

Intellectual Impostures

(second edition, Profile Books, fall 1999)

Alan Sokal

Department of Physics

New York University

4 Washington Place

New York, NY 10003, USA

Internet : SOKAL@NYU.EDU

Téléphone : (1) (212) 998-7729

Fax: (1) (212) 995-4016

Jean Bricmont

Institut de Physique Théorique

Université Catholique de Louvain

2, chemin du Cyclotron

B-1348 Louvain-la-Neuve, BELGIQUE

Internet : BRICMONT@FYMA.UCL.AC.BE

Téléphone : (32) (10) 473277

Fax : (32) (10) 472414

December 2, 1999

Preface to the second edition

We are pleased by the interest that *Intellectual Impostures* has elicited, both in France and in the English-speaking world. In this new preface, we would like to make some general comments on the critical reactions to our work.

Let us begin by noting that many of our opponents, even the most virulent ones, concede *mezzo voce* that our main theses are valid. For instance, John Sturrock writes in the *London Review of Books* that “we’re bound — happy, indeed — to agree that, so far as the purportedly scientific metaphors or extended analogies in Lacan and Co. are concerned, Sokal and Bricmont are right, and that the impostors are abusing concepts that they don’t know enough about to call acceptably in evidence.”¹ Julia Kristeva, who accuses us of “disinformation”, nevertheless admits that “obviously I’m not a real mathematician.”² Michel Serres, who claims to be unaware of our book because he has no time to read the newspapers, is far harsher towards Baudrillard and Kristeva than we are: “It was indeed rather hilarious. I used to read them in the old days: it was enough to make one roll over with laughter.”³

So, what are we taken to task for? The criticisms can be divided roughly into four types. A (very) few reviewers discuss what we wrote and try to refute it. Other commentators raise objections (often perfectly valid ones) to ideas that are not in fact ours — and that we may have expressly *rejected* in the book — while attributing them to us implicitly or explicitly. Yet a third group of critics pretend to discuss our book, while actually doing something completely different: for example, attacking our personalities, our alleged motivations for writing the book, or the failings of scientists

¹Sturrock (1998, p. 8).

²Kristeva (1997). When one considers the extreme abstruseness of the mathematical concepts introduced in *Séméiotiké* (Kristeva 1969), one cannot help being a bit surprised by this remark (which is nevertheless totally correct). See Chapter 3 below.

³Farouki and Serres (1997, p. 14).

in general. And finally, some reviewers agree with us but think that we do not go far enough.

One finds, in the first category, an article by the American physicist N. David Mermin defending some of Latour’s ideas on the theory of relativity⁴, as well as a few commentaries by psychoanalysts and mathematicians on Lacan’s and Deleuze’s use of mathematics.⁵ Let us emphasize that these objections, while in our view mostly erroneous, are at least *relevant* in the sense that they try to address our arguments. But, concerning the “impostures” part of the book, there is (thus far) nothing else. The dearth of pertinent critiques amid the fury provoked by our book provides indirect confirmation of the validity of our theses: for if we were wrong, it would be easy to refute us by showing that the mathematics or physics invoked in the texts that we quote does indeed play some useful intellectual role.

Let us now turn to the much more numerous critiques that attribute to us, directly or indirectly, ideas that are not ours. Some of these authors discourse at length on what “Sokal and his friends” think (according to them), without bothering to cite a single sentence of our book.⁶ Others associate us with “scientistic” currents that they

⁴Mermin (1997b). See the Postscript to Chapter 6 for our response to Mermin’s criticisms.

⁵On Lacan, see Roudinesco (1998), Darmon and Melman (1998), Charraud (1998) and Sauval (1997–98). On Deleuze, see Salanskis (1998, pp. 170–173, 175–176).

⁶For example, Amy Dahan Dalmedico and Dominique Pestre (1998) speak several times about what “Sokal and his friends” (pp. 78, 80, 86, 90, 91, 93, 96) or “Sokal, Weinberg and others” (pp. 79, 81, 98) allegedly believe, without quoting anything from *Intellectual Impostures* to support those assertions and without distinguishing our ideas from those of our “friends”. Similarly, Yves Jeanneret (1998) speaks constantly of “Sokalism” and “Sokalians”, without defining this purported doctrine. Let us note that, by contrast, we never criticize an author for what his or her disciples or supporters say.

In reality, a careful reader will easily discern nuances between the ideas of Weinberg (1996a,b), Gross and Levitt (1994), and ourselves. After all, it is normal that people who have no “line” to defend should have divergent opinions on various topics.

then criticize (often rightly), implying that our ideas are similar but without offering a shred of evidence.⁷ The technique employed in all these attacks was explained over 150 years ago by Schopenhauer in *The Art of Always Being Right*: namely, enlarge your opponent's target so as to make him look ridiculous. For example, we have been accused of rejecting all metaphors, all poetic use of language, all transfers of concepts from one field to another, and even all critical thought.⁸ And people sometimes purport to “refute” us by exhibiting examples of useful metaphors or of philosophers who don't abuse science. But, like everyone, we are favorable to the use of metaphors and to philosophical analysis. We are simply opposed to mystification, which is quite a different matter.

Still other reviewers accuse us of being philosophical ignoramuses: they portray us as “naive realists” or as extreme supporters of “common sense” who neglect a century of debates in epistemology and philosophy of science. But these authors carefully avoid quoting a single word of the long Chapter 4 that we devote to these questions.⁹ Or else they quote selectively from the book in order to discover nonex-

⁷For example, Amy Dahan Dalmedico and Dominique Pestre (1998, p. 103) assert that we reject all social studies of science; Patrick Petitjean (1998, p. 120) claims that “Sokal fits well within the tradition of a certain left, notably French but also English, for which, since the 1930s, socialism has been based on science and in which any critical analysis of science is rejected as potentially obscurantist and prefascist.” Petitjean's article provides an interesting history of the debates over science and technology within the French left, but the position that he legitimately argues against is not ours. In fact, we have always stressed our sympathy for critical analyses of science and its social applications, provided only that these analyses are conducted with at least a minimum of intellectual rigour: see the Epilogue of this book as well as Sokal (1998).

⁸See, for example, Maggiori (1997), Dorra (1997), Bruckner (1997) and Simont (1998).

⁹For example, Dahan Dalmedico and Pestre (1998, p. 96) accuse us of trying to “obliterate” the debate on the epistemological work of Duhem, while in reality we quote *approvingly* Duhem's ideas about the theory-ladenness of observation (see note 73 on p. 62??? below). John Krige (1998) disparagingly calls our book a “political pamphlet” and asserts that it is “lamentably indifferent to the history and philosophy of science, and to the evolution in the social and historical studies of

istent “contradictions”.¹⁰ We are aware that these philosophical questions are subtle — much more subtle than the “impostures” part of the book — and we would be happy if our arguments were subjected to rigorous criticism. But, so far, nothing.

The third type of reaction — which purports to discuss our ideas but in fact does something quite different — takes various forms; here are a few:

1. *Name-calling*. Some of our opponents seem to think that clever epithets can replace the detailed refutation of our arguments.¹¹ And the insults are legion: “little science itself” — without a single word on our detailed discussion of the views of Kuhn, Feyerabend, Barnes, Bloor and Latour on precisely these issues. Mara Beller (1998) implies that Weinberg and ourselves are “naive realists”, but without providing any precise definition of that doctrine, much less any evidence that we adhere to it. Jim Holt (1998) claims that “powerful findings in the area of mathematical logic known as model theory . . . make the authors’ ‘realist’ explanation for the success of science . . . seem like empty metaphysics”; but he does not bother even to sketch for the reader how model theory allegedly refutes our philosophical claims (besides, we do not discuss in detail, much less defend, the doctrine in the philosophy of science known as “realism”: see notes 56 and 59 in Chapter 4).

¹⁰For example, Didier Nordon (1998) claims to see a contradiction between our description of the scientific method (“not radically different from the rational attitude in everyday life or in other domains of human knowledge”, p. 54??? below) and our remark that the theory of relativity describes phenomena that are very counterintuitive (Chapter 11 of the French edition). But there is no contradiction whatsoever between these two assertions, and the explanation is given a mere three sentences after the one quoted by Nordon: “scientific measurements are often much more precise than everyday observations; they allow us to discover hitherto unknown phenomena; and they often conflict with ‘common sense’. But the conflict is at the level of conclusions, not the basic approach.” Nordon is by no means the only reviewer to ignore our clearly-stated distinction between the *methodology* of science and its *content*: Staune (1998, pp. 31–32) and Jurdant (1998, pp. 15–16) claim to find the same alleged “contradiction”.

¹¹Note by contrast that, even if our tone is sometimes ironic, our book contains no personal attacks, slanders or insults. Our sole concern is the texts we quote and what, in our opinion, can be deduced from them.

schoolteachers”¹², “cowboy and pharmacist”¹³, “Francophobes” and “purveyors of disinformation”¹⁴, “gendarmes”¹⁵, “thought-cops”¹⁶, “censors”¹⁷ and even “dwarfs [who] resemble teenagers playing Game Boy all day long”¹⁸. Still more extraordinary, Philippe Sollers asserts, in an interview paradoxically entitled “Answer to imbeciles”, that our private lives “merit investigation”: “What do they like? What paintings do they have on their walls? What are their wives like? How are those beautiful abstract statements translated in their daily and sexual lives?”¹⁹ Well! Let’s concede once and for all that we are arrogant, mediocre, sexually frustrated scientists, ignorant in philosophy and enslaved by a scientistic ideology (neoconservative or hard-line Marxist, take your pick). But please tell us what this implies concerning the validity or invalidity of our arguments.

2. *Attacking our alleged motivations.* Some commentators, instead of examining our reasoning, attack the motivations that they attribute to us. For example, Julia Kristeva claims that our book forms part of an American economic and diplomatic campaign against France.²⁰ Isabelle Stengers sees it as a pure “commercial

¹²Stengers (1997). Note that the theme of “Sokal and Bricmont give poor grades in mathematics to Lacan *et al.*” (see also Droit 1997) totally misses the point: at school, students are required to write on certain subjects, but none of the authors criticized here was forced to use very technical notions of mathematics or physics in his or her writings.

¹³Lévy-Leblond (1997). The allusion is evidently to Monsieur Homais, the “scientistic” pharmacist in Flaubert’s *Madame Bovary*.

¹⁴Kristeva (1997).

¹⁵Roudinesco (1998, p. 27).

¹⁶Ragon (1998).

¹⁷Derrida (1997).

¹⁸Crépu (1997).

¹⁹Houellebecq and Sollers (1998, p. 56).

²⁰Kristeva (1997).

operation”.²¹ Vincent Fleury and Yun Sun Limet accuse us of seeking to redistribute research funds from the social sciences to the natural sciences.²² Again, this form of defense is curious: for even if our motivations were as alleged (and they most certainly are not), how could that affect the validity or invalidity of our arguments?

There is nevertheless something tragicomical in the critiques that portray us as “scientistic” and as irreducibly hostile to philosophy and the social sciences. Quite the contrary, it is our interest in those disciplines — an interest that many of our physicist colleagues consider excessive — that led us to discover and denounce the “impostures”. Our goal wasn’t to “defend the natural sciences”; in truth, the vast majority of scientists couldn’t care less (to put it mildly) about the pseudo-mathematical blather of Lacan, Kristeva or Deleuze. These obscurities’ negative effect is felt solely in the humanities and the social sciences. Moreover, when our detractors present our limited and precise criticism of obscure jargon as if it were a generalized attack on the humanities or the social sciences, they prove themselves to be the latter fields’ worst enemies. Indeed, to impose vastly lower standards of clarity and rationality on the humanities and social sciences than the ones demanded in the natural sciences is to show implicit contempt for the former. For example, when John Sturrock says that our critique of the gross abuses exposed in this book amounts to “apply[ing] criteria of rigour and univocity fundamental to their own practice [as physicists] which are beside the point once transferred to this alien context”, and illustrates what he means by praising Irigaray’s “wild and contentious theses” concerning the sexism inherent in the equation $E = Mc^2$ (“privileging what goes the fastest”) against the “stultifying

²¹Stengers (1997). This accusation is repeated in Stengers (1998, p. 268).

²²Fleury and Limet (1997). More generally, they accuse us of seeking a scapegoat for the economic, social and cognitive crisis that, in their view, science (and especially physics) is currently experiencing. This accusation is made also by Latour (1997) and Dahan Dalmedico and Pestre (1998, p. 103) in France, by Sturrock (1998) in England, and by Nelkin (1996) and Babich (1996, pp. 46–51) in the United States.

rigour so inappropriately demanded by Sokal and Bricmont”, one can only wonder who really looks down on the social sciences.

The fourth type of criticism comes from generally favorable reviewers who complain that our focus is too limited: in their view, we should have included a critique of Foucault or Derrida, of all postmodernism, of all contemporary French philosophy, or even of all the political left. Thus, Andy Martin, writing in the *Daily Telegraph*, observes rightly that our book “is not a thoroughgoing demolition job” and calls this “a wasted opportunity”.²³ Anne Applebaum, in the *Literary Review*, asserts (rather too hastily in our view) that “*of course* it [post-structural theory] is all rubbish. Why do we need a 294-page book to tell us that?”²⁴ But one can’t do everything in one book: we chose to limit this book’s scope both for reasons of competence and because we feel that the broader issues raised by these reviewers are far too complex to be discussed carefully in less than 300 pages. In any case, as the foregoing sample of reactions shows, our modest and irrelevant contribution has created enough debates to keep two mediocre physicists busy for a while.

Added Bibliography

Applebaum, Anne. 1998. “When kicking a dead dog can upset the applecart”. *Literary Review* (July): 43.

Babich, Babette E. 1996. “Physics vs. *Social Text*: Anatomy of a Hoax”. *Telos* **107** (spring): 45–61.

²³Martin (1998).

²⁴Applebaum (1998), emphasis in the original. Let us note in passing that Applebaum mistook mathematician Hermann Minkowski’s elegant and scientifically impeccable summary of Einstein’s relativity — “henceforth space by itself, and time by itself, are doomed to fade away into mere shadows, and only a kind of union of the two will preserve an independent reality” — for post-structuralist gobbledygook.

- Beller, Mara. 1998. "The Sokal hoax: At whom are we laughing?" *Physics Today* **51**(9) (September): 29–36.
- Bricmont, Jean and Alan Sokal. 1997. "Réponse à Vincent Fleury et Yun Sun Limet". *Libération* (18–19 octobre): 5.
- Bruckner, Pascal. 1997. "Le risque de penser". *Le Nouvel Observateur* **1716** (25 septembre–1 octobre): 121.
- Charraud, Nathalie. 1998. "Mathématiques avec Lacan". In: *Impostures scientifiques: Les Malentendus de l'affaire Sokal*, edited by Baudouin Jurdant. Paris: La Découverte/Alliage. Pages 237–249.
- Crépu, Michel. 1997. "Les intellectuels sont-ils des imposteurs?" *La Croix* (6 octobre).
- Dahan Dalmedico, Amy and Dominique Pestre. 1998. "Comment parler des sciences aujourd'hui?" In: *Impostures scientifiques: Les Malentendus de l'affaire Sokal*, edited by Baudouin Jurdant. Paris: La Découverte/Alliage. Pages 77–105.
- Darmon, Marc and Charles Melman. 1998. "Lacan est-il scientifique?" *La Recherche* **306** (février): 10.
- Derrida, Jacques. 1997. "Sokal et Bricmont ne sont pas sérieux". *Le Monde* (20 novembre): 17.
- Dorra, Max. 1997. "Métaphore et politique". *Le Monde* (20 novembre): 17.
- Droit, Roger-Pol. 1997. "Au risque du 'scientifiquement correct' ". *Le Monde* (30 septembre): 27.
- Farouki, Nayla and Michel Serres. 1997. Interviewed by Fabienne Rubert. *Enseignant Magazine* (novembre/décembre): 12–14.
- Fleury, Vincent and Yun Sun Limet. 1997. "L'escroquerie Sokal–Bricmont". *Libération* (6 octobre): 5.

- Holt, Jim. 1998. "Is Paris Kidding?" *New York Times Book Review* (15 November): 8.
- Houellebecq, Michel and Philippe Sollers. 1998. "Réponse aux 'imbéciles' ". Interviewed by Jérôme Garcin and Fabrice Pliskin. *Le Nouvel Observateur* **1770** (8–14 October): 54–58.
- Jeanneret, Yves. 1998. *L’Affaire Sokal ou la querelle des impostures*. Paris: Presses Universitaires de France.
- Jurdant, Baudouin, éd. 1998. *Impostures scientifiques: Les Malentendus de l’affaire Sokal*. Paris: La Découverte/Alliage.
- Krige, John. 1998. "Cannon-fodder for the science wars". *Physics World* **11**(12) (December): 49–50.
- Kristeva, Julia. 1997. "Une désinformation". *Le Nouvel Observateur* **1716** (25 septembre–1 octobre): 122.
- Latour, Bruno. 1997. "Y a-t-il une science après la guerre froide?" *Le Monde* (18 janvier 1997): 17.
- Lévy-Leblond, Jean-Marc. 1997. "Le cow-boy et l’apothicaire". *La Recherche* **304** (décembre): 10.
- Maggiore, Robert. 1997. "Fumée sans feu". *Libération* (30 septembre): 29.
- Martin, Andy. 1998. "A Jacques Lacan of worms". *Daily Telegraph* (27 June).
- Nelkin, Dorothy. 1996. "What are the Science Wars really about?" *Chronicle of Higher Education* (July 26): A52. [See also Letters (September 6): B6–B7.]
- Nordon, Didier. 1998. "Analyse du livre *Impostures intellectuelles*". *Pour la Science* **243** (January).
- Petitjean, Patrick. 1998. "La critique des sciences en France". In: *Impostures scientifiques: Les Malentendus de l’affaire Sokal*, edited by Baudouin Jurdant. Paris: La Découverte/Alliage. Pages 118–133.

- Ragon, Marc. 1998. "L'affaire Sokal, blague à part". *Libération* (6 octobre): 31.
- Roudinesco, Élisabeth. 1998. "Sokal et Bricmont sont-ils des imposteurs?" *L'Infini* **62** (été): 25–27.
- Salanskis, Jean-Michel. 1998. "Pour une épistémologie de la lecture". In: *Impostures scientifiques: Les Malentendus de l'affaire Sokal*, edited by Baudouin Jurdant. Paris: La Découverte/Alliage. Pages 157–194.
- Sokal, Alan. 1998. "What the *Social Text* affair does and does not prove". In: *A House Built on Sand: Exposing Postmodernist Myths About Science*, edited by Noretta Koertge, pages 9–22. New York: Oxford University Press.
- Staune, Jean. 1998. "Le Réel voilé et la fin des certitudes". *Convergences* **6** (printemps).
- Stengers, Isabelle. 1997. "Un impossible débat". Interviewed by Eric de Bellefroid. *La Libre Belgique* (1 octobre): 21.
- Stengers, Isabelle. 1998. "La guerre des sciences: et la paix?" In: *Impostures scientifiques: Les Malentendus de l'affaire Sokal*, edited by Baudouin Jurdant. Paris: La Découverte/Alliage. Pages 268–292.
- Sturrock, John. 1998. "Le pauvre Sokal". *London Review of Books* **20**(14) (16 July): 8–9.