different times.

Prediction 1: If X finds a situation funny where some principle is violated, and Y instead finds it to be offensive, frightening, or threatening, then we should find that Y is more attached to the principle violated than X, not vice versa.

Prediction 2: If on the other hand, some perceiver Z finds the aforementioned situation unremarkable, then we should find that Z has no personal moral attachment to principles violated; we should not find, for example, that Z is more attached to them than X, who finds it funny.

Next, a range of facts is described, which relates the strength of the V interpretation to perceived humor and which is consistent with these predictions. First, people who do not laugh at sexist jokes are often (though they also may not be) publicly and avowedly feminists, and may have made explicit and public claims that sexist conduct is an irretrievably bad thing. Why do feminists not laugh at sexist jokes? Because such jokes violate principles which feminists have come to take very seriously, although the tellers of such jokes are less attached to them. Similarly, people who laugh at racist jokes, in this theory, do not hold an equally strong affective commitment to the principles of human dignity that are violated in the jokes as those people who find them distasteful.

Second, some people when visiting other cultures find them lacking a sense of humor. Across the famous "Generation Gap" of the sixties, younger people in contact with older people encountered important differences of attachment to various moral principles. The younger generation thought the older generation was "uptight," a phrase with simultaneous connotations of both moral rigidity and lack of humor. While youngsters may find it hilarious to consider (e.g., tell jokes about) situations in which certain moral principles are violated, older folks may find these situations quite offensive. They are seriously committed to the principles involved, and do not find situations containing violations of them to be funny, while the youngsters are less attached to them. On the three-category scale derived below, the youngsters are committed enough to the principles to see violations of them as funny, but not so little committed as to be unable to see the point. Similarly Californians may find that Minnesotans "have no sense of humor," because they take situations "too seriously," considering something that is (in the Californians' view) merely funny to be offensive. Also, people who are known in a (Protestant American) community for being high-minded and moral are also often thought to lack a sense of humor. The present theory explains how these traits are related: The more moral a person is, the more serious is their attachment to moral principles, and the less those attachments can be broken through humorous interpretations which reconstitute situations containing moral violations as being quite normal and acceptable.

Third, most people are familiar with the experience of making a funny remark or joke before some audience that does not appreciate it; this theory predicts generally that such situations can result from the different moral commitments of the speaker and the audience. Conversely, people visiting different cultures may regularly find them to be funny when they

do not intend to be. For example, I had a foreign housemate who found it funny when someone would burp aloud, because for him this was a violation of propriety, though not so great a one that he would be offended. But many people consider burping and other bodily noises to be offensive rather than funny, and those who consider them offensive would seem to be more strongly attached to this appearance of propriety than those who find them laughable.

Further, the degree of affective commitment to principles violated can evidently vary with independent variables, such as the object of the violation. People more easily make jokes at the expense of others than at themselves, by the universal fact that people care more about themselves than about others. People care much more vehemently about their own dignity and comfort than about the dignity and comfort of others, perhaps only because it is easier to feel your own pain. Consequently, another's discomfort, injury, or death, may be laughable, but one's own is less so. Mel Brooks has been quoted as saying, "Tragedy is when I cut my finger. Comedy is when you fall down a manhole and die." Because of the general fact that a violation that happens to others is not felt as strongly as a violation that happens to oneself, the interpretation is frequently shifted from one of threat or offense (where V predominates) to one of humor (where N predominates), when the object of the violation is another rather than oneself.

An especially clear case has to do with a new mother of my acquaintance, who had once been appreciative of a particular sick joke involving a dead baby and an electric fan. Now that she is a mother and has actually seen her baby toddling in the direction of a fan and has contemplated the outcome, the joke is no longer funny to her. Affective commitments are directly affected by one's experiences. The sickening violations of the moral order involved in dead baby jokes can, in an appropriate context of interpretation, be simultaneously seen as normal if one has sufficient emotional distance from the issues. But if one's experience has made the perception of these violations as serious, then one will not be able to see them as simultaneously normal or acceptable. In this example, it is especially clear that it is a person's increased level of emotional involvement, derived from her experience of the real possibility of the relevant violation actually occurring, that made the joke change in character from funny to threatening, frightening or sick.

The above cases are all consistent with Prediction 1, in which those who do not laugh have greater affective commitments to the violated subjective

moral principle than those who do. A couple of instances may be adduced in support of Prediction 2, also: puns and peekaboo (both discussed in later sections). People who laugh at puns have, in my cultural experience, generally been bookish people, who by their academic activities demonstrate their own pleasure in manipulating language forms. At the same time such people seem to be mildly shocked by a departure from linguistic norms. They care about linguistic proprieties violated in puns, to which others, less bookish in orientation, may have no affective commitment and thus do not hold as part of their moral systems.

Adults do not see the inherent humor in peekaboo (if they laugh, it is as a following behavior rather than as a perception of humor — see below), because they see no moral violation in the fact that a face may disappear behind two hands and reappear again, while babies do (if they have not yet developed object permanence). This case is discussed in more detail below.

These cases are consistent with Prediction 2, in which those who laugh are predicted to have greater attachment to the principles violated than those who do not see the point. So far this discussion has confirmed that different individuals who can independently be shown to have greater or lesser moral commitment to particular principles do indeed have the predicted relative kinds of humorous or non-humorous responses. Similar predictions hold for single individuals over time, as we will see next.

A commonly observed fact about life is the way that situations we go through change their character in our memory over time, so that they become first funny, and then sometimes unremarkable with greater distance. An embarrassing situation is certainly not funny while it is being experienced, because if it cuts so close to home that it makes one feel embarrassment, then it cannot at that time be funny — otherwise the embarrassment could be relieved (but see below for further discussion of embarrassment). Later on, however, when one is feeling better about oneself, or more detached from the situation, it may begin to seem funny, and one can begin to laugh at it.

A person may still be attached to the abstract general principles violated in a situation long afterwards equally as much as during the experience, but it is simply that one is gradually less emotionally involved in the particular instance of violating the principles. So it is a violation in a particular instance, not the abstract general idea of violation apart from a particular instance, which carries the weight of humor or offense. This supports the present theory's contention that the relevant conception of moral

violation is of the *subjective* moral order, in which present events are more important than older ones.

Since one's emotional involvement in the situation is less serious vis-à-vis later retrospection than vis-à-vis current involvement, this is consistent with the theory: something is not funny when it is threatening; it is funny when it has the flavor of being threatening (V) but is no longer so personally involving, now that things are really okay (N).

Further, when more time passes, say some decades, after much personal change and transformation, some situations which were embarrassing or threatening during the experience, and which in near-term remembrance were funny, may in long-term retrospect seem neither threatening nor funny. One may eventually wonder, What was the big deal about after all? Certainly an adult, told by his mother about how as a baby he used to cry miserably when she left the room, might wonder what the big deal was: So Mom was walking around the house — so what! Adults may understand it intellectually, but they cannot feel it emotionally in the way that they themselves felt it when they were babies. Nor do they usually find peek-a-boo games to be inherently funny for themselves, though they may have been quite amused by it years before.

Temporal distance is clearly an independent measure of the degree of personal attachment, so it is evident that the pattern of change from threatening to funny to unremarkable correlates with an independent measure of the degree of personal involvement with the violation in the situation. This is more evidence for the above predictions, and provides further support for the present theory of humor.

What is not funny?

What is not funny is as just important for this theory as what is funny. This section applies this theory of affective absurdity to a few examples where some people find no humor and others do. To reiterate, "That's not funny!" has two meanings under this theory of humor. It could mean, "That's offensive!" in case the violated principle is held too dear and the N interpretation cannot predominate, or is lacking entirely. Or it could be like saying, "So, what's the point?" where there is no V interpretation. In the first instance, the person who is offended has a very clear idea of what the "point" is; the violation is clear, but it is a violation of something taken too seriously to be made light of. In the second instance,

the person who does not see the point is not personally attached or committed to the moral principle which is violated in the situation.

Laughter is often considered disrespectful. It is frowned upon in some churches, for example. Most people are personally offended when they are laughed at. This is a basic fact of human social reality. The present theory can be used to explain this fundamental reality. Disrespect naturally occurs when one person's emotional pain is seen as acceptable by another. According to the theory, laughter demonstrates that the laughing person, A, finds it normal that a moral principle has been violated. But if another person, B, is emotionally committed to the principle violated (frequently, B's own personal dignity), and cannot see the violation as acceptable, then an unacceptable violation from B's perspective — that is, a case of emotional pain on the part of B — is seen as acceptable by A, and this is communicated from A to B by A's laughter. Thus B understands A as viewing B's emotional pain as acceptable, and therefore B interprets A as being disrespectful. It is according to this logical sequence that laughter is interpreted as disrespectful. Anyone who wishes to understand the tremendous social consequences of unshared humor should become quite familiar with this line of reasoning.

Uniqueness

The theory does not require that there be a single correct interpretation of the essential hilarity of a funny situation or joke. There may in fact be a number of violations in the situation, and a number of possible interpretations of the situation as normal. People indeed laugh at many things in complex humorous situations, and different people may see different aspects of the same situation as funny. As one uncovers the different N and V elements in a situation, one may laugh more and more.⁴

Some may view this ambiguity as a weakness of this theory, under the assumption that there is a single "correct interpretation" of any given joke. But this assumption is itself unnecessary. There is no reason to assume — and this theory does not — that a humorous situation must have but one proper interpretation. Different perceivers could certainly construct N and V views from different elements of the same situation, if the situation contains those elements. So it is incorrect to point to one V view and one N view and consider that one is necessarily done with the interpretation of humor in a situation. So the question, "Which violation is the right one?" is a false question, because there may be many. Only for a given perceiver

at a given instant does the theory claim that some definite and particular pair of N and V views constitute the correct set of actual psychological conditions that generate an instance of perceived humor. And this particular pair of views may not be reconstructable for an outside observer, if there are elements in the situation allowing multiple N and V interpretations. This does not mean that the theory says nothing, it only means that the theory does not force the humor analyst to choose among the different possible N and V views as being the "correct" ones. There may be only one possible N and V pair in the situation, or any number, in which case humor can be perceived using that one, or any combination. The theory restricts the possible interpretations to these; it does not leave the door open to everything.

The three-level scale and its consequences

A look at Predictions 1 and 2 suggests a three level scale of violation interpretations, associated with the perceivers X, Y, and Z. This scale may be constructed from the elements of the present theory, under an additional further assumption about the nature of the psyche, namely that in the mind, affective commitments are not completely independent of one another, but one can drive out the other. That is, if one feels two feelings, one more strongly than the other one, then the weaker one may be eliminated. In particular, if an affective commitment to some violated principle is strong enough, then it may be impossible to keep in mind both a violation of the principle and the view that things are really normal or acceptable. The derived scaling, shown in Table 1, is ranked by the strength of the Violation interpretation, where there is a simultaneously present, competing, Normal interpretation, the strength of which is held constant for present purposes.

The levels in Table 1 are ordered by the strength of the perceiver's affective commitment to the principle violated, as listed under "Commitment"

Table 1. *The three-level scale*

Level	Logic	Commitment	Perceiver		
			Gets it	Is offended	Sees humor
Level 1	not-V	none	no	no	no
Level 2	V and N	weak	yes	no	yes
Level 3	V and not-N	strong	yes	yes	no

in Table 1. At Level 1, a lack of attachment is associated with no reaction to the situation or joke. That is, if one is not attached to any principles being violated in a situation, then one does not feel any violation. At Level 2, a weak, or "detachable" attachment, would seem to be present when one can see the presence of a violation, but at the same time one is not so attached to the principle that one cannot see the violation of it as normal, or the Violation interpretation is not strong enough to drive out a competing Normality interpretation. The present theory claims that this state is associated with humor. Level 3 illustrates a strong or "non-detachable" attachment to the violated principle is associated with perceived offensiveness or threat, where the Violation interpretation predominates, and the Normality interpretation is absent from or driven out of the mental representation of the situation (thus the need for the assumption made above). In this third state, the affective complexity that was present at the second level is simplified to a pure Violation.

It should be pointed out that a strong V interpretation may be matched by a strongly motivated N interpretation, so that even something quite offensive or threatening can be made to seem funny, if, for example, a joke is told well enough, or is told by someone felt to be "safe." This suggests that it is the relative strength of the V and N interpretations that is crucial, rather than solely the strength of the V interpretation by itself.

According to Table 1, "not funny" has two meanings, as mentioned earlier, shown in Level 1 and Level 3. In Level 1 one does not see the point of a joke or humorous situation; in Level 3 one gets the point but it is offensive or hurtful rather than funny. The scale predicts relationships between humor perception and degree of affective involvement, which can in principle be independently verified by comparing different individuals or one individual at different times. These relationships have been discussed above.

It is important to note that in a comparison of two situations, the Normality interpretation is not always held constant, and may be present or absent, stronger or weaker. A three-level scale of degrees of violation only applies clearly when the Normality interpretation is held constant across the compared situations, and the Violation interpretation is varied in strength (by varying the degree of attachment of the perceiver to the violated principle). Since the persuasiveness of the N view may be greater or lesser, this can cancel some of the effects of increased affective commitment to the Violated principle.

The logic of humor. In the following, I will use the predicate calculus symbols, \neg and \wedge , for “not” and “and,” in the context of the description of affective interpretations of a situation. Thus, for example, $\neg V \wedge N$ means “the situation is perceived as NOT a Violation, AND as Normal.” As mentioned above, the degrees of violation of the subjective moral order form three categories, which may be labelled “no violation” (Level 1), “funny violation” (Level 2), and “offensive violation” (Level 3). No violation occurs when there is no perceived violation ($\neg V$). A funny violation occurs when a perceived violation is juxtaposed with a simultaneous view of the situation as normal (that is, as having no violation) ($V \wedge N$). Offensive violation occurs when there is a perceived violation but there is no competing view of the situation as normal, or where the competing view is driven out by the strength of affective commitment to the principle being violated ($V \wedge \neg N$).

N and V form a very interesting kind of logic, which is worth some discussion. If taken as logically independent, four combinations are possible, as in Table 2.

It may be assumed that N and V are each the negation of the other: normality is the absence of violation, and violation is the absence of normality. If we make this assumption, then there is but a single predicate, rather than two (where $N = \neg V$ and $V = \neg N$), and only two combinations would seem to be logically consistent: $N \wedge \neg V$, and $\neg N \wedge V$. These may be reduced by identity and the meaning of \wedge thus:

1. $N \wedge \neg V = N \wedge N = N$
2. $\neg N \wedge V = \neg N \wedge \neg N = \neg N$.

Furthermore, the other two possibilities can be demonstrated to be just one, by substituting equivalents $\neg V$ and $\neg N$ for N and V, respectively:

3. $N \wedge V = N \wedge \neg N$ (or, $= \neg V \wedge V = \neg V \wedge \neg N$).

Table 2. Combinations of $\{V, \neg V\}$ and $\{N, \neg N\}$

	V	$\neg V$
N	$N \wedge V$	$N \wedge \neg V$
$\neg N$	$\neg N \wedge V$	$\neg N \wedge \neg V$

This much follows from elementary logic. It also follows that if N and V are elementary propositions, then the combinations in (3) are logically inconsistent, an apparent impossibility. The facts of a situation must be logically consistent if it is a real (and thus logically possible) situation. However, the inferences made by an observer of the situation from the evident facts may or may not be logically necessary, and the various interpretations of a situation that an observer makes need not be logically consistent. Some "inferences" may be made by rules of association or likelihood rather than of logical necessity, for example, and they may often be incorrect. In particular, it seems evident that emotional interpretations are not, logically speaking, necessary inferences, although they may be quite predictable. Furthermore, N and V are not elementary propositions, but rather have limited scope over specific aspects of complex situations, and thus implicitly they have some kind of argument structure, which might be made more clear by using notations like $N(p)$ and $V(q)$. Therefore let us not consider N and V to be logically inferred elementary propositions, but rather let us consider them to be interpretive predicates which apply to propositions representing aspects of a situation. An affective interpretation of this type is a predicate which represents an emotional attitude: this part of the situation or this perspective on it is pleasant; that other part of the situation or that other perspective on it is frightening, and so forth. Pleasant (p) and frightening (q) are affectively meaningful predicates applied to propositions or aspects of the situation labelled as p and q . Their truth value in a given situation is not defined since they are not added to the representation of a situation by inexorable logic but by subjective, if predictable, interpretation. Thus if a complex situation includes two factual propositions, p and q , then the interpretations $N(p)$ and $V(q)$ are not logically inconsistent, both because their truth value is not well-defined, and because, as predicates applying to different propositions, they do not contradict one another. The inconsistency appears at the level of the entire situation seeming to be both normal and not-normal, but it is the different aspects of the situation which lead to the contrary emotional interpretations, whether through ambiguity, temporal sequencing, or mere complexity in the situation. Thus affective absurdity is logically possible, and since plenty of situations are indeed complex or ambiguous or dynamic, it is to be expected.

Degrees of humor

Among funny things, some things are funnier than others. Why? Because more is better. In terms of complexity, pleasure, familiarity and intensity, the elements of humor presented in this theory may be present in greater numbers and magnified emotional intensities, in all cases increasing the intensity of the perceived humor in the situation.

First, complexity seems to increase the degree of perceived humor, so that if a joke is seen to contain several hidden violations, it will be funnier than if fewer were noticed. On the other hand, if a humorous situation is elaborated, by pointing out further violations or further instances of the same violation, the humorous interpretation may be intensified or prolonged.⁵ Added Normal interpretations can also increase humor; this is a regular feature of the last frame of the *Doonesbury* cartoon, for example, where the final development of the situation or story line presents dead-pan perspective where the moral violation of the previous frames is interpreted as being normal; thereby building and developing the humor of the cartoon.

If a violation is itself pleasurable, as in cases where for example a joke points out a violation of some person, group, or practice which is disliked, it seems more humorous. Some Catholic-school graduates who have had unpleasant experiences at the hands of nuns may find the nun joke in the section on offensive jokes violently hilarious, due to their dislike for nuns. Sexist jokes are especially funny to misogynists. Jokes at ex-President Reagan's expense are especially funny to those who dislike him. In general, dislike for those who are discomfited in a joke makes it more humorous. Why? Evidently, dislike for another creates a detachment from violations of their dignity or comfort, so that the strong attachment that gives rise to offended interpretations is absent. Further, a violation of the dignity, comfort, etc., of a disliked character seems to be acceptable, gratifying, and positively pleasurable to humans. This pleasure seems to account for the increased intensity of the hilarity, in that the dislike strengthens the interpretation, N, that the situation is acceptable or normal, which in turn increases the intensity of the perceived humor.

Familiarity with and intensity of the violation have an important role. People sometimes find a situation more humorous when they have themselves been in a similar experience (comedy-club jokes, for example, often have more punch when the audience has experienced the violations

played upon). This is because they have a vivid understanding of the violation that is occurring in the (described) situation, since they have experienced that violation in an immediate and personal way. This enhances the intensity of the "violation" interpretation. When a situation arises in which a previously-experienced violation occurs, but where the predominating interpretation is that everything is actually fine, the greater intensity of the evoked pain contributes to the intensity of the laughter. Just as another person's pain is hardly as vivid as one's own, the description of a violation that one has never experienced brings less of a V interpretation than one with which one has intimate experience. So familiar experiences are more humorous, because there is a greater perceived violation involved. This is a special case of the general principle that the greater the affective commitment to a principle being violated in a situation, the more emotional intensity is involved in transforming it into (or seeing it simultaneously as being) something normal and acceptable.

In all these cases, more of any of the elements of humor makes for more intense humor. Multiple violations, vividly understood V interpretations, pleasurable or gratifying N interpretations, all can make the humor more intense.

Humor and emotional transformation

Humor may be either a cause or a consequence of emotional transformation. It is a consequence in that after a situation has been normalized or the emotional pain in it has been reduced, this emotional distance can enable humor to be perceived. That is, as one gets a better perspective on a formerly painful situation, one may then be able to laugh about it. It may be a cause in that situations that have been perceived as emotionally painful and that have not been normalized may be cognitively and emotionally recategorized as normal or acceptable through the humorous experience of the violation in the situation. Humor requires that the situation be seen as normal, and if an individual who never before could find certain violations acceptable is able to see them humorously, perhaps by sharing a joke-teller's sympathetic and elevated viewpoint, then the situation will be normal, thus transforming the experience into a less painful one. This can only have lasting effects, of course, if mental recategorization is sufficient to effect the transformation. If there are

external problems or permanent or recurring troublesome issues in the situation itself, where the problems cannot be eliminated by turning a mental switch, then, of course, these are not avoided or eliminated by a temporary humorous interpretation of the situation.

Thus humor can be positively transforming, because previously painful or threatening things are seen during their humorous interpretation as normal or unremarkable, thus acceptable, and non-threatening. In this way, humor can have the useful function of liberating people from V interpretations. However, humor can have the opposite transforming effect, too, as when a person discovers he is the object of laughter (being the object of laughter means being responsible for the perceived violation), and reinterprets what had seemed a normal and unremarkable experience as one in which he has been negatively judged — demeaned and degraded.

Thus humor can have both positive and negative effects, and in general is a two-edged sword. It is possible that in one and the same situation, where person A laughs at something person B says, either effect may occur. B may infer that A believes B to be responsible for a moral violation, and thereby may take offense at being laughed at. On the other hand, B may consider that A sympathetically shares B's understanding of the violation in the situation, which is not imputed to be B's fault, and then B may infer that A thinks it is not really so bad, and B can be much relieved by A's laughter. In this way, either the violation judgment, or the normality judgment implied by A's humor perception, can have offense-producing, or normalizing results. For A to ensure one interpretation rather than the other in an ambiguous situation, A must provide additional disambiguating cues which B may use to decide which is the appropriate interpretation.

Order

In this theory, there is no particular necessary temporal ordering of the presentation of the violation and the normal views of the situations, since all that is required is copresence of the two views. However, in many jokes, it is the punchline that reveals the violation, while the set-up of the joke describes a situation that seems quite normal. This may generally be true, because it is generally easier to generate a predominating N interpretation if the setup is a normal-seeming situation, while it may be more

difficult to do so the other way around. However, the theory allows either order of presentation, so this section will present a couple of examples where the order is the V+N rather than N+V. In relief laughter in general, including in the inherent humor of peekaboo (discussed below), the elements in the situation which provide the Normal interpretation occur temporally after those that provide the Violation interpretation. Things turn out to be okay in the end, after a period of time in which the dominant interpretation suggested a violation.

Jokes can also have a V+N ordering. A class of examples are the *Doonesbury* cartoons by Garry Trudeau, where a technique frequently used is to follow the presentation of V with an N line in the last frame that continues the interpretation that things are fine, acceptable, normal. In the following example, too, V precedes N.

A cowboy, having ridden his horse for two weeks across the desert, finally gets to Tombstone. He creakily gets down off his horse in front of the saloon, ties it up at the hitching post, and slaps his vest and chaps, raising a huge cloud of dust. Then he reaches around under his horse's tail, wipes up some of the nasty stuff there, and rubs it on his lips. Then he goes into the saloon, sits down at the bar, and asks the bartender for a whiskey. Downing it in one gulp, he asks for another, downs it, another, and one more. With a big sigh, he says, "Shucks that feels better. I sure was parched after two weeks out in the desert." And the bartender says to him, "Well I'm glad to help you wet your whistle, but I have a question for you." "Shoot" says the cowboy. "I understand that you must have chapped lips after two weeks in the desert," says the bartender, "but just tell me, why did you reach around behind your horse and put that nasty stuff on your lips? Does it keep them from getting chapped?" "No," says the cowboy, "but it keeps you from licking them."

This long set-joke presents a violation of strong social taboos early in the setup, while the interpretation which makes the protagonist's disgusting actions understandable as normal is reserved for the punchline. So humor can have V followed by reinterpretation as N, as well as the other way around, which is perhaps more common in set jokes. The conclusion: order is irrelevant, while simultaneity of N and V is the key.

But most jokes seem to have N in the setup and V (simultaneously compatible with the N view) in the punchline. In joke-telling it seems to be easier to reveal a violation in an apparently normal situation than to reinterpret an apparently bad situation as acceptable or normal. But both are possible, in any case, so the order of presentation of N and V is not intrinsically important; either order does work.

Competing theoretical views

In the first parts of this section, a number of elements which recur in theoretical discussions of humor are seen in their relationship to the present theory. Then a couple of important competing theoretical views are reviewed and the relative merit of the present proposal is demonstrated.

Absurdity and incongruity

Absurdity and incongruity are often made out to be essential elements of humor.⁶ In the present theory, where normality and violation of the accepted order of things are simultaneously juxtaposed to generate humor, absurdity and incongruity are certainly present, since "It's okay," and "It's not okay" are incongruous, and believing them both to hold true of one situation is absurd. Nonetheless, plenty of absurd and incongruous things are not funny. The belief that two is the same as four is quite incongruous, since they are not congruent at all, but this is not funny; it is simply wrong. Similarly, Chomsky's famous line, "Colorless green ideas sleep furiously" is quite absurd, but it isn't a joke, either. In the present theory, the absurdity or incongruity that is present is of a particular kind, namely the absurdity of thinking some situation simultaneously is normal and is a moral violation. Other kinds of absurdity are not funny unless they include this kind of absurdity.

Truth

I have occasionally heard it said that it is the things that are true that are the most humorous. I think this kind of statement does not quite say what it actually means; rather it derives from something different. When people hear a joke involving something they themselves have experienced, the comment "That's so true!" is frequently made, though it is not truth so much as personal experience that is involved. These jokes are often said to be the funniest, in some sense. This follows: If the violation is made clear in the joke, and it relates to something the person has experienced, then not only does the person interpret the normal event depicted in the joke as being funny, but also they interpret their own experience as funny. Seeing the violation in yourself is like having the joke

told twice, and better the second time, because the funny situation is not just in the joke but in your own experience.

Self-deception has an important role here. When people go through any experience, they try to normalize it. "Things are really okay, even if this seems a little strange" is the underlying refrain, which may not be successful in all circumstance, but is sufficiently successful in deceiving oneself that some unacceptable things are accepted as normal. Then at some later time a joke may be heard in which relevant aspects of the same kind of situation are portrayed and perceived both as normal and also as a real violation of the way things ought to be. The portrayal of the violation has the effect of revealing one's own hidden pain. Simultaneously, the normality view re-normalizes the painful situation, this time without relying on self-deception. The experience itself and one's affective involvement in that experience are converted into a source of humor. That is, it is not just the depiction in the joke which is N and V simultaneously, it is one's own experience which is seen to be N and V simultaneously. This is what people mean, I think, when they say that true jokes are the funniest jokes. Note that neither is truth essential (it is personal experience rather than truth) nor are these jokes necessarily the funniest. Greater volume and duration of laughter, for example, may well occur in jokes that aren't "true" in this sense. Nonetheless it is clear that such "true" jokes have extra ingredients that make them extra funny.

Aggression

Theories of humor based on aggression (e.g., Gruner 1978) have their insights predicted by the present theory because one can always interpret humor perception as involving aggression. The judgment that a violation has occurred in a situation and that it is at the same time an acceptable state of affairs, constitutes *prima facie* an aggressive judgment, in some sense. So the present theory can be seen as related to aggression theories in this way. However, aggression theories are inadequate both because humor is often non-aggressive in form and function, and because aggression theories do not account for many facts about humor which are predicted by or consistent with the present theory.

Aggression involves interaction between an aggressor and an aggressee, or victim. Often humor is indeed aggressive, as when the canonical movie vampire laughs "Mwahahaha" at his helpless victim. But humor may

involve no interaction between the laugher and the butt of the laugher. Humor can be perceived without being intentionally communicated by the butt, as when eavesdropping on a fool, or turning around just at the moment someone else slips on a banana peel. Further, the laugher itself may in turn fail to be communicated by the laugher to the butt of the joke, as when the chuckling eavesdropper remains hidden, or the smirking accident viewer turns away, successfully pretending not to have seen anything. In such instances, laugher involves no intentional or other communication between an aggressor and a victim, so it does not have the form of aggression. Aggression theorists may backpedal on this issue by saying that the aggression present in such instances is latent rather than realized. Also, humor often has an ameliorative effect on social and psychological situations, while aggression has a typically destructive and negative effect. So in function as well as in form, aggression is an inappropriate basis for a theory of humor.

On the other hand, the insights of aggression theories that humor can be interpreted as aggressive (pointed out above), and that therefore in many cases it can have an aggressive function, are supported by the present theory. When humor is shared, this very fact implies a shared view that something that the laughers care about has been violated. This itself can be seen as aggression, both latently, in the pleasure the laughers take in the error of another, and concretely, in the potential for actually communicating to someone that they did something wrong in some way. If one does not care about a subjectively-felt moral violation that another commits, then by implication one does not view the perpetrator of the violation with sympathy. This is an important basis for interpreting humor as aggressive.

Finally, all the consequences of the present theory are not also consequences of the view that humor is simply a form of aggression, including the simultaneity of competing interpretations, the normalizing function of humor, etc. Therefore, theories of humor as aggression, for all their insights, are inferior to the present theory.

Superiority

Thomas Hobbes, in a compositional analysis of the range of human emotions (1958 [1651]), points out the role of the feeling of superiority in humor.

LAUGHTER . . . is caused . . . by [among other things] the apprehension of some deformed thing in another, by comparison whereof they suddenly applaud themselves. (57)

This too can be accommodated in terms of the present theory. If in some humorously viewed situation, it happens that someone else is responsible for a moral violation, and the perceiver is not, then the conditions are met for having the feeling of superiority. Much humor involves other people screwing up (this constitutes V), but doesn't involve the perceiver screwing up (this helps with N). Consequently much humor enables feelings of superiority.

However, people may laugh at themselves, too. If not entirely nonsensical, it is at least a more complex matter to index who is superior to whom, when a person is presumed to be superior to himself. If one wants to apply the concept of perceived superiority to self-deprecating humor, one must assume two selves, one of which is responsible for the violation, the other of which is superior to the first, and then the same logic that applies to two people applies here. In either view, superiority is a consequence, in some forms of humor, of the present theory: Someone or something is responsible for a moral violation, and therefore the perceiver who presumably is not, can think of herself as superior.

Timing: brevity and surprise

The present theory says that situations in which the two views, N and V, are not simultaneously juxtaposed in the mind of the perceiver are not funny. So for example, if the two affective interpretations enter and leave the mind one after the other, and are not present at the same time, humor does not occur. This is why timing is so important in humor, because the simultaneous juxtaposition of contrary ideas in the mind — that is, condition 3 of the theory — must be accomplished in some way. The engineering of this effect is often accomplished through timing, which has long been said to be crucial in humor.

“[B]revity is the soul of wit” (Hamlet, 2.2)

Polonius' much quoted comment in Hamlet may be explained neatly: If the elements of a funny situation are presented quickly, then it is more likely that both the N and V interpretations will occur with some temporal

overlap in the mind of the perceiver. Surprise, which has also long been said to be an important element in humor, has its proper role here.

But first, a qualification is needed. Not all surprises are funny. "Your mother is dead," when heard as truth for the first time, is not funny, though it might certainly be a surprise. And not all humor involves surprise. Surprise is not a necessary element of humor or laughter. Really good jokes can bear repetition; some people watch particular comedy shows over and over again. Repeated jokes can sometimes remain funny, and ticklishness does not go away after one tickle. The surprise is not the essential feature, rather it is the simultaneous juxtaposition of two interpretations, according to this theory.

Even so, the clearly important role of surprise should be explained in a theory of humor. Surprise is when, all of a sudden, something is perceived or understood that was not expected or predictable from the situation as understood up to the moment of surprise. One interpretation of a situation is suddenly juxtaposed with and then replaced by another one. If the computer metaphor is taken seriously (too seriously, in the present view), one may consider that the mind makes instantaneous transitions from one state of knowing to another, but this view seems unnatural and improbable, indeed, biologically implausible given the non-instantaneous and highly parallel processing in the brain. Students that have just "gotten it" in class, if immediately challenged by the teacher to go through it again, may decide again that they did not really get it.

In other words, if there are at least a few instants of transition, then in a surprise, just before the initial view is gone, both views may be simultaneously present. In this view, then, surprise functions to create the simultaneous juxtaposition of two understandings of a situation that is essential in humor. The structure of surprise makes it an enabling factor in generating humorous situations. So while surprise need not be an essential feature of humor, it is present in many instances, and it has an important role.

A deep question⁷ is, Why does lack of surprise make a joke less funny the second time around? This is one of the most reliable facts about humor-related behavior, and it deserves an explanation. I propose one here. The second time around, the entire course and the outcome of a joke are known in advance and throughout. In most jokes, the setup has but one salient affective interpretation on the surface. And the punch-line is capable of sustaining that interpretation while at the same time introducing an affectively opposite interpretation that also makes sense

given the setup. However, the setup itself may not be capable of sustaining the two interpretations throughout, if they are both known in advance, and if so the listener may, while still listening to the setup, settle on a single affective interpretation of the whole joke including the punch-line. Settling on a single interpretation prevents the possibility of simultaneously feeling the force of the second interpretation, and this eliminates two essential conditions for humor perception.

So it is clear that a temporally precise engineering of the mental state of the perceiver is necessary to produce humor. Both brevity and surprise have properties that enable these temporal manipulations to occur, but as we see, neither is essential, and both can be explained by the elements of the present theory.

Comprehension difficulty

The last general property of humor we will discuss is comprehension difficulty. A role for comprehension difficulty in humor is discussed in Wyer and Collins 1992, which points out that according to a number of studies, perceived humor increases as comprehension difficulty increases, then decreases as it becomes even more difficult. Wyer and Collins make this a central tenet of their theory of humor (Proposition 7). Their treatment, closely following Apter (1982), has some similarities to the present one. They describe humor as involving a reinterpretation where the importance or value of something is diminished (that is, the evaluation shifts from good to less good, important to unimportant, etc.). This is similar to the present theory, in that a diminishment in value is exactly what is done by reinterpreting something normal as a moral violation. However, the diminishment claim translates in the present theory to the view that order matters, and the V interpretation must come second, a point demonstrated to be false in the above discussion, *Order*. Further, Wyer and Collins exclude from the domain of humor those cases where subjects don't perceive (and verbally report) their humorous responses as amusement. Infant laughter and amusement that are not admitted to by subjects are not considered instances of humor, for example — another weakness not shared by the present theory.

The role of comprehension difficulty which is a central proposition of Wyer and Collins' treatment may be accommodated in terms of the present theory under certain restricted conditions. Difficulty in identifying one

of the N and V interpretations interferes with the timing of events in the mind. This can violate the simultaneity condition of the present theory. Only while the first is kept in the mind does the arrival of the second in the mind result in humor. But if finding the second interpretation is difficult, then the first interpretation may leave the focus of attention before the second is discovered. If the second interpretation is impossible to find, of course, this would interfere even more with humor appreciation. At the other end of the comprehension-difficulty spectrum, a joke may be described as too easy to laugh at just when the first interpretation is not sufficiently convincing, just as a repetition of a joke often elicits less of a response because the end is known at the beginning.⁸ If the first interpretation is not kept in the mind, such as when the second comes to dominate the interpretation in such cases, humor cannot be elicited, according to the present theory.

Thus, instead of postulating the effect of comprehension difficulty on humor appreciation as an axiom, as do Wyer and Collins (1992), the effect may be derived as an indirect consequence of the present theory, in the context of the timing of mental events in processing of increasing difficulty.

Cognitive restructuring

Gleitman (1991: 304–307) provides a cognitive theory of humor which he calls “cognitive restructuring.” According to Gleitman’s theory, an expectation is built up, and then fails to be fulfilled, but the surprising outcome makes sense anyway. In the present theory, on the other hand, one view of the situation (either as normal, N, or as a subjective moral violation, V) is developed in the setup of certain kinds of humor, while the punchline reveals a simultaneous view of the situation which is affectively the opposite (V, or N, respectively in the two cases). Gleitman’s description of cognitive restructuring follows from the present theory, in that the two views, N and V, must be of the same situation, which is to say they are ways of making sense of the situation. It follows that “the outcome makes sense anyway.” The “expectation” and its “lack of fulfillment” correspond simply to the two views, N and V (in either order).

To reiterate more precisely, Gleitman’s theory is composed of at least four elements:

1. the expectation
2. its lack of fulfillment (in some other view of the situation)

3. implicitly, the fact that the expectation makes sense of the situation
4. explicitly, the fact that the violation of the expectation also makes sense of it.

These can be mapped on to the N and V views in a simple way. 1 and 2 correspond to the N and V views (either one can be N, the other is V). The fact that N and V are "views of the situation" according to the present theory is sufficient to give 3 and 4 as well.

What is lacking in the cognitive restructuring view, is, of course, the affective element, that in one of the views the situation is normal — whether neutral, unthreatening and safe, or positively valued, desirable, good — and the other view is a violation of something about which the perceiver cares and ought to be a certain way. The affective picture includes the cognitive picture developed by Gleitman.

More generally, mere cognitive expectation is not necessary or sufficient. We certainly expect the sun to come up in the morning, but if that were to be violated, it would not be funny, unless we had some emotional commitment to that expectation, so a violated expectation is insufficient for humor. Things can be funny even after they are expected (e.g., socially inappropriate behavior patterns — a professor who spits when he talks — or episodes in Road Runner cartoons, which have an expected but still funny outcome), so violated expectations are not necessary either.

Freud

Freud's work on humor must be mentioned in any treatment of the subject. I will merely mention it, however. The present theory points to a number of empirical questions which are not answered here: What are the things that people care about? How strong are these commitments? What constitutes violations of what people care about? What counts as "normal" for people in general and for different kinds of people? What is the structure and content of the whole psychological realm of affect? Freud's work, including his classic studies of humor (1960 [1905]; 1928), explores these questions.

For example, he distinguishes between "innocent" and "tendentious" jokes, where tendentious jokes have a sexual or aggressive content, and are capable of eliciting howling laughter, while innocent jokes have less emotional impact, and elicit just a smile or a chuckle or less. Freud relates

this difference to the fact that sexuality and aggression are strong and fundamental human affects. Or Freud's (1928) paper, for example, concerns the effects of certain kinds of comical interpretations on psychic energies in id, ego, and super-ego. "Humour," in fact, is restricted in his terminology to comic interpretations based in the super-ego, while "jokes" ("Witz" in German) are based in the unconscious (1960 edition: 165). That paper is not about the structure of humour perception; instead, it is about the effects of humor perception on human emotional life and its interaction with his theory of psychological architecture.

Freud's psychological work on humor thus focusses on the questions mentioned above. But those questions are quite distinct from the question, What is humor?, which is the focus of the present paper. Thus Freud's analysis of humor is not at the level of the present paper, so it is beyond our scope to review Freud's discussion of these other issues.

Raskin's theory of verbal humor

An important, recent, successful, and closely related theory of humor is Raskin's (1985) linguistic-semantic theory of verbal humor. This work has conclusions that are quite close to the present theory. The central idea is that in verbal humor, the text must be compatible with two different semantic scripts which are opposite in one of a number of particular ways: obscenity/noobscenity; violence/noviolence; money/nomoney; death/life; bad/good. Each of these oppositeness relationships obviously has a moral and affective content, and while a list of these may be useful within a taxonomy of moral affects, it seems clear from the outset that they are simply particular instances of the generalization given in the present theory, which subsumes all of these oppositeness relationships in the terms of Normality versus subjective moral Violation. Using a more abstract generalization, however, simplifies things considerably, and is more explanatory.

Further, Raskin's theory is strictly limited to jokes, viewed as linguistic forms, or texts. Because of this restriction, it cannot deal with differences that are not in the text itself. It cannot deal with humor that makes no use of linguistic means — sight gags and slapstick, for example. It cannot deal with differences in interpretation, such as jokes that fail in some situations but not others — where, for example,

a difference in perceived humor is related to differences in affective evaluations by different subjects, or to differences in the tension in a social situation, etc. Clearly humor is not restricted to jokes, so the present theory relaxes this restriction. Since the present theory also generalizes over the classes of oppositeness-relationships that Raskin discusses, it may be seen in both respects as a generalization of Raskin's theory, to which it is otherwise closely related.

Phenomena

This section discusses a number of types of humor and humor-related phenomena in terms of the present theory: both offensive and inoffensive jokes, relief laughter, peekaboo, giggle-fests, puns, satire, exaggeration, ridicule, and embarrassment. It attempts to provide the essential logic of the necessary explanation for each type of phenomenon within this moral theory of humor. It does not attempt to analyze example after example, where (particularly in the area of set jokes), one can work indefinitely without much increase in insight.

Examples of jokes

Set jokes are actually among the best understood of humor phenomena (Raskin 1985, *inter alia*). Many think of jokes when they think of humor, and a paper on the theory of humor might therefore be expected to spend most of its ink on analyzing a sequence of jokes. I will not conduct yet another exercise in joke analysis, which has been raised to a science, largely compatible with the present theory (Raskin 1985, Attardo and Raskin 1992, *inter alia*). But both in order to provide a demonstration that this theory can be used to explore why particular jokes are funny, and in order to show how jokes' not being funny also fits in to the theory, a brief discussion of both inoffensive (in this case, elephant-) jokes and offensive jokes, is in order.

Elephant jokes. Why don't grownups laugh at elephant jokes? They don't see the point — the principles being violated are not matters that they care about or have emotional commitments to. Consider whether

you laugh at these:

Q: How do you know that an elephant has been in the refrigerator?

A: There are footprints in the butter dish.

Q: How do you know that two elephants have been in the refrigerator?

A: There are two sets of footprints in the butter dish.

Q: How do you know that a herd of elephants has been in the refrigerator?

A: There is a Volkswagen parked in front of your house and there are lots of footprints in the butter dish.

This relentless, repetitive series of jokes is often not funny for many adults, but for many ten-year-olds and for some adults, elephant jokes are quite hilarious. Children are highly involved in actively constructing their view of the structure of the world. Just as everyone cares about, is emotionally attached to, whatever they are actively involved in doing, children have emotional commitments to the structure of the world. In the ten-year-old's world, it is an essential feature of elephants that they are gigantic in size. Further, it is also a widespread attitude that one isn't supposed to dirty one's food; kids, especially, are actively being socialized into keeping food in the right place (on the plate or in the mouth) and their (often dirty) shoes off items that need more considerate treatment. So there are a great many principles which children are emotionally attached to which are violated in these particular elephant jokes: giant elephants are somehow small enough to climb around on a stick of butter, and at the same time, food is trampled on. These violations show how kids can find these jokes funny. At the same time, they are not so attached to the principle that they would be offended by breaking it: Few children have so great a personal investment in elephants being huge that they would be offended or personally threatened if elephants were tiny. Nor is the idea of someone else hypothetically stepping in some food a violation that cuts very close. Further, the cuteness of the answer, the difficulty of seeing anything wrong built into the question itself, and the banality of the question/answer format all help to make it so that the situation is clothed in normality. Finally, the surprise of the answer creates the simultaneous juxtaposition of the two affects in the minds of the perceivers.

For adults, on the other hand, the size of an elephant is more or less an accidental fact that might conceivably be otherwise, without changing the essence of elephantness. Further, the prohibition, "Keep your dirty

feet off the clean things in the house” does not have the emotional impact with adults as with children. In any case, adults do have a model of reality with decades of sedimentary accumulation in which they may have lost their emotional involvement in such things as the size of elephants, or even the idea of stepping on a stick of butter. At least for those adults that are not amused by these elephant jokes, the theory suggests that these violations no longer have sufficient affective impact.

Offensive jokes. A discussion of the continuum from pointless to offensive is incomplete without an illustration of offensiveness. The following joke is grossly offensive, though there are probably some who find it funny.

Q: What’s black and white and red all over, and can’t turn around in a doorway?

A: A nun with a javelin through her head.

Many principles are violated in this example, including the sanctity of human life, and the sanctity of people devoted to holy and abstinent lives, and the sanctity of women. These are violations similar to those in any number of jokes involving injury or death, whether of priestly, feminine, or human creatures, or otherwise. However, some additional components make this particular example somewhat different from others.

First, a person with a javelin through their head would hardly be concerned about their inability to turn around in doorways. The moral principle here is that people should be concerned with things that are important, and not bother about irrelevancies. A person with such an injury certainly has more important things on her mind than this particular inability. Using the inability to turn around in a doorway as the essential defining feature of a nun with a javelin through her head violates this principle of irrelevancies. Further, the thought of further injuries due to the attempt to turn around in a doorway violates further principles regarding the prevention of self-injury.

Consider why this joke might or might not be funny. People who find it offensive are, by this theory of humor, unable to give the described situation a “normal” interpretation, either because the joke is told badly or because of a high degree of moral commitment to the principles violated. People who find the joke funny are, by the theory, not so attached. Furthermore, since the principles violated would seem to be universal moral principles that everyone would have at least some attachment to, the theory also predicts that no one could fail to see the

point, because everyone would recognize a violation of an important moral principle: one may only think this joke is either offensive or funny.

Joke analysis according to the present theory can be continued *ad libitum*. I know of no examples which cannot be analyzed plausibly using the present theory. Instead of prolonging the discussion of jokes, then, we will move on to some other classes of humor-related phenomena.

Peekaboo

When at first something seems badly wrong, and all of a sudden it turns out that it is really okay, one frequently laughs. This may be called "relief laughter." For example, I once opened a refrigerator door so quickly that a quart-sized milk container fell out of the door onto the floor. When, after it hit the ground, I realized that it was an unopened container and would not spill anything, I laughed. This is relief laughter.

The essential humor in peekaboo is relief laughter. Babies go through a stage when they are highly amused by the game of peekaboo. In peekaboo, an older person (the peeker) brings the baby's attention to their face, and then hides their face behind their hands. Then, pulling their hands away, the peeker's face becomes visible again. Hiding, revealing, hiding and revealing one's face with one's hands or hiding behind some other opaque object constitutes the funny game of peekaboo; the moment of (peak) laughter is generally the moment of reappearance.

Children at this early age are learning about object permanence, for which there are three logically distinct stages. In the first stage, objects that cannot be perceived are not understood to exist at all. In the second stage, objects that can no longer be perceived are thought to have gone out of existence. This is distinct from the first stage, where if something moves out of the field of view, it seems never to have existed in the first place. In the second stage, there is enough of a sense of object permanence to realize that the missing object *once* existed, but not enough to realize that, despite being out of the field of view, it still exists. In the third stage, of course, the object that disappears is understood not to have gone out of existence.

If a baby cries when its mother leaves the room, thinking that its mother has gone out of existence, this could only occur if it remembers that the mother previously did exist (stage 2). At an earlier stage, the baby does not appear to notice that its mother ever did exist. And at a

later stage, it is not the same kind of violation because the mother still exists despite her absence.

We can explain the intrinsic humor of peekaboo in the light of this discussion. After stage three, when a child knows about object permanence, it counts as no violation of the existence of treasured entities like parents and siblings when those entities leave the field of view, because they have not ceased to exist. However during the development of object permanence, but before it is mastered — at stage two — the very existence of things can be violated by their departure from view. Because of babies' affective attachment to things in their worlds, it is a violation of the way things ought to be when they disappear, and it is a relief to laugh at when they reappear and the violation is undone.

How might peekaboo seem not to be funny? The 3-level scale helps here. Some entities are too important to be lost, and when Mama leaves the room, a baby may break down and cry. This is no joke, because a baby's moral attachment to the existence of their mother is so strong that violating that principle is truly frightening. Peekaboo can also result in crying rather than laughing if the disappearance phase lasts too long. These both represent higher degrees of violation, and they change the nature of the response from laughter to some kind of distress. On the other hand, the intensity of the violation can be *decreased*, also, resulting in lack of perceived humor. For example, after object permanence is mastered, a child may no longer infer non-existence from disappearance, so that no personally important principle of continuing existence is violated, and without such a violation, there is no humor. In fact, peekaboo is a game that becomes elaborated and modified from its earliest developmental forms (Fernald and O'Neill 1993), becoming somewhat similar to hide-and-seek. As the game becomes an established and increasingly elaborated form, the essential humor — relief laughter that occurs upon reestablishment of the existence of a valued entity that had disappeared — is replaced by other kinds of pleasurable dynamics. But according to this argument, the intrinsic humor at the earliest stage is a form of relief laughter due to stage 2 in the development of object permanence.

The giggle-fest

Often a group of people will join in laughing when some members of the group are laughing at something, so that laughter feeds on itself and

spreads contagiously to others. There may be no understandable cognitive reason for the joiners to begin laughing. This theory does not need to account for the contagiousness of laughter, since many human behaviors stimulate group imitation, laughter among them. A person may be stimulated to yawn, for example, by seeing another person yawn, or by reading this sentence, or by nearly any clue in the environment related to yawning. Similarly, it is natural to feel distressed when seeing another person, who is himself distressed. When you see another person smile, it may raise your own spirits. These are natural, social, following behaviors, of which laughter is one. It need not be a consequence of a theory of how humor is perceived that people join in laughter with others; humor may not in fact be perceived or understood when this occurs. Instead, the giggle-fest must be understood as a particular case of the more general principles by which the class of social following behaviors are accounted for.

Linguistic humor

Language is often implicated in humor. Humor may play off lexical ambiguity (as in puns), or make use of linguistic ill-formedness or stigmatized forms, dialect features, etc. (as in mimicking ridicule), or may use linguistic arguments (that is, logically fallacious lines of reasoning whose apparent sense is derived from linguistic factors like ambiguity, metaphor, idioms, formal similarities), etc. Mimicry for humorous effect may make specific use of linguistic features characteristic of a dialect or of an individual's speech pattern, or may impose artificial or exaggerated intonation patterns or voice quality. Listeners who view the speech patterns of another as unusual or different may laugh at them. Grammatical errors or differences can be the focus of humorous expression.

Some observers think these facts militate against a moral theory of humor. Many people are likely to see plays on grammar as unrelated to any kind of moral system — especially linguists, who often view language as an affectless intellectual system (no coincidence!). Language is often thought of as a purely cognitive system, and for this reason, puns and linguistic humor are often proposed as counterexamples to the present theory.

However, all people live in a strongly evaluative sociolinguistic environment. Rare is the non-prescriptive linguist that lacks emotional

commitments to linguistic well-formedness. Linguistic issues are emotional ones in all societies. People may be quite offended if you point out that they use the historically long-established forms “ain’t” or ‘aks,” or that they “drop their /g’s.” Certainly the hue and cry following ex-Vice President Dan Quayle’s performance at a grade school spelling bee demonstrates the affective attachments people have to linguistic propriety. Further, innumerable sociolinguistic studies have certainly shown that pronunciation differences can evoke strong evaluative responses in speakers (e.g., the “matched-guise” experiments of Labov, 1966, and his many students), to the extent that speakers are quite willing to judge a speaker’s intelligence, prospects for employment and friendship, etc., on the basis of their pronunciation. Indeed, people frequently devalue one another because of purported linguistic misbehaviors, which are defined with respect to a system of opinions about the natural and proper order of language.

On these grounds, humor based on linguistic malformation appears to fit with the present theory, since it is indeed true that a moral violation may be perceived to occur. People have moral opinions about language: they think it ought to be a certain way, and they care about it. Humor based on perceived malformations of language, therefore, is not a counter-example to a moral theory of humor.

Puns. The pun is a form of humor involving linguistic ambiguity. Ambiguity is, of course, a major means of constructing humorous speech acts, since a violation in one interpretation may be disguised by the “straight” interpretation in the other. Punning is done differently in different cultures, where the hilariously ambiguous turn of phrase or innuendo can be a widely acknowledged and highly respected form of verbal art. In this section, however, I will only discuss the punning practices I am familiar with in my culture. These involve speech events of a certain type, similar to the set joke or riddle. They are of interest because they have often been proposed as counterexamples to the present theory, because people often find it difficult to see any moral violation in them. Consider first an example of this genre, chosen for its apparent lack of affective implications.

Q: When is a door not a door?

A: When it’s ajar.

Several general observations may be made that seem to hold over a wide variety of puns of this type. The most interesting, and in need of

explanations, is the fact that they are not very funny. "Thigh-slapping pun" seems to be an oxymoron. Second, this kind of pun provides listeners with a certain ambiguous sense of failed and seemingly obnoxious humor. Listeners do recognize the performance of such a pun as one which purports to be funny, but they are usually mildly amused, if at all, by the pun itself. (On the other hand the failure of the performance to be funny can itself constitute a social violation which can be interpreted as humorous.) At the same time listeners are somehow made ambiguously unhappy by the pun, groaning or saying "That's terrible" — though without seriously taking offense. Third, the speaker/inventor generally feels a certain glow of creative accomplishment. Finally, the structure of a pun depends on linguistic ambiguity.

Consider how these observations (one at a time) can be derived from a moral theory of humor by examining the above example. A related proof will clarify the logic used. Note the ambiguity in step 2 (observation 4):

1. X is a door (Given by Q)
 2. a) X is ajar, AND b) X is a jar (the ambiguity given in A)
 3. If X is a jar, X is not a door. (By definition of "door" and "jar")
 4. Therefore, X is not a door. (by 3 and the second part of 2)
- 1 and 4 are logically inconsistent.

Logical inconsistency by itself or at least, the blatant expression of faulty reasoning, is indeed a moral violation to most people, if only a mild one having to do with the proper conduct of discourse. This satisfies the requirement in this example for a V interpretation in humor perception. At the same time, the ambiguity of the spoken form between "a jar" and "ajar," where both statements in step 2 are claimed at once, provides a path of apparently legitimate reasoning (through step 4) to the conclusion, which through this path seems perfectly normal and correct. Thus a (mild) moral violation and an (only apparently) normal interpretation coincide in this text. So much for its humor.

This possibly humorous interpretation notwithstanding, the listener may rapidly recognize the two meanings of the ambiguous form and thereby recognize the mistake in the reasoning (specifically, both meanings of an ambiguous statement are not necessarily asserted when the statement is made; instead, the second part of step 2 is false, since "It is ajar" where "it" refers to a door, can hardly mean "It is a jar"), so that the legitimacy of the N interpretation is lost, and the text is seen as simply

wrong. If this is recognized, then the humor is absent, leaving only the possible recognition that an attempt at humor had been made.

This pattern, which applies to innumerable similar examples, explains why puns like this are only partly funny and why they generate a sense of failed humor, two of the main properties observable in set-joke puns in my culture. Under one (clearly stupid) interpretation, it is mildly funny, while under another (more clearheaded) view, it is simply wrong.

When the speaker performs a pun, s/he makes an implicit claim on listeners to be cooperative, that is, to see it as funny. But to do that one must pretend not to see the obvious. So in effect the subtext of a pun is, "Go along with me; act stupid." The offensiveness of this implicit request explains another of the observations, that listeners may express apparent unhappiness with groans and disparaging comments.

In creating a pun, the speaker discovers a linguistic ambiguity and a way of exploiting it in constructing a described situation that contains a moral violation of some kind but that appears normal because of the ambiguity. This intellectual feat, like that of creating any joke, is grounds for a creative glow of accomplishment.

These remarks provide plausible explanations for all of the general observations made above about this kind of pun: They are partly funny, partly failed, self-consciously humorous performances based on linguistic ambiguity, which result in a mixed, unhappy response in listeners and a glow of accomplishment in the creator/speaker. As shown here, these properties are all explained within a moral theory of humor.

Satire

In (written) satire, a situation containing a violation is presented without any explicit acknowledgement of the existence of the violation(s). The violations are presented deadpan, as though there were no violation at all, so that the reader must detect or miss the violation on her own, actively using her own moral conscience. Those readers that do detect the violation may find it hilarious, because of the humorous structure: a moral violation is juxtaposed simultaneously with the deadpan view of the situation in which it appears normal or unremarkable. The special feature of satire, however, is that there are implied to be some readers that will not detect the violation. Indeed, this inability to detect moral violations is itself a moral violation, since people believe that normal

people can tell right from wrong; this further violation contributes additional complexity to the humor, making it even more funny. Now, there may in fact be no readers fooled by the satire. It could be that no one missed the satirical nature of Swift's *A Modest Proposal*, for example. But satire has a deadpan character, *as if* there were an uncomprehending audience, even if that audience does not actually exist.

One of the most interesting features of satire is that it is almost universally believed to be a persuasive writing form. In actuality, it appears that most written satire actually fools most of its readers, so that, far from being persuasive, it is often not even understood. Gruner's (1992) survey of the literature on the persuasive impact of satire turned up very little confirmation of it. Satire was found to have a persuasive impact only for those subjects that (1) understand the satire's rhetorical point (apparently very few in most studies) and (2) share the opinion being communicated. The particularity of this result calls out for an explanation. The present theory of humor provides one.

Raskin (p.c.) has insightfully observed that being persuaded of a satire's rhetorical point is a prerequisite to understanding the satire of it, and the explanation provided here is an elaboration of Raskin's idea. In terms of the present theory satire persuades only the previously persuaded because in order to understand a satire as a satire, a person needs to see that the moral violations which are presented in a deadpan way in the satire do indeed constitute moral violations. However doing this requires that the person agrees with the point of the satire to begin with; that is, that they think that these things really are moral violations! Therefore, indeed, communication is limited to those who agree. Since persuasion can have no effect on those who do not understand, the persuasive impact is limited to those who already agree with the point of the satire. This provides a needed and otherwise absent explanation for the quite specific result of Gruner's survey, an explanation which crucially uses elements of the present theory.

Exaggeration, ridicule, and embarrassment

An unremarkable quirk of an individual may be exaggerated so that in its exaggerated form it is a violation of norms of personal behavior or appearance. In this way, exaggeration has a role in construction of humorous situations, by generating violations of the moral order.

Ridicule, that is, joking or laughter at the expense of some group or individual, imputes the responsibility for some moral violation to that group or individual, and damages their social status both in their own minds and in the minds of others. Suppose that, say, J. Doe thinks of the laughers in some situation, "They're laughing at me." For J. to be hurt by this thought requires that J. takes seriously the opinions of the laughers, and that the perceived reason for their laughter is a violation for which J. is himself responsible, whether it is something he has done or something that he is. That is, J. is implied to be responsible for a violation, or in other words, has done something wrong, or is something wrong (i.e., J. is stupid, clumsy, unattractive, etc.). This implied judgment of J.'s moral status, when J. cares about the opinions of the judges (here, those who are laughing at him or her), can of course be quite painful to J. In this way, jokes can be hurtful to individuals, and damaging to their reputations.

It would appear to be a counterexample for the theory that people sometimes laugh when embarrassed, because it was argued above that embarrassment requires emotional involvement in the violation in the situation, which precludes a simultaneous view of the situation as normal; this was said to be the reason that embarrassing situations are not experienced as funny. Why then do people laugh in embarrassing situations?

Embarrassment occurs in situations in which the violator doesn't initially understand that there is a violation being committed, and only when they begin to perceive it does embarrassment occur. But in that moment, the violator's view that they were doing nothing wrong is juxtaposed in their mind with the view that perhaps something really is wrong, and at this moment laughter occurs. Later, when the violation strikes home, the laughter goes away. The point made above that truly embarrassing situations are not funny holds true only after this initial time of confusion passes and the magnitude of the violation is felt clearly.

Laughter can also be a strategic mechanism to minimize embarrassment. A person who laughs at something embarrassing that is happening to them projects to others a self that views the situation as normal or non-threatening. Similarly, nervous laughter can be seen as an attempt to defuse a threatening situation. In both these cases, laughter symbolizes a lesser degree of attachment to the principles being violated in the situation. Thus these cases provide additional confirmation of Prediction 1 above.

Biological aspects

The present theory dovetails nicely with certain biological observations. For example, the theory requires a simultaneous juxtaposition of two views in the mind for humor to be perceived. This makes the general cognitive point that only a relatively sophisticated mental apparatus, which can simultaneously entertain multiple views of a situation, is capable of perceiving humor. Certainly a mind that can entertain two views at once is more complex than one that can only entertain one interpretation at a time. This would seem to be related to the claim that only humans, chimpanzees and possibly gorillas and even macaques laugh (Gruner 1978: 2-4), but that "lower" animals do not. Cognitive abilities of apes and monkeys exceed those of the lower animals; this general fact is consistent with the theory.

Physiology of laughter and tickling

Stearns (1972) discusses the physiology of laughter and tickling; a few of his points are summarized here. Laughter is physiologically spasmodic, rhythmic, vocalized, expiratory, and (when due to tickling) involuntary. Stearns (1972) discusses in some detail the neural pathways of the tickle-laughter reflex arc. Regarding the structure of tickling, Stearns defers to Houssay (1951: 849), who "contends that [tickling] is due to — 'simultaneous excitation of both touch and pain receptors'... because tickling cannot be produced after a section of the spinothalamic tract (which does not interfere with touch sensation); also, tickling cannot be provoked when the circulation of an extremity is arrested, which first eliminates the sensation of touch, and with it the tickling sensation. The pain sensation is eliminated later." In short, tickling involves simultaneous sensation of touch and of pain. This is perfectly isomorphic to the elements N and V of the present theory of humor.

Pain, after all, is a violation of physical integrity and comfort; these are principles which we certainly care about quite viscerally. Pain is essentially a sensory representation of a violation of one's body's natural order. It represents a violation of a moral principle, reduced to the level of a physiological response to a physical stimulus. Touch sensations, on the other hand, provide an internal representation of the external, touched

stimulus for the organism to process. This representation of the stimulus is painless by itself; it is a representation of a normal contact with a stimulus.

The fact that tickling requires a sensation of pain as well as a "normal" touch sensation, is a remarkable piece of evidence that appears to support the present theory of humor. The physiology of tickling is actually a restatement at the physiological level of the present theory of humor. Indeed, this suggests that physical tickling and more cerebral and cognitive forms of humor may have the same basic representation in the human nervous system, and that biological implementations of the two may at least be evolutionarily related.

It should be pointed out in making this comparison that the tickle response is not a purely physiological reflex response. While tickling of the type, "research scientist applies feather to plantar surface of foot," may be thought to be purely physiological, there are kinds of tickling which clearly involve other mechanisms. Some people, for example, may be tickled without actually being touched. Such cases appear to involve a perceived attack in combination with a perceived lack of a real threat. Also, some people are simply "not ticklish." Finally, one of the most robust and mysterious facts about ticklishness is that people usually cannot tickle themselves, but rather can only be tickled by some other agent. It would seem that the tickle response is not an innate physiological reflex, but involves something else that is possibly learnable, presumably cognitive. I suggest that this something is the judgment that one is being physically attacked in some way: a perceived fake attack. A perceived attack is obviously a violation of physical integrity and corresponds to a V interpretation. The falsity of the attack allows for a predominating N interpretation at the same time. The findings above follow from this suggestion: First, people for whom no sense of violation, invasion, or attack is evoked by light stimulation on footsoles, armpits, etc., will not be ticklish; conversely, non-ticklish people, on this account, are of this character. Second, people who perceive an attack "in fun" may have a tickle response without actual touch, simply because the requisite judgment is present. And third, people ought not to be able to tickle themselves, either, to the extent that it is impossible to convince oneself that one is attacking oneself. You cannot fake an attack on yourself; you see through it every time. So both the physiological facts regarding the tickle response, and the more psychological findings are fully consistent with the present theory of humor.

Crying, gasping in pain, and laughter

Another physiological comparison lends further support to the present theory. The theory has said nothing so far about why it should be that when N and V occur simultaneously in the mind, the body should respond by repeated exhalatory vocalization and the other physiological symptoms of humor perception. This would seem to be a mystery, until one considers other cases with similar physiological responses. Repeated exhalatory vocalization is present not only in laughter but also in sobbing or crying and also in gasping in pain. Of crying, laughing, and gasping in pain, the odd element would seem to be laughter, since it is pleasant, while crying and gasping in pain are not. However, in the present theory as opposed to other theories, laughter contains an element of emotional pain, namely the V interpretation, that something one cares about has been violated. This ties laughter together with crying and gasping in pain, in a way that theories of laughter and humor which do not include some element analogous to pain will fail to capture. The basic physiological similarity among the three would make sense given an underlying affective similarity, which the present theory makes possible.

Taking this for granted, then, the physiological response of laughter is a consequence of its related mental state in essentially the same way that crying and gasping in pain are derived from their related mental states, that is, according to some kind of generalized pain response, which takes slightly different forms in the different cases.⁹ The present theory does not explain why the generalized pain response should have this physiological consequence — this should be explained by some more general theory, after all — but the relationship of laughter to other pain-responses seems clear: they all contain an emotional violation.

Social/communicational aspects

This brief section discusses properties of shared humor and the resulting constraints humor imposes on communication. First, consider the important communicative functions of humor, many of which are discussed above. Humor can communicate both positive and negative judgments, with corresponding social consequences, including on the one hand, release of group tension, or liberation from negative interpretations of one's own experience, and on the other hand, aggression, perceived

superiority, and ridicule. To summarize in terms of the present theory:

Rule of Inference: If a situation lacks either N or V in one person's interpretation, laughter by another implies that the other affective interpretation is present in that other person's mind, and may be used to infer the presence of that N or V interpretation.

This rule, which is a logical consequence of the present theory of humor, can be used to infer the particular communicative impact of laughter in any given situation. The rule may be used not merely by the analyst in understanding the intentions of participants in a situation, but also, it would seem, by the participants themselves in interpreting each others' laughing behavior.

The converse consequence of the theory is that the avoidance or suppression of laughter functions to avoid sending the situationally relevant N or V message. That is, when a person suppresses laughter in a situation, the purpose is to avoid sending a presumably inappropriate evaluative message. Similarly, feigned laughter is used to communicate the relevant (that is, the otherwise absent) evaluative message. People are capable of producing the sounds of laughter at will, so it follows that this can be done calculatedly and for a purpose — without necessarily perceiving humor (that is, feeling that things are really acceptable in the situation, or in other situations, feeling that there is really something wrong). Laughter can be performed without true feeling for the purpose of communicating the contextually relevant message.

But whether laughter is actual, feigned, or avoided, it is to be understood in context. That is, the communicative impact of the judgment of normality or of moral violation must be indexed to the perceiver, and to the situation in which the funny event occurs or is presented. This indexing is required by the subjective nature of moral affective evaluations, and it has the purpose of determining the particular communicative impact of laughter by a given person in a given context for a given other person.

For example, laughter "at the expense" of a group or individual is where the laughers may be interpreted as viewing that group or person as responsible for a moral violation. This is the heart of ridicule. Or when the television vampire laughs gruesomely at his or her victim, why is the laughter threatening (to the victim)? Because it demonstrates the presence of an N interpretation in the mind of the vampire, who thus can be seen as finding it normal, acceptable, and desirable that the victim is to be

killed. On the other hand, shared laughter in a situation of tension — that is, where some apparent violation is present in the participants' minds — implies that people suddenly see the situation as acceptable or normal, and thus it relieves or signals relief of tension. In any of these cases, the element which appears absent to those interpreting the laughter, whether N or V, is added to the participants' view of the situation.

When laughter is elicited in the interpreter by the original laugher, that is, when laughter is shared, there are significant communicative consequences. Consider next, then, what shared humor implies, and what constraints are imposed on those who wish to make others laugh. The central property that follows from the present theory and the very nature of communication is that shared humor requires a sharing of affective evaluations. Clearly, this requires considerably more mutual understanding and agreement than passive listening, since shared moral affect is not necessary simply to listen. Therefore sharing humor implies high-quality communication as well as shared affect and attitudes.¹⁰

Since failure of shared humor (jokes told to those who do not share the attitudes necessary to find them funny) may offend (Level 3 from Table 1) or confuse (Level 1 from Table 1) the listener, effective joke-tellers are constrained to tailor their jokes to their audiences' moral viewpoints. This can be understood in terms of the present theory in combination with the sociolinguistic theory of language style as "audience design" (Bell 1984), which details how it is that speakers tailor their speaking style to their listeners. If a speaker wants to have an audience laugh along with her, she must present a situation in a joke or other format which violates their norms and at the same time seems acceptable in some way to them. This is a tight-rope walk on the emotions; she cannot go too far in either direction (evoking too-strong feelings of violation, or evoking insufficient feelings of violation), or she will fail to get her audience to laugh. So the humorous speaker must either share or at least understand the values of her audience, so as to monitor what she says in order to prevent slipping off either side of the emotional tight-rope that the comic must walk. The same is true in any instance involving humor and intentional communication. If one wishes to ridicule someone by laughing at them, one must know that they share or at least respect one's views of what is a moral violation; otherwise it will not bother them when, by laughing at them, one communicates one's view that they are violating moral norms. And if in another type of situation one wishes to relieve group tension by introducing a humorous, perhaps deadpan/idiotic, interpretation of

the situation which otherwise constitutes a violation to those present, then it must be possible to convince the other people that the situation can in fact be seen as normal; if the others do not share the ability to pull back enough to get a normalized perspective, one's joking efforts at tension-reduction will fall flat. So anytime one wishes to communicate something by humor, shared values are essential, and if one does not actually share the values of one's audience, one must at least be able to understand and speak to their values, or the communication will fail or be misinterpreted.

Applications

The previous section began to explore how people who understand the import of each others' laughter arrive at an understanding of the appropriate communicative impact of laughter. In this section, the same method is applied to the wider problem of figuring out why others laugh at jokes or situations that do not seem funny or vice versa. So the theory is not only of theoretical interest for its ability to explain how people are able to communicate with each other using laughter, but also it has considerable practical importance, because people in situations where they do not understand why other people are or are not laughing can use the theory to figure out what is in the others' minds.

Again, the idea is simply that one must try to discover the principle being violated, or the interpretation under which the situation might seem normal. If things otherwise seem normal, but a violation that has no emotional impact to the observer can be identified in a situation in which another laughs, then the theory suggests that if that violation is the key to their perception of humor, then they have a moral and emotional commitment to the principle violated: they care about it.

The opposite direction of inference holds with equal validity: In a terrible situation, if someone laughs incomprehensibly, it may be inferred that they hold some interpretation in which the situation is normal, and this clue may be used to explore what that interpretation might be. Perhaps, for example, they cannot believe the violation really occurred. In many practical situations, however, due to the pervasive attraction of feeling morally indignant, people may often be unlikely to want to understand others' acceptance of the situation as normal when they see only a moral violation in it. This may limit the practical applicability of

the theory in some situations, since if one is indignant about the violation in a situation then one is not interested in looking for a way to see it as normal or acceptable. Nonetheless, the present theory provides a powerful and fine-grained diagnostic tool for discovering the emotional and moral commitments that people have:¹¹ if you think everything is normal in some situation, then simply consider what principles are being violated when someone laughs at it.

Consider a personal example. I was once driving my car with my friend Max in the passenger seat, and at some point when Max was watching me, I had a little fun by holding the steering wheel motionless with my knee and moving my hands, hand-over-hand, around the steering wheel, as though making a turn in the middle of a straight highway. The apparent violation of normal safe driving procedures was obvious enough (V), while the knee on the wheel and the continuing straight tracking of the car made it quite safe (N) despite the appearance of unsafe driving. Thus the simultaneous N and V interpretations were available to sponsor my mischievous laughter. Max was not amused, however, and said nothing. Because I had called attention to my hand movements by smiling mischievously and making eye contact, it was clearly wrong to interpret his lack of response as due to a failure to see the violation in the situation. Consequently, I inferred that he failed to see an N interpretation, where the violation was unreal and the situation was actually quite safe. Evidently (by Table 1) he was so emotionally committed to the principle being apparently violated (safe driving, in this instance) that detachment from it, sufficient to see the situation as actually normal and safe, was impossible, and thus humor was impossible. To make sense of this, I inferred further that he must have had some experience in which the importance of safe driving was impressed upon him very powerfully, so I guessed, asking "Have you been in an accident recently?" In fact he had been in two accidents in the previous year. It is evident that that experience had made Max take the principles of safe driving very seriously, so that he was threatened, not amused, by the appearance of unsafe driving. While on the one hand I might have had sensitivity, instead I was armed merely with the present theory of humor, and this provided enough of a clue in context to figure out why my attempt to share humor did not work.

To summarize, if you laugh and someone else does not, consider which condition is absent in the context: N, V, or their simultaneous juxtaposition. Conversely, if someone else laughs and you do not get it, look for

something in the situation which could involve a violation of something they care about, and infer that they do. In this way, this theory of humor may be used to penetrate to startling depths into the different worlds of moral and emotional attachments of individuals, groups, and cultures.

Conclusion

In the theory presented in this paper, humor occurs when a perceiver views a situation simultaneously as being normal and as constituting a violation of the "subjective moral order." The "subjective moral order" is defined as the set of principles which an individual both has an affective commitment to and believes ought to hold. Individuals' varying degrees of attachment to the principles violated in different situations are at least in some cases independently verifiable, and are found to be consistent with the theory in all cases examined here, thereby making the correlations stated by the theory (between personal moral attachments and perceived humor) substantive and non-circular. The three conditions of the theory were shown to be both necessary and jointly sufficient for humor perception.

The article has explored the ambiguity of something being 'not funny,' and a three-level scale of violations of the moral order was developed, which ranges from "no violation," to "funny violation," to "threatening violation," depending on the presence or absence or relative intensity of N, normal interpretations and V, perceived violations. The formal logic of these affective evaluations was explored. The intensity of perceived humor was explained by a "more is better" principle. Humor's role in transforming the affective evaluation of situations was derived from the theory. Also the irrelevance of the order of presentation of N and V in joke-telling was pointed out.

A number of properties which form the basis for various theories of humor were explored and put in their place, including absurdity and incongruity, timing and surprise, aggression, superiority, and comprehension difficulty. Two contemporary partial theories of humor, due to Gleitman and Raskin, were shown to be derivable as special cases of the present, more general, theory. Then a number of humor-related phenomena were explored, with a focus on those where interpretations vary: offensive or sick jokes and the humor of children (elephant jokes) and babies (peekaboo). Then, it was shown how various forms of laughing fit

into the theory, including tickling, exaggeration, puns, satire, and ridicule. Biological evidence consistent with the theory was adduced, including first, the isomorphy between the organization of the physiology of tickling and the elements of the present theory of humor, and second, a comparison with the physiologically similar responses of crying and gasping in pain. The former can be seen as isomorphic to humor in its internal organization: Tickling involves simultaneous normal and painful (tactile) perceptions. And crying and gasping in pain share an affective element of pain — along with humor, according to this theory, which thereby provides an explanation for the similarity of the physiological responses.

Finally, because the theory determines certain properties of shared humor, a rule of inference was derived for exploring the thoughts and feelings of people who do — and do not — laugh at particular situations. Thus the present theory shows both how humor communicates and also, when people do not share one another's perceptions of humor but want to understand each other, it shows how they can figure out what is in the others' minds. The theory can be applied as a fine-grained diagnostic tool for learning about different individuals and communities of individuals. Thus it may be useful in ethnographical or anthropological investigations of people and of systems of moral commitments, both for academic investigators interested in such topics, and for lay people in a complex world, who simply want to understand what makes those crazy people tick, and why they laugh at those stupid jokies.

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Notes

Thanks to Andrea Veatch, Norma Mendoza-Denton, Jonathan Haidt, Hadass Sheffer, William T. Reynolds, Shirley Brice-Heath, Mark Keavney, Victor Raskin, Henry Gleitman, Amy Carrell and others for helpful discussions. Thanks also for the useful comments of three anonymous reviewers. Most of this work was carried out with the financial support of a Mellon Postdoctoral Fellowship at Stanford University.

1. Aristotle wrote a volume on Comedy, lost since approximately 800 A.D.
2. My bibliography file contains 619 entries at the most recent count.
3. The theory does not have a behaviorist focus, since it centers on internal subjective interpretations and the resulting internal states rather than on external stimulus and observable response characteristics. Behavior is evidence for the

theory, but (with present methods) unobservables are its defining elements. Similarly, until not long ago, the theory of atoms was one of unobservable elements, supported by observable evidence.

4. This fact corresponds to Wyer and Collins' (1992) Proposition 8, that cognitive elaboration increases humor. See discussion below.
5. This explains Proposition 8 of Wyer and Collins (1992), which makes the role of further elaboration a central tenet or proposition of their theory. It is a consequence, not an axiom, of the present theory.
6. Kierkegaard (1941 [1846]: 446–7), Koestler (1964), Nerhardt (1976), Forabosco (1992), Wyer and Collins (1992) are some authors who propose a crucial role for incongruity or absurdity.
7. Thanks to Mark Keavney for pointing this out to me.
8. This explanation for the repetition effect is overlooked by Wyer and Collins (1992), where instead it is the reduced possibility for further cognitive elaboration in repetitions that is used to explain their reduced humor potential. This despite the fact that comprehension difficulty is an axiom of their theory, and despite the fact that the explanation is invalid: The fiftieth Monty Python movie rerun remains funny to some not because there are further cognitive elaborations discovered, but because the violations and the dead-pan normality interpretations remain convincing.
9. A comparative phonetic study of the acoustic properties of the different vocalizations in crying, laughing, and gasping in pain is called for. What acoustical properties make them distinctively identifiable? How can they be convincingly synthesized or accurately recognized by machine? Are there learned, culture-specific, communicatively important features of these vocalizations? What is shared (and what can vary) among all the very different vocalizations that are identifiably of one type or the other?
10. As much is implied by discussion in the speech-communication literature recommending humor as a tool for speakers, teachers, and others who wish to communicate effectively (e.g., Tacey 1967).
11. In doing ethnographic or other fieldwork to explore such questions, for example, one might also ask subjects what offends them, but that seems a more dicey method, since it is not a good thing to offend one's informants. Further, this tool is useful in everyday situations.

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