

REVISITING THE SOKAL HOAX: THE PARADOXICAL GRAVITY OF BOUNDARY ISSUES

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In the first section of my paper, I want to consider the “paradoxes of complementarity” between polarised notions such as the quantum concepts of “wave” and “particle.” I will argue that if we treat this topic with all the “gravity” it deserves, we will be able to understand once and for all why this debate (and others like it) can never be completely resolved (paradox intended). In the second section, I want to consider the notion of “parody.” At the end, astute readers must determine for themselves whether I can be trusted to mean what I say, or whether this is all merely ironic, a post-modern hoax, one that undercuts the very boundaries it installs.

A: Is there a difference between a fraud and a hoax?

B: I think so. A fraud is any simulation of the “real thing” intended to deceive everyone. However, a hoax is perpetrated with the intent to deceive only those not clever enough to see the clues indicating its simulated status.

A: Then suppose I were to begin my academic paper with the following statement: “The reader is forewarned not to trust me, since what follows is a hoax.”

B: You will forgive me if I ignore the paradox contained in your statement. I can only conclude that what follows in your paper could not be a hoax, since no one would be deceived because you warned them ahead of time. This violates my stipulated definition that someone be deceived.

A: But what if the hoax is that there is no hoax that follows? I would thereby fool everyone into looking for something that does not exist.

B: Then it still would not be a hoax since everyone would thereby be deceived, thus making it a case of fraud instead.

A: But I could reasonably assume that clever people like you would indeed outlaw my quest to perpetrate a hoax by not having a hoax. Thus I

would still meet the conditions of your definition of a hoax: some see through the ruse, while others do not.

B: I guess then you would have a paradoxical hoax: one that is and is not a hoax.

I begin this academic paper with the foregoing dialogue for two reasons. First, because it violates the boundaries between literature and academic philosophy even as it tries to draw a clear boundary between a fraud and a hoax. The status of boundaries will be one of the key subjects of this paper. Second, because this dialogue demonstrates just how complicated it is to determine the nature of a hoax, let alone whether or not readers can reasonably be expected to know when they have been cleverly duped. The editors of *Social Text* in 1996 faced a similar dilemma, though they were unaware of it at the time.¹ They accepted a paper submitted by Alan Sokal, one they thought to be a sincere account of current post-modern philosophy of science focussed on elucidating the notion of quantum gravity. However, Sokal argued elsewhere that competent editors should have seen through his hoax and read it as the mocking parody it was intended to be.² A passionate debate, still going on today among supporters on either side, was touched off by this episode.

Stanley Fish, in defence of the editors of *Social Text*, argues that no “sane” post-modern philosopher of science would deny that we can know the “real” world, as Sokal implies is all too often the case in his parody.³ Sokal is willing to admit that “we have no direct, unmediated access to external reality,”⁴ an admission that ought to make most post-

¹ Alan Sokal, “Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity,” in *The Sokal Hoax: The Sham That Shook the Academy*, (ed.) the editors of *Lingua Franca* (Lincoln: University of Nebraska Press, 2000), 11–45. Hereafter referred to parenthetically in the text as TB.

² Alan Sokal, “Revelation: A Physicist Experiments with Cultural Studies,” in *The Sokal Hoax*, 49–53. Hereafter referred to parenthetically in the text as R.

³ Stanley Fish, “Professor Sokal’s Bad Joke,” in *The Sokal Hoax*, 81.

⁴ Alan Sokal, “What the *Social Text* Affair Does and Does Not Prove,” in *A House Built on Sand: Exposing Postmodernist Myths about Science*, (ed.) Noretta Koertge (NY: Oxford University Press, 1998), 17. Hereafter parenthetically referred to in the text as STA.

modern critics happy. Moreover, not only is *Social Text* part of the political left, but Sokal claims to be trying to speak for the “academic left” as well.⁵ Accordingly, one wonders why this debate continues at all if most of the participants are as close in ideology as Obama and Clinton were in the 2008 presidential primaries. Indeed, one wonders why this debate has evoked such sarcasm on both sides and exposed so many hurt feelings. I do not think these questions have been adequately answered as yet, and thus they provide, in part, the impetus for this paper. The other motivating factor is that Sokal has recently published a book entitled *Beyond the Hoax: Science, Philosophy, and Culture*.⁶ He claims to have a “visceral distaste” for books of “loosely connected, previously published essays.” (BH, xi) Despite the fact that his own book fits such a genre, I will give him the benefit of the doubt, since it is at least “coherent,” while containing addenda and a few new articles that advance the debate, as we will see.

In the first section of my paper, I want to consider the “paradoxes of complementarity” between polarised notions such as the quantum concepts of “wave” and “particle.” I will argue that if we treat this topic with all the “gravity” it deserves, we will be able to understand *once and for all* why this debate (and others like it) can *never* be completely resolved (paradox intended). In the second section, I want to consider the notion of “parody,” since Sokal chooses this device with which to satirise his opponents. The fact that he unwittingly uses a technique that seems synonymous with the post-modern enterprise itself is ironic, since he hopes with it to destroy the very pretensions of this enterprise once and for all. Finally, that Sokal in his parody provides a mocking “narrative” of post-modern philosophy of science (in order to defend the very boundaries between science and pseudoscience) is also ironic, for post-modern criticism consciously blurs the boundaries of all disciplines, especially those between the *logical* discourse of science and the *narrative* discourses of history, literature and fiction. Thus Sokal

⁵ Alan Sokal, “Why I Wrote My Parody,” in *The Sokal Hoax*, 127. Hereafter referred to parenthetically in the text as WW.

⁶ Alan Sokal, *Beyond the Hoax: Science, Philosophy, and Culture* (Oxford: Oxford University Press, 2008). Hereafter referred to parenthetically in the text as BH.

unwittingly undermines the very clarity of his position by using the ambiguity of narrative as such. My conclusion, however—that both sides of this debate are of equal merit—cannot help but lead to a paradox, since I will also be admitting my bias in favour of the post-modern stance. At the end, astute readers must determine for themselves whether I can be trusted to mean what I say, or whether this is all merely ironic, a post-modern hoax, one that undercuts the very boundaries it installs.

The Paradoxes of Complementarity

If quantum mechanics has taught us anything in the humanities, it is that reality can adequately be described only in terms of polarised sets of concepts, e.g., “waves” and “particles.” Moreover, all of our efforts to harmonise such polarities suggest that contraries are “opposing, conflicting, and antithetical on the one hand, and complementary, mutual, and inextricable on the other.”⁷ In other words, paradoxes abound when we try to respect both perspectives. For even when we try to do away with either/or thinking, we only thereby re-establish another either/or dichotomy between an impoverished and a more adequate way of thinking. On the one hand, whenever we try to keep our slices of reality separate, like looking-glass cake, they always come back together again. On the other hand, each time we try to deal with reality as a whole, our measurements leave us with just a slice, either a “wave” or a “particle.” Boundaries appear necessary and yet ever so fluid at the same time.

Scott Kelso and David Engstrom, in their recent innovative study, try to coordinate these “non-linear and context-dependent” relationships of “complementary pairs” and conclude that they exist together as “modes of a dynamical system that is capable of moving between boundaries even as it includes them.”⁸ For them, such “dynamical” systems can best be explained in terms of the “coexistence” of parts and wholes with individual elements “competing” with one another as well as “cooperating” as higher wholes at one and the same time.⁹ Thus, an ade-

⁷ J. A. Scott Kelso and David Engstrom, *The Complementary Nature* (Cambridge, MA: The MIT Press, 2006), 49.

⁸ *Ibid.*, 8–9.

⁹ *Ibid.*, 12.

quate description of the parts requires that a meta-level perspective of the whole be considered as well, and vice versa.

Now, Kelso and Engstrom acknowledge the crucial insight of quantum mechanics that it is in the act of observation or measurement that information is created in terms of either one polarity or its opposite.¹⁰ I would argue that this implies the critical claim that every utterance (or interpretation of prior statements) is necessarily going to involve a bias toward one polarity over its opposite. But why can I not affirm, for example, that reality is *both One and Many*, thereby avoiding bias in favour of one or the other? The answer is that this new reality I affirm as both One and Many must be judged by me as either a coherent or incoherent reality, thus resurrecting in a disguised fashion the very categories of the One and the Many once again. Moreover, anyone who hears me utter the claim “Reality is both One and Many” must also decide how to interpret it: as an affirmation of some mystical wholeness or as contradictory gibberish akin to a “square circle.” One cannot avoid such choices between polarised interpretations, however hard one may try to be neutral or all-inclusive.

Sokal and his allies are uneasy with the use we humanists make of scientific theories and of our application of literary metaphors for understanding scientific notions. (BH, 12) So, instead of dealing with the implications of quantum theory, let me utilise the famous duck/rabbit diagram as my model. This well-known drawing can only be viewed at any one moment as either a duck or a rabbit. You always have to change your perspective to see it differently. And you can never properly be said to “see” it as a “duck/rabbit.” Only on some intellectual meta-level can we refer to these lines on a page as a “duck/rabbit.”

Now, Kelso and Engstrom regard Aristotle’s theory of the Golden Mean to be an early attempt to articulate a theory of complementarity. (BH, 58) I want to examine Aristotle’s theory here to provide an alternative vocabulary for dealing with our duck/rabbit diagram. Virtue, for Aristotle, consists in trying to avoid the extremes of excess or defect. Accordingly, one might argue that seeing our “duck/rabbit” diagram as *merely* a duck *or* a rabbit, but not as both/and, constitutes a defective perception or imagination. The problem with the above analysis is, of

¹⁰ *Ibid.*, 101.

course, the implication that each of us will make our assessment of what is excessive or defective from within our own limited “duck” or “rabbit” perspective. Aristotle observes in his *Nicomachean Ethics* that, “of the extremes, one is more erroneous, one less so.”¹¹ Which is the more erroneous extreme, moreover, is dependent upon “the things towards which we ourselves also are easily carried away; for some of us tend to one thing, some to another.”¹² Accordingly, he argues that “we must drag ourselves away to the contrary extreme; for we shall get into the intermediate state by drawing well away from error, as people do in straightening sticks that are bent.”¹³

The virtuous person, for Aristotle, may well be the perfectly balanced person, but there are many passages in his thought that suggest this is probably an unattainable ideal. For he argues that, “since to hit the mean is hard in the extreme, we must as a second best, as people say, take the least of the evils.”¹⁴ Hence, the “second best” virtuous person is the one who recognises his or her current excess or defect and acts accordingly in the contrary manner. However, once one does this, a new excess or defect arises anew, and we are again confronted with the task of dragging ourselves to the contrary extreme. Thus do we go back and forth between seeing a duck, and then a rabbit. My interpretation of Aristotle is thus a paradoxical one. On the one hand, we need to strive for an appropriate balance in our perceptions, judgements and actions between the opposed polarities of our existence. On the other hand, this very quest for balance unleashes in most people the very imbalance we are trying to avoid. Virtue as such is an abstraction that does not correspond to any existing stable state but, rather, to an ongoing process that never achieves definitive closure. Such a paradoxical approach, however, will now provide us the means to assess the debate that surrounds the Sokal hoax itself in terms of our duck/rabbit diagram.

Let us call the polarities in this debate by the following terms: “realism” and “relativism.” Robert Phiddian argues that many supporters

¹¹ Aristotle, *Nicomachean Ethics*, (tr.) W. D. Ross, in *The Basic Works of Aristotle*, (ed.) Richard McKeon (NY: Random House, 1941), 963.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ *Ibid.*

of Derrida and his deconstructive enterprise often “read his works selectively” in order to prevent any extremist interpretations of it.¹⁵ To be sure, his opponents are themselves guilty of the same kind of “selective” interpretation, since any complex work requires that we abstract from it some central focus, which results in many inevitable distortions. Fortunately, few of us are locked into only a “duck” or “rabbit” vision of the world, as evidenced by the ability of most of us to oscillate between seeing a duck or a rabbit in the diagram.

Therefore the question arises as to whether the editors of *Social Text* should have been able to see through the hoax and to view Sokal’s work for what he said it was, a parody mocking the post-modern way of doing philosophy of science. I will deal with this question more closely in the section on parody. But suffice it to say for now that my answer is sympathetic to these editors. Post-modern critics see the world differently than Sokal and his allies do. Accordingly, the editors exercised their usual selective and tolerant reading of a colleague’s work and ignored all the red flags of “extreme” relativism that Sokal intended to raise. Of course, from a realist’s perspective, this is sloppy, irresponsible scholarship on the part of the editors. However, if the editors are upset about Sokal’s labelling them as relativists, Sokal himself is equally upset about their accusing him of being a “positivist.” (WW, 117) He cannot understand how they could *not* see his “moderate realist” credentials. What seems obvious to Sokal is not obvious to the editors, and vice versa. For Sokal and the realist camp, the pressing challenge today is to avoid the excesses of relativism, to do “boundary maintenance.”¹⁶ For the post-modern camp, however, the urgent challenge today is to recognize that it is no easy matter for science to filter out “the social and cultural influences in the process” of discovering a critical realism.¹⁷ One side sees a “duck” while the other sees a “rabbit.”

In fact, what is most striking in the debate sparked by the Sokal hoax is the convergence of so many critics at a common, middle-ground position. Yet, if my foregoing analysis of the illusory nature of such

¹⁵ Robert Phiddian, “Are Parody and Deconstruction Secretly the Same Thing,” *New Literary History*, vol. 28, n. 4 (1997), 675.

¹⁶ Noretta Koertge, “Scrutinizing Science Studies,” in *A House Built on Sand*, 6.

¹⁷ Stanley Aronowitz, “Alan Sokal’s ‘Transgression,’” in *The Sokal Hoax*, 201.

“both/and” positions is correct, then we need to see the inherent bias in each argument for the middle ground. Let us begin with Sokal’s analysis of his opponents. He acknowledges that their writings are often “ambiguous,” allowing for a non-extremist interpretation, but such “weak (and trivially true)” claims are “boring,” since “obviously some social factors play a role” in scientific discovery. (STA, 13) He goes on to point out that most scientists and philosophers are part of “the middle ground,” and that even those he parodies are certainly not his “enemies.” (STA, 18) Yet, if his opponents can generously be interpreted as belonging to “the middle ground,” why then does he dismiss their contributions as “trivial” and “boring”? The answer lies in his bias that “extreme relativism” is a far greater danger than “extreme realism” today. Let us consider other problematic attempts at articulating the middle path’s acknowledgement that reality is both a duck and a rabbit.

Philip Kitcher nobly tries to fight for what he calls the “marginalized middle.”¹⁸ He points out the “realist-rationalist” contributions of Sokal and his allies, as well as the “socio-historical” contributions of the post-modernists.¹⁹ Over and over again, he repeats that “the challenge for science studies is to do justice to both clusters.”²⁰ While it is true that he defends the “valuable insights” of many members of the post-modern camp in contrast to the simplistic denunciation of the entire field by many of his colleagues, he has the honesty to admit that “my main aim has been to identify where Science Studies has gone wrong” by falling into the trap of relativism.²¹ If any article had the chance of achieving the “golden mean” it was Kitcher’s, yet even he acknowledges his own bias.

Michael Holquist and Robert Shulman agree that both sides of this debate (the editors of *Social Text* and Steven Weinberg, a Sokal ally) “are guilty of egregious overstatement and impatiently exclude a middle where the real complexities are to be found.”²² However, if Kitcher finds more fault with the post-modern critics, Holquist and Shulman claim that

¹⁸ Philip Kitcher, “A Plea for Science Studies,” in *A House Built on Sand*, 49.

¹⁹ *Ibid.*, 34–37.

²⁰ *Ibid.*, 37.

²¹ *Ibid.*, 48.

²² Michael Holquist and Robert Shulman, “Letter to the Editor of *NY Review of Books*,” in *The Sokal Hoax*, 160.

Weinberg's extreme view "is ultimately the more dangerous...because it represents in highly reductive terms a view probably held by many other scientists."²³ Even this duo refuses to see both camps as *equally* to blame.

Finally, to cite one last example, Stanley Fish claims that post-modern philosophers are not crazy relativists denying the existence of reality or the efficacy of science.²⁴ In this defence of *Social Text* in the *New York Times*, one might think he has joined the middle-ground position of Kitcher. However, his vitriolic attack on the ethics of deception practised by Sokal clearly reveals his own bias as well. Indeed, it is hard to see how any post-modern thinker could complain about the use of parody at all. Yet his vehemence is thus clearly a sign that, despite all the common ground between credible thinkers in both camps, there are still fundamental differences at stake. For each side views the other's bias as the greater excess or deficiency that needs to be corrected today. No one recognises the other's position as balanced enough, and few even see the bias in their own position. Despite so many calls for an avoidance of extremism, still each call for moderation reveals that one extreme is perceived to be more dangerous than the opposing extreme, just as Aristotle predicted.

But surely, one might argue, we can get both sides to agree on some kind of modest formula that betrays a bias toward neither side. Consider Barbara Epstein's description of the weak post-modernist position that both sides should apparently give assent to:

We would argue that although we do not possess ultimate truth and never will, it is nevertheless possible to expand our understanding, and it is worth the effort to gain more knowledge—even if that knowledge is always subject to revision.²⁵

The problem with such a balanced stand, which acknowledges the reality of both "duck" and "rabbit," is that it leaves itself open to being deconstructed. Extreme relativists can argue that the admission that all knowl-

²³ *Ibid.*

²⁴ Fish, "Professor Sokal's Bad Joke," 81–84.

²⁵ Barbara Epstein, "Postmodernism and the Left," in *The Sokal Hoax*, 219.

edge is subject to ongoing revision implies extreme relativism, despite claims to the contrary. And they can also argue that the claim that we can understand the dynamics of the ongoing revision of knowledge implies that there are some things about the real world that are indeed not revisable, despite claims to the contrary. Epstein thinks her claim a coherent one, while the extremists consider it incoherent and in need of revision to make sense.

This we could have anticipated given our Aristotelian “duck/rabbit” analysis of complementarity above. Of course, the reality of our experience is not totally dictated by the inevitable filters we adopt to mediate that experience. If the contrary were true, we would never experience any anomalies at all. The problem is how to *express* this dialectical interaction between our experience and the conceptual frameworks that shape our experience. When Sokal argues in his parody (tongue in cheek) that all prior scientific categories have “become problematized and relativized” (TB, 12), he demonstrates the problem of expressing opinions, let alone interpreting them. Does he intend these two terms to be synonyms or not? And if so, which one is the primary one? Does the post-modernist admission that knowledge is “problematic” suggest “moderate realism” or “total relativism” for Sokal? That the editors were confused by his intentions is not surprising, even if to the average reader the jargon alone should have signalled that something was rotten in Denmark. For, as Peter Osborne rightly points out, the average reader would also have been put off by Sokal’s own jargon-laced paper, elsewhere entitled, “New Lower Bounds on the Self-Avoiding-Walk Connective Constant.”²⁶ Even Steven Weinberg admits that physics articles are unintelligible to most non-physicists.²⁷

Most of us are concerned about keeping boundaries in some aspects of our lives and fairly open to boundary violations in other areas of our lives. And we are willing enough to recognise that our judgements about particular issues are fallible. Nevertheless, we all have our inevitable biases, inherited and/or learned from experience, which help shape our encounters with reality. Such biases inevitably result in social con-

²⁶ Peter Osborne, “Friendly Fire: The Hoaxing of *Social Text*,” in *The Sokal Hoax*, 198.

²⁷ Steven Weinberg, “Sokal’s Hoax,” in *The Sokal Hoax*, 149.

flicts and disagreements, such as those surrounding the Sokal affair. The inevitability of such conflicts need not cause us great concern, however, since evolving societies need advocates on both sides in a polarised debate to be able to progress in a dynamic way. For example, we need *both* “experience” and “change” to run a government well, even though we will never achieve total consensus on which of these qualities is needed right here and right now. The fact that we will never have total agreement about which side has the better argument on each issue does not imply relativism, however, since, as Sokal rightly argues, the fact that boundaries are necessarily blurred does not imply that there are no boundaries at all. (BH, 111)

In fact, Sokal is willing to admit that there can be no “sharp line” drawn between science and pseudoscience, and that “one would do better to envisage a continuum.” (BH, 267) And he has no problem acknowledging the “fallibilism” of the scientific enterprise, an admission that implies that all of our conclusions are at best “tentative, incomplete, and open to revision in the light of new evidence.” (BH, 264–65) But he would still maintain that there is a difference between truth and falsehood, something extreme relativists, though not shrewd postmodernists, would deny.

The Paradoxes of Parody

Alan Sokal’s choice of using parody to mock what he perceives to be the extreme relativism of post-modernism is ironic, if we consider Phiddian’s curious claim that parody and deconstruction are one and the same thing.²⁸ To discover why this is the case will first involve an exploration of the work of two of the most prominent theorists on the subject of post-modern parody today: Linda Hutcheon and Margaret Rose.

Hutcheon challenges the “standard dictionary definition” of parody as a “ridiculing imitation.”²⁹ She acknowledges that, indeed, the work of past artists is often mocked in distorted imitations, but she argues that the “ironic inversion” that occurs in parody need not always be

²⁸ Phiddian, “Are Parody and Deconstruction Secretly the Same Thing,” 681.

²⁹ Linda Hutcheon, *Theory of Parody: The Teachings of Twentieth-Century Art Forms* (NY: Methuen, 1985), 5. Hereafter referred to parenthetically in the text as TP.

“at the expense of the parodied text.” (TP, 6) She prefers the formula “repetition with critical distance,” since it leaves open the issue of what exactly is being criticised. (TP, 6) Indeed, the parodist could well be mocking the present by means of creatively transforming some past work or genre. (TP, 11) In every instance, though, we have a case of intertextuality functioning in a self-reflective manner, though not always with “comic effect.” (TP, 20) Hutcheon argues that, though difficult to verify, intention is crucial for distinguishing parody from other forms. (TP, 40) If the intention is to deceive, we have plagiarism, and if the intention is to imitate with critical irony, then we have parody. Moreover, parody can function in a conservative or revolutionary way, i.e., it can reinforce past social forms or create new ones based on the old. (TP, 26) Hutcheon also acknowledges the inevitable “elitism” of parody, since not everyone recognises either the parodied text or the ironic attitude involved. (TP, 27) Thus parody is necessarily divisive, for some get it and are on the inside, while others do not and are on the outside. Finally, Hutcheon argues that “ambivalence” is part of the “paradoxical essence of parody,” since we are never entirely sure in what direction its criticism is pointing. (TP, 77) Indeed, she would argue that genuine post-modern parody must never exempt itself from its own critical gaze: it must “acknowledge its own position as an ideological one” and “include in its own discourse an implicit (or explicit) reflection upon itself.”³⁰

In a later work on irony, Hutcheon can also be read as commenting upon the “risky business” of parody, since irony is always present in it.³¹ She claims that “irony [read parody] happens because what could be called ‘discursive communities’ already exist and provide the context for the deployment and attribution of [parody].”³² The implication she makes is that, if someone belongs to a different community than we do, the more likely it is that they will not recognise our [parody] unless we make it all the more obvious. Indeed, Hutcheon spells out in great detail the problems confronting the parodist in our “democratic” world today:

³⁰ Linda Hutcheon, *A Poetics of Postmodernism: History, Theory, Fiction* (NY: Routledge, 1988), 13.

³¹ Linda Hutcheon, *Irony's Edge: The Theory and Politics of Irony* (NY: Routledge, 1994), 9–36.

³² *Ibid.*, 18.

Those whom you oppose might attribute no [parody] and simply take you at your word; or they might make [parody] happen and thus accuse you of being self-negating, if not self-contradicting. Those with whom you agree (who know your position) might also attribute no [parody] and mistake you for advocating what you are in fact criticizing. They may simply see you as a hypocrite or as compromised in your complicity with a discourse and values they thought you opposed. They might also, of course, attribute [parody] and interpret it precisely as you intended it to be.³³ She neglects one other possibility. One of our works might be accused of being a parody when we had no such intent at all. Regardless, parody is indeed a “risky business,” if we are to accept Hutcheon’s analysis of it.

Margaret Rose defines parody differently than Hutcheon as “a reflexive form of meta-fiction which ‘lays bare’ the devices of fiction to refunction them for new purposes.”³⁴ She claims that there exist two theories concerning the attitude of the parodist regarding the text selected: the one, mockery, and the other, both admiration and criticism. (PMF, 28) She acknowledges that parody can be used “in journalism and other mediums of public communication,” but her concern is solely with its use in fiction and/or criticism. (PMF, 33, 61) Rose distinguishes “naïve imitation” from “parody” in terms of the techniques used in the latter: “total or partial caricature, substitution, addition, and subtraction; and to these may be added exaggeration, condensation, contrast, and discrepancy.” (PMF, 50) Moreover, she argues that parody is often used to criticise “naïve views of the representation of nature in art,” i.e., “unreflexive realism.” (PMF, 65–66) But such parodies “may either serve to argue for a more ‘realistic’ representation of the world...or for a more absurdist picture of the world.” (PMF, 73–74)

Rose also uses our duck/rabbit drawing as a metaphor for how parodies function ambiguously to “focus our attention both on what they represent or interpret and *how* this representation is achieved.” (PMF, 89–90) She argues that parodies can be used both to “demythologize”

³³ *Ibid.*, 16.

³⁴ Margaret Rose, *Parody//Meta-Fiction: An Analysis of Parody as a Critical Mirror to the Writing and Reception of Fiction* (London: Croom Helm, 1979), 14. Hereafter referred to parenthetically in the text as PMF.

and “to create new utopias.” (PMF, 93) Nevertheless, in general, a parody, “as the criticism of a prevailing manner of thought, does not aim to be soothing, but to disturb preconceptions.” (PMF, 131) She does consider the radical attempt to parody the very form of parody itself, but she concludes that such a use would “lead the parodist only deeper into a maze of self-reference.” (PMF, 155–56) Indeed, she argues that, far from crippling the use of parody, it would only end up in the “refunctioning” of parody for fiction in a more revitalised way. For example, she agrees with Hutcheon that parody has been used “in the cause of subverting established canons—of literary, political, and ideological kinds.... Yet it has, moreover, also been put to work in the cause of counter-revolutionary movements to mock subversion.” (PMF, 169) Thus, for Rose, even though parody as such cannot be eliminated as a subversive technique, it can be used to critique particular subversive movements.

What is of the utmost interest for our purposes is her treatment of this issue of parody and counter-parody. Rose shrewdly observes that Marx’s parody of Young Hegelian subversive parody “entrenched him even further in the style he was attacking.” (PMF, 169) In other words, “the use of parody to mock the parody used by an opponent for subversive purposes might also be suspected of paradoxically joining in the very game of subversion the conservative parodist would attack.” (PMF, 170) However, Rose also observes that “the tactical use of counter-parody to insinuate the parodist into the camp of his opponent—and into his audience—must also not be overlooked.” (PMF, 170) In other words, “this ‘counter-subversive’ use of parody might also be seen as an attempt to control subversion by ‘internalising’ it within the status quo.” (PMF, 170) She argues that this is what the Church did in legalising the medieval carnival, thereby controlling anarchic frivolity, and making the Church seem liberal in the process. Accordingly, Rose remains undecided whether such conservative counter-subversion “reinforces or ‘subverts’ the subversive function of parody.” (PMF, 171)

Now that we have considered contemporary theory on parody, perhaps we can draw some relevant conclusions for the Sokal hoax. Sokal certainly had his predecessors. Rose points out that in 1839, Engels was successful in pulling a hoax on a journal. (PMF, 49) The editors assumed that the poetry he sent them imitated their style, when, in fact, he intended his contribution as a parody of their journal’s lack of wit. Phiddian, however, recounts the woeful tale of one of Daniel Defoe’s at-

tempts at parody.³⁵ He parodied the style of reactionary Anglican pamphlets and advocated that dissenters be killed or exiled. Unfortunately, most of his readers missed the parody. Dissenters were appalled, and the Anglican clergy not amused, to be told later it was all a mere joke. Defoe was placed in the stocks on grounds of sedition.

Sokal has escaped this fate thus far. Like Engels, he wanted to demonstrate that the journal to which he sent his work was guilty of publishing foolish nonsense and doing great harm: “But how can one show that the emperor has no clothes? Satire is by far the best weapon; and the blow that can’t be brushed off is the one that’s self-inflicted.” (R, 53) When confronted with the charge of fraud, Sokal argues that he never *intended* to deceive the editors; they deceived themselves: “I intentionally wrote the article so that any competent physicist or mathematician (or undergraduate physics or math major) would realize that it is a spoof.” (R, 50) He does not fault the editors for their lack of competence in science, merely for their failure to consult a scientist to evaluate his article. (R, 51)

However, like Engels, Sokal must admit that he did indeed hope that the editors would fail to see the parody in his article. Was their failure to do so due to their own carelessness (or all-too-tolerant standards of interpretation) or to Sokal’s failure to transmit his intentions clearly enough via sufficient clues? Ironically, Sokal seems to agree with post-modern critics that “intentions” are not really verifiable, and so we are left with the mere evidence in the text itself. However, this is where Sokal and post-modernists part company. For Sokal, the textual evidence for the parodic status of his article is blatantly clear, while, for his opponents, it is necessarily problematic. Hutcheon, however, claims that one’s capacity for recognizing parody depends *in part* upon which “discursive community” one belongs to. This seems confirmed in the Sokal debate. For Kurt Gottfried, a member of Sokal’s camp, “any well-informed layman should have recognized it as a hoax.”³⁶ Yet one of the editors of *Social Text* is convinced that it was not written as a parody,

³⁵ Phiddian, “Are Parody and Deconstruction Secretly the Same Thing,” 683.

³⁶ Kurt Gottfried, “Was Sokal’s Hoax Justified,” in *The Sokal Hoax*, 190.

that Sokal's "admission represented a change of heart, or a folding of his intellectual resolve."³⁷

It is important to realise that post-modern philosophy of science is itself a parody of the "extreme realist" portrait of science. Rose indicates that this has often been the intent of much fictional parody: to poke fun at "unreflexive realism." For Sokal to use this rhetorical weapon to poke fun, instead, at "extreme relativism" is therefore an interesting move. However, it is a "risky business" for him to do so. If parody attempts to exaggerate the style of its target, then the question arises as to how one is to exaggerate a mode of thought that is already exaggerated, such as "extreme relativism." Sokal himself admits that Bruno Latour's post-modern account of Einstein's theory of relativity is so outrageous that "some of my colleagues have suspected Latour's article to be, like mine, a parody." (WW, 128) This admission is very damning. For how, then, can the editors of *Social Text* be expected to distinguish Latour's sincere contribution from that of Sokal's parody if both are equally outrageous?

Now we can examine all the textual evidence that Sokal points to as support for his parodic intentions. But in defending himself from the charge of deliberate deception, he makes a curious admission: "My article is a theoretical essay based entirely on publicly available sources, all of which I have meticulously footnoted. All works cited are real, and all quotations are rigorously accurate; none are invented." (R, 52) This testimony may lend credence to his claim that post-modern philosophy of science is indeed beyond the pale of good reason. However, it only provides more ammunition for the claim that he wanted to pull off his hoax. Had he really wanted these editors to see his work as the parody it was intended to be, he could easily have imitated the spirit of *The Journal of Irreproducible Results* that contains numerous and *obvious* spoofs of scientific research. Moreover, why not *invent* sources or outrageous quotations to signal his parodic intentions all the more blatantly? And the answer is obvious: Sokal *wanted* to fool his editors. More subtlety was thus required.

³⁷ As reported by Bruce Robbins and Andrew Ross, "Response: Mystery Science Theater," in *The Sokal Hoax*, 54.

Daniel Harris admits that Sokal committed an act of “intellectual terrorism,” but he hopes that post-modern journals will receive an even greater deluge of such “fraudulent manuscripts” in hopes that “this vast industry would collapse into a state of total disarray.”³⁸ Yet Harris’ metaphor of academia being “infiltrated by jargon-spewing moles posing as the real McCoy” should be disturbing even to Sokal.³⁹ For his whole aim is to do “boundary maintenance” between genuine science and pseudoscience. Harris rejoices that post-modern journals will not be able to spot the counter-agents in their midst. However, he fails to see that two can play at this game. Indeed, I am surprised that there has been no counter-parody of Sokal’s parody reported as yet. Would Harris be able to spot the “real McCoy” from the fake if he were editor of a “realist” philosophy journal? Thus we are left wondering, along with Rose, whether Sokal’s counter-parody of post-modern parody ultimately subverts and controls the latter’s subversive tendencies, or whether Sokal himself will be co-opted by the very subversive rhetoric of parody he has unleashed. However, if Sokal needs to confront the paradoxical implications of his using a technique designed to blur boundaries in order to preserve them, post-modern philosophers need to face the paradox that their parody of authoritarian institutions has often resulted in the triumph of reactionary movements (such as Hindu fundamentalism in India) under the very banner of multiculturalism itself.⁴⁰

The Paradoxes of the Two Cultures

The foregoing Cold War image of spies battling enemy spies might be a clever way to indicate Sokal’s desire for doing boundary maintenance of all kinds. After all, Steven Weinberg alludes to C. P. Snow’s famous phrase describing that war as a war between “two cultures” in his take on what Sokal was trying to demonstrate: “The results of research in phys-

³⁸ As quoted by Barbara Epstein in “Postmodernism and the Left,” in *The Sokal Hoax*, 224.

³⁹ *Ibid.*

⁴⁰ Meera Nanda, “The Epistemic Charity of the Social Constructivist Critics of Science and Why the Third World Should Refuse the Offer,” in *A House Built on Sand*, 286–312.

ics...have no legitimate implications whatever for culture or politics or philosophy.”⁴¹ Indeed, for John Huth, Sokal was trying to prevent post-modern critics from transporting concepts of social science to explain the natural sciences and vice versa.⁴² Moreover, Noretta Koertge, like Sokal, is appalled by post-modern textbooks that propose teaching science “on the basis of the narrative strategies and rhetorical devices employed, instead of through an analysis of the arguments and the kind of scientific evidence provided.”⁴³ All of these criticisms reflect Sokal’s basic desire to keep science from being confused with pseudoscience. In his article for *Social Text*, Sokal parodies the post-modern desire to “transgress disciplinary boundaries, taking on characteristics that had heretofore been the province of the humanities.” (TB, 23) Thus, we can assume he opposes the “democratization” and “politicization” of science that post-modernists promote.

Obviously, Sokal is no extremist, yet in his quest to rid science of the influence of extreme post-modernism, he risks re-establishing the huge divide between “two cultures,” a divide as great as that described by C. P. Snow in the past century. What is ironic, however, is that Sokal uses not only the humanistic device of parody, but the rhetorical weapon of narrative as well, in his now-famous article. For in it, he tries to provide a story that summarises “the important developments in physical science” over the past few decades as a context for understanding the “conceptual revolution” signified by “quantum gravity” today. (TB, 12) Sokal *seems* to acknowledge here Michael Goldberg’s insight about rhetoric:

Neither the “facts” nor our “experience” come to us in discrete and disconnected packets which simply await the appropriate moral principle to be applied. Rather, they stand in need of

⁴¹ Steven Weinberg, “Sokal’s Hoax,” in *The Sokal Hoax*, 152.

⁴² John Huth, “Latour’s Relativity,” in *A House Built on Sand*, 181–92.

⁴³ Noretta Koertge, “Postmodernisms and the Problem of Scientific Literacy,” in *A House Built on Sand*, 258.

some narrative, which can bind the facts of our experience together into a coherent pattern.⁴⁴

For such a rhetorical approach, arguments only gain cogency within the context of some narrative that we accept as governing our experience of life. Thus, any debate about the nature of science requires its participants to flesh out their competing stories about the scientific enterprise itself. Of course, one must provide arguments for why one story is better than another, which will, in turn, require the articulation of further meta-narratives. The point, however, is not that the narrative mode is superior to logical-empirical discourse, but rather that it is a necessary complement to the latter mode of reasoning. This Sokal finds it difficult to admit.

Like Sokal, Koertge objects to the post-modern narrative about science underlying pedagogical proposals: “To combat these alleged tendencies toward science worship or science boosterism, these commentators believe that science education must be transformed so as to present students with a less heroic and less idealistic picture of scientific inquiry.”⁴⁵ She prefers the more heroic and traditional emphasis on content and method, and less emphasis on the role of social negotiation that, for her, only undermines scientific objectivity in the eyes of students. Underlying her suspicion of post-modern pedagogical practices is her desire, noted earlier, to keep strict boundaries between the narrative and rhetorical strategies of the humanities and the empirical approach of the sciences. Clearly, the social sciences have seen a greater blurring of such boundaries than have the physical sciences thus far. Let us consider a recent development in social theory.

Gail Whiteman and Nelson Phillips have written an important paper in organisational studies that champions the role of narrative in research.⁴⁶ They cite Jerome Bruner’s famous distinction between “two modes of cognitive processing: the logico-scientific mode and the imagi-

⁴⁴ Michael Goldberg, *Theology and Narrative* (Nashville, TN: Parthenon Press, 1982), 242.

⁴⁵ Koertge, “Postmodernisms,” 266.

⁴⁶ Gail Whiteman and Nelson Phillips, “The Role of Narrative Fiction and Semi-Fiction in Organizational Studies,” *Erasmus Research Institute of Management Report Series* (Dec. 2006-079 ORG).

native-narrative mode.”⁴⁷ They acknowledge that, historically, academic research in all fields has favoured using the former mode, and this is what motivates them to try to change the relative neglect of the latter mode: “While our argumentation style (clearly thus far) follows a logico-scientific approach, we do so in an ironic attempt to argue ourselves (and our colleagues) out of a schematic academic box.”⁴⁸ Moreover, it is not simply historical narrative that they want to incorporate into social science investigations, but fictional narrative as well, since “the division between fiction and non-fiction is no longer fixed.”⁴⁹

They are referring to the recent blurring of the boundaries between history and fiction in post-modern philosophy. Hayden White is most representative of this trend when he argues that fictional techniques and structures are “crucial to the historical representation of events as well.”⁵⁰ Thus, if White is correct in his analysis, every historical description inevitably involves the exercise of fictional licence. Interestingly, hybrid forms of discourse, such as the “non-fiction novel” of Truman Capote, the “New Journalism” of Thomas Wolfe, the “New Historical Novel” of Latin America, and the “fictional memoirs” of James Frey and others, have evolved recently. There are also, today, novels about the lives of real persons, biographies that incorporate fictional dialogue, not to mention Nabokov’s fictionalised biographies of real people, and W. G. Sebald’s latest hybrid novels that combine fiction, biography, autobiography, travelogue, photographs, documents and political analysis. All of these experiments operate on the assumption that fiction can sometimes tell a greater truth than the mere recital of bare historical facts.

According to Whiteman and Phillips, narrative (pure fiction or hybrids, i.e., semi-fiction) can be used in research as either data or method.⁵¹ First, narratives can be treated as “intensive qualitative case studies,” e.g., using David Lodge’s novel *Small World* to understand the dynamics involved at an academic conference.⁵² Second, narratives can

⁴⁷ *Ibid.*, 9.

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*, 4.

⁵⁰ Hayden White, *The Content of the Form: Narrative Discourse and Historical Representation* (Baltimore: Johns Hopkins University Press, 1987), 51.

⁵¹ Whiteman and Phillips, *Erasmus Research Institute of Management Report Series*, 7.

⁵² *Ibid.*, 13.

also allow for a “more complex and nuanced presentation of theory,” i.e., a different way of applying or testing a theory in question.⁵³ They admit that there are few examples of this methodology as yet, probably because the peer-review system discourages such experiments.⁵⁴ They think semi-fiction or “faction” has the greatest “subversive” promise for research: “In particular we note the value of semi-fiction collage, where meaning builds with the layers of empirical data and narrative imagination which differs from a more linear style of rational composition.”⁵⁵ They acknowledge the problems that using such “creative license” can create for one’s credibility as a researcher, but they still think it is worth pursuing.⁵⁶

One problem that Whiteman and Phillips do not foresee, however, is the very real danger of the emergence of what I call “meta-fictitious scholarship.” When I began this article, I was seriously tempted to write a parody of a scholarly article that mixed real events, intellectual movements, journals, books, and authors with fictitious ones. After all, Wikipedia has a fascinating article on “Fictitious Entry,” suggesting that, for example, a fake biography of a fictitious (not fictional) person in an encyclopedia could be an elaborate fraud meant to deceive or a simple parody (hoax) meant to be seen through.⁵⁷ The article I was tempted to write would have been “meta-fictitious,” with all kinds of clues announcing its fraudulent status, e.g., it would have begun with the statement, “This article is a hoax.” It would have been intended to constitute a parody of a philosophy of science article written from within the “realist” camp. Only it would have announced its parodic status by means of obviously fictitious journals, authors, movements, etc. However, such an article would not have been published by any competent editor, who assuredly would have spotted the fake scholarship. Yet, if my fictitious entries had been too subtly crafted to escape notice, I would have been in the same position that Sokal is in now, but only if I had informed the world of my deception. The problem with my parody, how-

⁵³ *Ibid.*, 14.

⁵⁴ *Ibid.*, 15.

⁵⁵ *Ibid.*, 18–19.

⁵⁶ *Ibid.*, 19–20.

⁵⁷ See “Fictitious Entry,” in Wikipedia [www.en.wikipedia.org/wiki/Fictitious_entry].

ever, lies precisely in its use of “fictitious” scholarship, unlike the authentic scholarship used by Sokal. It is one thing to have to deal with plagiarism in academia, quite another to have to deal with a horde of “*nihilartikels*” corrupting the very fabric of evidential structure in scholarship today.

Sokal and his allies might allow the kind of experimentation Whiteman and Phillips promote, but only in the social sciences; they would argue that there is surely no room for using such narratives in math and the hard natural sciences. Koertge, for example, clearly bewails the post-modern call for downgrading “methodology, experiment, and manufacturing in favor of local environments, cultural values, and social justice.”⁵⁸ She argues that a political agenda just does not belong in a statistics classroom.⁵⁹ She and Sokal would thus have a hard time with the suggestion that we incorporate fiction in the doing of physics research. So what are we to make of this battle of the “two cultures” that, once more, rears its ugly head?

Ronald Shusterman suggests that we need to understand that science and literature have different attitudes regarding boundaries: “Science has to keep things apart.... Literature, on the other hand, is the realm where everything can be connected, at least potentially.”⁶⁰ Sokal and company will always object to the humanities trying to contaminate the scientific way of doing things, while humanists (especially post-modern ones) will always try to find a metaphorical way of integrating or linking their different pursuits. We are back to the problem of the looking-glass cake that wants to be split into slices, but once sliced, it comes back together again.

Sokal is certainly justified in not wanting to “conflate” concepts that need to be distinguished. (STA, 14) But even though he is, in one sense, correct that “physical theories are not like novels,” is there not some kind of value in the “cross-fertilization” of cultures he so wants to disparage? (BH, 12) Does he not, by using parody and narrative as well as the musical form of the “sonata” (BH, 38) in his own hoax, undermine

⁵⁸ Koertge, “Postmodernisms,” 258.

⁵⁹ *Ibid.*, 263.

⁶⁰ Ronald Shusterman, “Ravens and Writing Desks: Sokal and the Two Cultures,” *Philosophy and Literature*, vol. 221, n. 1 (1998), 133.

his very quest for conceptual and methodological purity? However, the same charge of performative contradiction can be made of the extreme relativists as well, who often forget to turn their own parodic gaze back upon themselves, since to do so would result in the suspension of their own scepticism. Their blurred vision could not help but be corrected were they to use the very lenses of their own instrument of deconstruction.

My own bias, however, consists in seeing more danger posed by Sokal than by post-modernists. In Sokal's recent book, *Beyond the Hoax*, the radical bias of his "moderate" position becomes all too evident. He is certainly right to point out that we must prefer science to pseudoscience (BH, 99), especially when it comes to issues such as the environment and the promotion of health, even if the distinction between them is merely on a continuum. However, it does not follow that what he regards as the arch pseudoscience, i.e., religion, ought to be done away with as valueless. His contention that the scientific point of view leads naturally to atheism (BH, 347) betrays the very fallacy that so annoys him elsewhere: the failure to maintain relevant boundaries. The imaginative-narrative mode of knowing may not be adequate for getting us to the moon, but it surely can serve as a complementary mode for understanding and coping with other matters of human experience. Moreover, Sokal fails to realise that Gödel's Theorem teaches us, if anything, that some judgements are "undecidable," especially those that try to determine the relative merits of complementary modes of knowledge from within one or the other's limited framework. Sokal rightly dislikes it when science is regarded as just one among many different ways of finding the truth (BH 295), for the theory of evolution is surely superior to that of creationism. Yet when it comes to dealing with the mystery of suffering, science *is* just one among many relevant points of view. This fact Sokal fails to acknowledge. His grandiose faith in science and disdain for religion is thus on a par with the sin of the fundamentalist's prejudice against science.

And so we are left with the conclusion that both sides of this controversy need to reconcile themselves to the fact that the other side is not going to go away. If civil discourse has not always been maintained in this debate, it is because so many of a critic's ultimate biases are in play. Nevertheless, any possibility of harmony must also be dismissed. For until I meet the perfectly virtuous and balanced person, I am resigned

to the belief that we are all necessarily inclined to think that one side of this cultural war is far more dangerous than the other. My own post-modern bias should be clear by now in this inevitably unsuccessful attempt to provide a balanced resolution to this debate. Or, perhaps I have provided a resolution, but, in keeping with my post-modern bias, a necessarily paradoxical one.

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