

From *Locus Neoclassicus* to *Locus Rattus*: Notes on Laughter, Comprehensiveness, and Titillation

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Let's face it: Laughter and humor have been of concern to philosophers at least as long as there has been Philosophy, properly so-called. Both Plato and Aristotle had something to say about it, as have various other philosophical luminaries since, including Cicero, Hobbes, Kant, Schopenhauer, Spencer, and Bergson, to name some names. Although it has had a certain *en passant* flavor to it in the philosophical mainstream, that may itself be an artefact of historiography and which philosophical writings are regarded as part of the canon: there certainly was no shortage of Renaissance philosophers and *philosophes* with an interest in laughter and humor.

Be that as it may, barely more than a couple of decades ago, in my experience, the study of laughter and humor was not regarded as a fit topic for Philosophy, of the hardnosed sort.¹ Fortunately, there has since been a steady trickle of significant writings by philosophers, also of the hardnosed sort.²

Still, despite having shunted laughter and humor to the sidelines, our philosophical tradition officially recognizes three main types of theories of laughter and humor: superiority theories (e.g. Aristotle, Hobbes), incongruity theories (e.g. Kant, Schopenhauer), relief theories (e.g. Aristotle again, Spencer, and that sometime honorary philosopher Freud). I mention these theories only in order to indicate the context for the theory proposed in John Morreall's 1982

¹ This attitude was reflected in the referees' remarks on a paper on laughter I submitted for a conference: one thought the topic was "too far beyond what is ordinarily considered to be philosophy", while another wondered "whether it might have been written by a ... psychologist".

² And perhaps the recent publication of an issue of the *Monist* on humor (January 2005) is an indication that Philosophy's marginalization of laughter and humor has come to an end. (The articles in that issue deal primarily with the content or ethics of humor, rather than the psychological or behavioral issues I am concerned with here.)

article “A New Theory of Laughter”,³ which can arguably be regarded as a contemporary philosophical locus classicus — or maybe we should match Morreall’s titular adjective and say locus *neoclassicus* — within the conceptual space and problematic marked out by these theories. In that article, and in subsequent writings, Morreall presents and builds upon a simple formulaic theory that enables him to underpin and develop his own positive views on laughter and humor.

What are the desiderata for a theory in the wake of the traditional Big Three? It should go without saying that ideally a new theory should explain both what is correct and what is incorrect about such traditional theories. A second desideratum is that the newly proposed theory should be comprehensive; it should apply to all situations in which we laugh.⁴ This is a tall order, for we laugh in situations that are so very diverse, as Morreall reminds us:

“We laugh not only at humor, but also when we are tickled, when a magician makes an object appear or disappear, when we regain our safety after being in danger, solve a puzzle or win a game, run into an old friend on the street, anticipate some enjoyable activity, and feel embarrassed, to name a few representative cases.”⁵

A third desideratum is that the philosophical theory should be useful for other (especially scientific) endeavors, or that it should at least square with the agenda of science. This is of course a matter of degree and propriety. To be sure,

³ John Morreall, “A New Theory of Laughter”, *Philosophical Studies* 42 (1982) 243-254. Reprinted with minor differences as the eponymous chap. 5 of his *Taking Laughter Seriously* (Albany: State University of New York Press, 1983), which in turn appears in shortened form as the eponymous chap. 16 of John Morreall (ed.), *The Philosophy of Laughter and Humor* (Albany: State University of New York Press, 1987).

⁴ Although it might do so indirectly, by allowing for some principled exclusions. For example, if the theory is stipulated to pertain to laughter only as a psychological phenomenon, laughter directly caused by brain injury might be excluded given an explanation of how such injury bypasses psychological links in the causal chain. The very status of such so-called laughter as laughter might also be denied on independent grounds, e.g. as when we rightly regard the laughterlike vocalizations of hyenas as not genuine laughter.

⁵ “A New Theory of Laughter” (1982), p. 243.

a theory known to fail in its generality may still have scientific cachet in a restricted domain, and an obviously false conception may still serve as a useful approximation or heuristic. But the situation that most interests us would be where aspects of the philosophical account carry over into or inform science under an initial presumption of general plausibility.

I leave it to readers to judge for themselves whether Morreall does justice to his predecessors. As for the second desideratum, the best-case scenario would be that of finding necessary and sufficient conditions for laughter, or a complete set of essential features of laughter. Failing that, we could rest content with merely necessary conditions or a partial set of essential features; this is where Morreall thinks he rests. And failing that, we might still be happy to have some sort of merely sufficient conditions, although that would already fall short of the desired comprehensiveness; failing even that, we could finally just settle for the highlighting of some “symptomatic” features of laughter, fitting some paradigms of interest but not others. But this last alternative would probably just give us back some of the traditional theories, minus their overgeneralization.

Morreall alleges that “an essence to laughter”⁶ is given by the formula that *laughter results from a pleasant psychological shift*, where a shift is to be understood as a sudden change.⁷ In other words, laughter per se has, or essentially bears, a causal property and having that relational property is a necessary condition for its being laughter. This falls short of the best-case scenario for the second desideratum, but one essential feature would still be better than none, and taken as a necessary condition for laughter, would be informative relative to an intuitive grasp of enabling, inhibiting, or standing conditions generally. Thus Morreall’s formula, if correct, would seem to express a metaphysical truth (about essence), and also a lawlike regularity, thereby ostensibly satisfying the third desideratum as well.

Unfortunately, like his predecessors, Morreall is guilty of overgeneralizing on certain paradigms of laughter. Admittedly, our common conceptions of these paradigms are phrased in terms of clichés that have almost the status of memes

⁶ “A New Theory of Laughter” (1982), p. 243.

⁷ “A New Theory of Laughter” (1982), pp. 248-9.

in popular writings on laughter and humor, namely that laughter is pleasurable or joyful on the one hand and that it involves the suddenness of surprise or of the unexpected on the other.⁸ But these concomitants, despite their centrality in our reflections on laughter, are not universal for all that: Laughter need not be caused by something pleasant, nor need it express a pleasant feeling. And laughter need not be caused by something sudden, unexpected, or surprising.

Since I have illustrated and argued these claims at length in previous writings,⁹ I will make do with a few brief examples here. Aggressive or antagonistic tickling, e.g. by a playground bully, can make one laugh in spite of oneself, agonizingly and joylessly, as can sudden unpleasant shocks, e.g. a blast of ice-cold water or the unexpected news of a friend's death, shocks that one is not amused by, there and then, or afterwards. Also, one may numbly join in with laughter at a malicious joke on oneself — laughing on the outside but not on the inside, as we sometimes say. As regards suddenness or surprise,¹⁰ we need only remind ourselves of so-called standing jokes or running gags, whose defining features are repetition, familiarity, and expectation. Moreover, a slow, continuous, caressing touch, accompanied by a gradual increase of tingliness, can also cause laughter, contrary to Morreall's view that tickling as such involves rapidly and suddenly alternating presence and absence of sensation.

⁸ Marvin T. Herrick, *Comic Theory in the Sixteenth Century* (Urbana: University of Illinois Press, 1964), pp. 44, 52, suspects that reference to unexpectedness or surprise as characteristic feature of the cause of laughter, in writings from the 16th Century onward, is due to the influence of Madius's essay, *De Ridiculum*, in V. Madius and Bartholomaeus Lombardus, *In Aristotelis librum de poetica communes explanationes*. (Venice: 1550), pp. 301-27.

⁹ "Laughing Matters", *Dialogue: Canadian Philosophical Review*, 22 (1983) 695-697; "Review of *Taking Laughter Seriously* by John Morreall", *Journal of Mind and Behavior*, 5 (1984) 115-118; "More on Morreall on Laughter", *Dialogue: Canadian Philosophical Review*, 26 (1987) 161-166; "Laughter and Pleasure", *Humor: International Journal of Humor Research*, 7 (1994) 157-172; "The Sudden, the Sudded, and the Sidesplitting", in Kjell S. Johannessen and Tore Nordenstam (eds.), *Culture and Value: Philosophy and the Cultural Sciences [Contributions of the Austrian Ludwig Wittgenstein Society, Vol. 13]* (Kirchberg am Wechsel, Austria: The Austrian Ludwig Wittgenstein Society, 1995), 224-232; "Laughter, Freshness, and Titillation", *Inquiry* 40 (1997) 307-322.

¹⁰ Robert C. Roberts, "Humor and the Virtues", *Inquiry* 31 (1988) 127-149, has also criticized Morreall on this point, arguing for a notion of *freshness* that subsumes surprise as a special case. Roberts's account is concerned with laughter at humor only. I discuss some problems with freshness in "Laughter, Freshness, and Titillation".

It is sometimes claimed that tickling must somehow involve surprise or unexpectedness because we cannot tickle ourselves. But we don't need to avail ourselves of a fancy Rube Goldberg device in an attempt to counter this claim. As it happens, I can tickle myself, with finger or tongue, on the roof of my mouth.¹¹ (Try it, dear reader; perhaps you can too.)

So Morreall's proposal does not satisfy the second desideratum after all; nor the third, in the sense in which it presupposes the second.¹²

Let us now briefly shift the focus to amusement. Amusement is generally regarded as inherently pleasant.¹³ Humor is much valued as a source of amusement, but it goes without saying that much else can amuse us besides the humorous (i.e. "amuse" narrowly understood in terms of a specific psychological response, not broadly understood in terms of passing time agreeably engaged). Indeed, many of the nonhumorous things previously mentioned that make us laugh can also be said to amuse us. However, even in the absence of cases of laughter caused by nonpleasant (i.e. unpleasant or neutral) feelings, there would still be cases of laughter for which "amuse" and its cognates would be infelicitous: one cannot properly be said to be amused by being manually tickled merely in virtue of its being enjoyable; nor does amusement enter into it when one laughs upon unexpectedly recognizing an old friend in a crowd.

Even with the tactic of distinguishing truth-conditions from assertion-conditions, it would take quite an artful dodge to construe generally the pleasant feeling caused by and expressed in laughter as amusement. Morreall acknowledges that we have no single word in English for this feeling and thinks this lack has led some theorists not to distinguish clearly between the behavior of laughter and the feeling it expresses. He stipulates that "amusement" is to fill this gap for him.¹⁴ However, this cannot be helpful when, in pursuit of a comprehensive general theory, we run up against the cases of nonpleasant

¹¹ To my knowledge, no complementary findings by autofellators have been reported to date.

¹² This is not to deny that Morreall's formula can be used to discuss certain subspecies of laughter in an illuminating way.

¹³ Although there may be borderline cases or vestiges of the older usage mentioned below.

¹⁴ In "A New Theory of Laughter" (1982) and (1983), but omitted in (1987).

laughter. For then we would be compelled to say that some cases of laughter that are definitely unamusing in an ordinary sense, are nonetheless amusing in Morreall's stipulated sense. That would defeat the purpose of Morreall's stipulation, which is to improve ordinary language, not to contradict it.¹⁵

It is noteworthy that Thomas Hobbes did not employ "amuse" or its cognates in his notorious variant of the superiority theory. This is to be expected, since the usual sense of "amuse" in the 17th and 18th Century, according to the *Oxford English Dictionary* (OED hereafter),¹⁶ was "To divert the attention of any one from the facts at issue; to beguile, delude, cheat, deceive." Another, less usual sense was "To divert the attention of (one) from serious business by anything trifling, ludicrous, or entertaining; *passing into* ... To divert, please with anything light or cheerful; ... *esp.* (in mod[ern] sense) To excite the risible faculty or tickle the fancy of" [original italics]; apparently the strict association of amusement with the pleasant was a later development, with the additional association with laughter constituting a special case. So in Hobbes's day (early 17th Century), there would have been less standing in the way of enlisting "amusement" as a semitechnical term for the feelings laughter expresses, both pleasant and non.

The perceptive reader will have noticed that I just snuck the plural, "feelings", into the last sentence. Another way of responding to Morreall's complaint that there is no single word for the feeling that causes and is expressed by laughter might be that this simply reflects the fact that there is no single such feeling: mirth is not joy, amusement is not delight, jollity is not gaiety, and so forth. However, I would not want to make too much of this in the present context. Granted, there are distinctions, some of them not even subtle, to be drawn among such notions; but we are pursuing a comprehensive general theory of laughter. Just as we are prescinding from different kinds of laughter (joyful

¹⁵ Is the contradiction merely apparent? If, as seems to be the case, the stipulated sense is supposed to extend the old range of application of "amusement" (and cognates) to new cases without overturning previous judgements as to what is amusing or unamusing (except those judgements in which the negatives are deployed in opposition to category mistakes, unidiomatic usage, or somesuch), then the contradiction is real enough.

¹⁶ *Oxford English Dictionary Online* (Oxford University Press, 2003).

laughter, hollow laughter, cackles, bleats), so we should prescind from different kinds of feeling expressed. Morreall's adjective "pleasant" is already doing that job for him, relative to the inherent pleasantness of mirth, joy, amusement, etc. I have simply been pressing the point that the job description this implies is too narrow, inasmuch as nonpleasant feelings can also cause and be expressed by laughter.

The problem here, if there is one, is the arbitrary and pragmatic nature of type/token discrimination: distinct tokens may be conveniently grouped together as belonging to a single type for some purposes but not for others, and the prospective types may belong to very different levels of description to boot. Despite the differences among the tokens of pleasant-feeling involved, there is no objection in principle to Morreall's grouping them together and giving them a name, although it would have been wiser to pick a less problematic one. Likewise we might add, there should be no objection to grouping nonpleasant feelings with pleasant ones.

In "Laughter, Freshness, and Titillation", I argued that *titillation* could serve as a minimal essential feature of laughter. The case for titillation was made with reference to senses of "titillation" found in the *OED*: "Excitation or stimulation of the mind or senses, *esp.* [NB: "especially" implies "not necessarily"] pleasing excitement, gratification" and "A sensation of being tickled; a tingling, an itching". Let us emphasize that these are *product* not process senses.¹⁷ The *OED* also provides citations that refer specifically to "intolerable" and "painful" titillation. Taking the first sense, and adapting Morreall's formula, we might say instead that *laughter results from titillation*, where the titillation might be neither pleasant nor sudden. Moreover, the titillating item might be sensation, as per the second sense above, or at one remove, whatever is responsible for the sensation (e.g. the act of tickling). Or it might be getting the punchline of a joke, or at one remove, the telling of the joke. Or it might be recognizing the old friend, the eureka feeling of solving a puzzle, and so forth, for whatever makes us laugh

¹⁷ Naturally the *OED* also indicates a process sense for "titillation", whereunder the act of tactile tickling is subsumed.

whether humorous or not. All the kinds of cases Morreall wishes to cover by his formula are covered by ours, as well as the additional cases I've argued ought to be covered.

What sort of beast is this minimal essential feature of laughter? There are several worries one might have about our replacement formula. Using the example of contagious laughter, Jill McIntosh writes:

“Titillation does not seem to capture this facet [contagiousness] of laughter. Recall the definition of ‘titillation’ offered above: it is excitation or stimulation of the mind or senses, whether or not such excitation or stimulation is occasioned by something humorous, sudden, or surprising, and whether or not it is pleasant or amuses. Now it is true that the laughter of others must, to be perceived, reach us via a stimulation of the senses. But surely this does not qualify it as a case of titillation. If it does, then I am titillated by everything I perceive.”¹⁸

The short reply is that the *OED*-inspired so-called definition of “titillation”, to which McIntosh adverts, only amounts to a necessary condition for a particular sense of the word. So we are ultimately relying on an intuitive grasp of a sense that is only partially explicated in the dictionary, as we often do when consulting a dictionary.

To be sure, when I look at a painting my senses are perforce stimulated in some thin, merely perceptual sense. But the look of the painting may not rouse or stir me, and so I may rightly claim, without contradiction, that the painting failed to stimulate me. The appropriateness of “stimulating” as an unnegated predicate adjective might perhaps be used as a rough guide here to segregate stimulation of the thin sort; the stimulation of my rods and cones just isn't stimulating *qua* stimulation of rods and cones. Moreover, our recognition of what might rightly be claimed or appropriately used presupposes an understanding of

¹⁸ J. S. McIntosh, “The Search for the Grand Unified Theory of Laughter; Titillation, Vervet Monkeys, and Despair: Or, Why I Never Think Before I Laugh”. Western Canadian Philosophical Association Conference, Winnipeg, Oct. 1997.

the different concepts involved and that may be enough for a number of purposes.

It may also be suggested that our replacement formula is somehow question-begging, circular, or vacuous.¹⁹ However, although we did engage in a bit of lexicology in justifying the use of the term “titillation”, and in explaining its intended sense, this does not presuppose commitment to any philosophically contentious programs of conceptual analysis.²⁰ Lexicology may involve some provisional a priori cogitation, but it proceeds largely by inference to the best explanation. Therefore our formula need be no more question-begging than induction. Moreover, were the definition of “titillation” to be completed to a set of conditions both necessary and sufficient, the result might only be circular in the benign sense that any process of iterated defining using a finite vocabulary must eventually come full circle;²¹ vicious circularity is not a foregone conclusion. And neither is our formula circular in that the explication of “titillation” already includes a reference to laughter.²²

Finally, we should remind ourselves that our titillation formula, like Morreall’s which it mimics, expresses an a posteriori proposition whose supposed necessity is nomic, a matter of lawlike regularity, not analyticity. Although the formula

¹⁹ McIntosh tentatively suggests this.

²⁰ As Alan R. White puts it: “Examining the relations between the various ways we classify things, and consequently between the characteristics which things necessarily have in virtue of being what they are, is examining the concepts we use. We can use the traditional word ‘analysis’ for this examination of concepts without in any way committing ourselves to the assumption that what is being examined is a complex whose component parts are to be revealed in the way that a chemist might analyze a substance....” Alan R. White, “Conceptual Analysis”, Charles J. Bontempo and S. Jack Odell (eds.), *The Owl of Minerva : Philosophers on Philosophy* (New York : McGraw-Hill, 1975), 103-117; see p. 105. A useful discussion of the importance of conceptual analysis specifically in philosophical psychology can be found in Chapter 1 of Robert C. Roberts, *Emotions: An Essay in Aid of Moral Psychology* (Cambridge University Press, 2003).

²¹ But the process can be made to bottom out with nonverbal ostension, e.g. indicating the sense of “red” by *pointing* to red fire-engines (as opposed to verbal ostension, e.g. *saying* that “red” denotes the usual color of fire-engines). Whether English actually has the finite vocabulary customarily claimed for it depends on how compound words for numbers are accommodated; if compound words count as distinct vocabulary items then of course the vocabulary of English can’t be finite.

²² And even if it did, it might not matter; cf. Jerry A. Fodor, *Psychological Explanation* (New York: Random House, 1968), p. 34 ff.

might prima facie be thought trivial or vapid on account of its minimality or extreme generality, that in itself is no bar to truth.

Vacuity, insofar as it imputes lack of empirical content, and does so in spite of the formula's not being a tautology or analytic statement, is a less straightforward charge to deal with. Inasmuch as titillation often does not lead to laughter and we don't yet have a story about enabling or inhibiting conditions, it's hard to know what to blame when laughter seemed imminent but failed to occur; indeed an occurrence of titillation (apart from the special case of tickling by touch, perhaps), doesn't seem to make laughter appreciably more probable or predictable.

Nevertheless, we can agree that in respects such as these, the empirical content of our titillation formula is not optimal, as is only to be expected of a merely necessary condition or single essential property. But this hardly shows that the formula lacks empirical content to the extent of being immune to falsification or disconfirmation.

After all, it is logically possible that, sometimes or always, both laughter and the titillation associated with it have a common cause not apparent from the phenomenology of laughter (where laughter and titillation are also related such that neither one causes the other);²³ and it is logically possible as well that, sometimes or always, laughter causes titillation.²⁴ Were either of these possibilities to obtain, our formula would be false. Evidence for either of these possibilities would be disconfirmation of our formula.

Of course faced with seemingly disconfirming evidence, the formula might still be retained for all that; background assumptions might be given up, tacit

²³ This parenthetical clause is needed to rule out realizations of this possibility that are trivially consistent with our formula. If causation is transitive, whatever causes titillation also causes laughter, and if additionally there are no intermediary causal links between titillation and laughter, whatever causes laughter, except titillation itself, also causes titillation; whereas if causation is neither transitive nor intransitive (the latter being in any case a nonstarter), some causes of titillation are also causes of laughter, and some causes of laughter, except titillation itself, are also causes of titillation.

²⁴ Cf. the causal reversal of (positive) affect and laughter in William McDougall, *An Outline of Psychology*, 7th ed. (London: Methuen & Co. Ltd., 1936), p. 165 ff; a similar view seems to be implied by the Lange-James theory of emotion, which McDougall discusses on pp. 326-28.

assumptions might be made explicit, terminology might be adjusted, data might be reinterpreted, and so forth. But as we know, this is part and parcel of legitimate science too, not just bad science or philosophy. I don't pretend to have a principled answer as to when it is legitimate to retain a theory and when it is not. As Fodor says:

“One can rarely determine whether a form of explanation is “vacuous,” “cognitively meaningless,” and so on simply by inspection. Rather, one must determine the background of theory and experiment in which the explanation is intended to function, including, perhaps, the scientist's own expectations about the kinds of theories in which the explanation *may* function at some future date. I suspect that it is largely for this reason that the attempt to formalize criteria for empirical significance has invariably proved unsuccessful.”²⁵

But to the extent that I can appreciate, for instance, that most astrological claims should get a failing grade — in light of astrology's background of facile reinterpretation, or even flagrant disregard, of its unsuccessful claims or the evidence against them, as well as for the deviously glib vagueness and ambiguity of its claims — to that extent I also recognize that it would be premature to pass similar judgement on our formula.

As it happens, our modest titillation formula segues, with a modicum of friction, into a hypothesis that is already under preliminary experimental investigation in psychology, namely the Darwin-Hecker hypothesis.²⁶ In a nutshell, the hypothesis is that “laughter induced by tickle and humour share common underlying mechanisms.”²⁷ The Darwin-Hecker hypothesis in effect

²⁵ Fodor, *Psychological Explanation*, pp. 36-37.

²⁶ Alan J. Fridlund and Jennifer M. Loftis, “Relations between tickling and humorous laughter: Preliminary support for the Darwin-Hecker hypothesis”, *Biological Psychology* 30 (1990) 141-150; Christine R. Harris and Nicholas Christenfeld, “Humour, Tickle, and the Darwin-Hecker Hypothesis”, *Cognition and Emotion*, 11 (1997) 103-110; the latter is tentatively disconfirming. I thank Stefan Iancu for bringing this research to my attention.

²⁷ This is the formulation in the prefacing abstract to Harris and Christenfeld (1997), which I prefer for reasons that will soon be obvious; the abstract in Fridlund and Loftis (1990) places the emphasis

mirrors (albeit imperfectly, due to the “friction” just mentioned and about to be explained below) our formula in a different idiom.²⁸ When we say that laughter results from titillation, this implies that both the laughter of tickling (by touch) and the laughter of humor result from excitation or stimulation of the mind or senses [or from “a so-called tickling of the mind” in Darwin’s phrase]. So our semitechnical term “titillation” can be regarded as belonging to an intermediate level of description that may eventually be further explained in terms of the underlying physiology. That is to say, “titillation” can be regarded as a placeholder in a functional characterization, a black box (a veritable “Tickle Trunk”, to borrow a name from Mr. Dressup),²⁹ eventually replaceable by a mechanistic physiological description. But now the theory expressed by our formula is indistinguishable from the Darwin-Hecker hypothesis.

Except maybe for the friction. There are two sources of friction here. One pertains to the issue of the multiple realizability of functional components. If “titillation” is a mere placeholder, the place could end up being filled differently in the cases of tickling-by-touch and humor. However, since the Darwin-Hecker hypothesis is itself not specific on what differences in realization might be subsumed under a common mechanism, the physiology of a tickle-by-touch causing a mental tickle (which then causes laughter) might be very different from the grasping of a punchline causing a mental tickle (which then causes laughter). The word “common” can selectively accommodate similarities that are few, but

somewhat differently, referring to “the Darwin-Hecker conjecture that reflexes underlying ticklishness mediate humor.” Both formulations entail sundry subsidiary hypotheses, some of which the research also addresses, that we will ignore here. The inspiration for this hypothesis comes from Charles Darwin, *The Expression of the Emotions in Man and Animals* (London: John Murray, 1872), chap. 8, and Ewald Hecker, *Die Physiologie und Psychologie des Lachen und des Komischen* (Berlin: F. Dümmler, 1873); see Fridlund and Loftis (1990), sec. 1.

²⁸ Amusingly, worries about vacuity seem to be mirrored too. An apologetic editor’s note to Fridlund and Loftis (1990) states: “This article fits well with the *Journal’s* renewed interest in biologically based explanations of human behavior. No physiological measures are reported, but self report data are related to biologically based theories. Further, the hypothesis developed in this initial report can be readily tested using objective observational and physiological measures.”

²⁹ In memory of Ernie Coombs (alias Mr. Dressup), 1927-2001. Coombs hosted a popular Canadian children’s television program, *Mr. Dressup*, in which he would routinely select a costume from a chest whimsically referred to as the “Tickle Trunk”.

salient, across otherwise significant differences, though this is equally an issue for both accounts if it is an issue at all.

The other source of friction pertains to laughter caused by and expressing nonpleasant feelings. The reports of the investigations into the Darwin-Hecker hypothesis do not make explicit pronouncements regarding this possibility. In passing, Fridlund and Loftis mention the independence of laughter from hedonics, namely that it can occur during grief, fear, embarrassment, or anger, as well as happiness, and that it has a connection to crying.³⁰ So they aren't guilty of having forgotten about cases that don't fit the favored stereotype. Such cases, I have argued, at least sometimes are cases in which nonpleasant feelings do direct causal work in producing laughter. But since Fridlund and Loftis do not go into relevant details, it remains indefinite whether they would regard the Darwin-Hecker hypothesis as subsuming such a possibility or whether they would even countenance such a possibility at all.

Harris and Christenfeld likewise do not directly address this question, although they do report that most of the subjects in their tickle study did not find the experience positive, one even referring to being tickled as "torture" despite having laughed.³¹ One conclusion they draw from their investigation is that "the results also leave open the possibility that tickle shares an internal state with other emotions such as social anxiety and that ticklish laughter might be similar to nervous rather than mirthful laughter."³² But again, since they are silent on relevant details, we cannot infer anything definite about the possibility of a direct causal role for nonpleasant feelings or about the accommodation of such a possibility by the Darwin-Hecker hypothesis.

So at present the Darwin-Hecker hypothesis is indeterminate in a way that the titillation formula is not. Here is where the philosophical account can inform the science, increasing awareness of and sensitivity to distinctions or possibilities that have been blurred or ignored. And maybe then, future investigations can

³⁰ Fridlund and Loftis (1990), p. 147.

³¹ Harris and Christenfeld (1997), p. 109.

³² Harris and Christenfeld (1997), p. 110.

determine whether the Darwin-Hecker hypothesis is best viewed as tantamount to the titillation formula or as a special case of it.

Let's close with a look at a later development: the supposed discovery of laughter in rats. Jaak Panksepp and Jeffrey Burgdorf write:

“Although laughter is a prominent behavior of the human species, reflecting our ability to experience joy and humor, only fragments of data suggest that other species have similar brain functions. Certain vocal patterns of chimpanzees and some lower primates appear to reflect the existence of homologous processes, but credible evidence for other species is marginal. However, considering the clinical evidence that the primal neural mechanisms for human laughter exist in ancient regions of the brain, including thalamus, hypothalamus, and midbrain, the existence of such processes in common laboratory species seems feasible, at least in principle. We now report evidence congruent with the presence of analogous, perhaps homologous, responses in domesticated rats” [embedded citations omitted].³³

Apparently adult rats emit two distinctive types of ultrasonic vocalizations (USVs). Short chirping high-frequency USVs, peaking at about 50 kHz, appear to reflect positive forms of arousal that occur at high rates during desired social interactions, whereas long low-frequency USVs, peaking at about 22 kHz, reflect negative arousal related to fear, social defeat, or the “postcopulatory refractory period”³⁴ Noting that young rats also emit an abundance of short high-frequency USVs in their rough-and-tumble play, Panksepp and Burgdorf continue:

³³ Jaak Panksepp and Jeffrey Burgdorf, “Laughing Rats? Playful Tickling Arouses High-Frequency Ultrasonic Chirping in Young Rodents”, in Stuart R. Hameroff, Alfred W. Kaszniak, and David J. Chalmers (eds.), *Toward a Science of Consciousness III: The Third Tucson Discussions and Debates* (Cambridge, MA: MIT press, 1999), 231-244; see p. 232.

³⁴ *Ergo post coitum omnis rattus tristis est.*

“In the following experiments, we determined whether the type of chirping seen during play has any resemblances to human laughter which may suggest a degree of evolutionary kinship between the two phenomena.

The easiest way to induce primal laughter and joy in young children is through tickling. ... We have now found that chirping at around 50 KHz is increased markedly in young rats by manual tickling and converging evidence suggests the response has more than a passing resemblance to human laughter [embedded citations omitted].”³⁵

Consideration of the “converging evidence”, as well as of the many interesting and suggestive parallels they draw between rat and human laughter cannot be undertaken here. What is of interest for our purposes is that Panksepp and Burgdorf appear to be open to the Darwin-Hecker hypothesis, inasmuch as Fridlund and Loftis (1990) appear among the citations for the following view:

“It is a reasonable but not a scientifically established view that ... the intrinsic ability of the nervous system to laugh and experience social joy is an essential precondition for the emergence of the type of mental sophistication that is able to find joy and laughter among the slapstick incongruence of life and the interplay of unpredictable cognitive events [embedded citations omitted].”³⁶

We can be charitable about the ostensible category-mistake involved in the characterization of the nervous system’s ability and regard it as a transferred epithet, a respectable enough species of figurative language. Less figuratively, what is responsible for the ability referred to is the “primal neural mechanisms for human laughter [that] exist in ancient regions of the brain”³⁷ or the “evolved emotional systems that we still share with other mammals”³⁸, which mechanisms

³⁵ Panksepp and Burgdorf (1999), p. 233.

³⁶ Jaak Panksepp and Jeff Burgdorf, “Laughing” rats and the evolutionary antecedents of human joy?, *Physiology & Behavior* 79 (2003) 533-547; see p. 542, col. 2.

³⁷ Panksepp and Burgdorf (1999), p. 232.

³⁸ Panksepp and Burgdorf (2003), p. 533.

or systems, in the case of rats, supposedly produce the laughterlike 50 kHz chirping during tickling and play. So the Darwin-Hecker hypothesis is now given a deeper evolutionary perspective, whereby it can accrue additional empirical content from considerations of comparative biology.

Again, we need to ask how this rat-infested take on the Darwin-Hecker hypothesis squares with our titillation formula. And again, we have the friction due to nonpleasant causes of laughter. Panksepp and Burgdorf state outright that “laughter is a simple and robust indicator of joyful social affect [for humans]”³⁹ and also take their experiments to show that “chirping emitted by tickled rats is a robust phenomenon”, to which they immediately add, “More than 95% of the young animal[s] we studied so far have unambiguously exhibited the response....”⁴⁰ So robustness permits nonconformity of at least 5%. Maybe that’s enough, in the human case, to cover the laughter caused by nonpleasant feelings, or at least the laughter caused by unpleasant feelings; neutral feelings can always be treated as pleasant by courtesy. But in the case of 50 kHz chirping caused by tickling, the behavioral evidence is that *none* of the rats seemed to regard tickling as aggression, all reacting playfully when tickled (although some did resist attempts to tickle). So the chirping seems to be caused only by feelings of positive affect (Panksepp and Burgdorf use the term “enjoy”).

It might be thought that this counts against our titillation formula, but actually it does not. Our formula regards titillation disjunctively, as either pleasant or nonpleasant, in order to accommodate the diverse phenomenology of human laughter. However, there is no requirement that each disjunct must be realizable for all species that laugh, that for rats there must also be cases of 50 kHz chirping in the absence of “enjoyment”. Humans have more going for them than rats: convoluted brainware and intricate cognitive interference may uniquely enable the extra alternative for humans. Even so, this possibility is not yet entirely ruled out for rats. Panksepp and Burgdorf write:

³⁹ Panksepp and Burgdorf (1999), p. 231.

⁴⁰ Panksepp and Burgdorf (1999), p. 240.

“One of the potentially inconsistent findings is the existence of some 50-kHz chirps during aggressive encounters. ... However, we note that it is the intruder animal[s] that exhibit the vast majority of the aggression-related 50-kHz vocalizations, and the levels are so sparse as to be of dubious significance when contrasted to the high levels evident during play and tickling” [embedded citations omitted].”⁴¹

“Although Darwin noted in his *The Expression of the Emotions in Man and Animals*: “Laughter seems primarily to be the expression of mere joy or happiness”, we would note that the motor expressions of laughter and the affective experience of mirth may be elaborated in distinct areas of the brain [embedded citations omitted].”⁴²

The first passage invites a reminder of human cases. Unprovoked and unexpected violent attacks can elicit hollow laughs that reflect shocked surprise, bewilderment, anguish, or dismay, not pleasant feelings like amusement or mirth. Such occurrences may be few and far between, in comparison with the frequency of the aggressor’s laughter in such attacks, and in comparison with the usual laughter of play or tickling, but they nonetheless matter. Maybe rats are capable of more complex feelings than are presently dreamed of in our psychology, or less tendentiously, maybe affective states in rats have a facet or two more than has been assumed.

The second passage seems to allow for joint “elaborations” that consist of pairings of laughter with feelings other than mirth. Such different pairings are often related to pathological disorders involving compulsive laughter, and such laughter could perhaps be excluded on principled grounds, as we might exclude a toper’s flush from counting as a blush. But not all such pairings are manifestations of pathological disorder. Some such pairings may even have an evolved “natural function”: think of the kind of *mocking* laughter that also

⁴¹ Panksepp and Burgdorf (2003), p. 538. The intruder rats must be Hobbesian laughers.

⁴² Panksepp and Burgdorf (1999), p. 241.

functions as a warning: “I am not amused.” Our language has many such expressions for nonpleasant laughter that carry no implication of dysfunction,⁴³ but reflect instead the rich, complex diversity of our evolutionary heritage.

* * *

In this paper, I recapitulated the case for an alternative to Morreall’s formulaic theory of laughter, an alternative that, while equally minimal, attempts to do justice to instances of laughter that may not be caused by or involve the expression of feelings that are pleasant. This alternative, the titillation theory, was then defended against charges of vicious circularity, triviality, and vacuity, and shown to have empirical content. Furthermore, it was shown that the titillation formula has a close counterpart in a hypothesis already under preliminary scientific investigation, thus raising the possibility of a useful collaboration between philosophy and science. Finally, it was suggested that the titillation account, certain indications to the contrary notwithstanding, can be squared with recent work in psychology alleging the discovery of evolutionary antecedents of human laughter in rats.

⁴³ Cf. the discussion of acerbic laughter in my “Laughter and Pleasure”, pp. 163-64.