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# THE SCIENCE WARS

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## A Dialogue

*Bruno Latour*

*Translated by Ashraf Noor*

**She:** So you're a sociologist and you do research on scientists? Well, then you can explain something to me. People in my lab are forever talking about the "Science Wars." What's all the fuss about?

**He:** If only I knew! I'd know what front to fight on, what equipment to carry, and what camouflage to wear. As things are, people are firing in all directions. It isn't easy to know what's going on.

**She:** I've heard that the main thing is to avoid relativism. But I'm a physicist, and that presents a real difficulty. Without relativity there'd be no possibility of making measurements and we'd each be prisoners, to all eternity, in some single point of view. In my discipline, we need the relativity of frames of reference in order even to begin work. I have a special need for relativity because I work on events close to the Big Bang. You don't need relativity, too?

**He** (*sighing*): Yes, of course, but *relativism* is one of the victims of this war; it's a refugee. For you, the word means relativity. But in the humanities and in ethics,

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it's an insult, implying: "you think that all points of view are valid, that all cultures are equal, that truth and error are on the same plane, that Rembrandt and graffiti have the same value, and that we can't distinguish between creationists and evolutionists because everything's valid and *anything goes*."

**She:** But *you* really think all of that! I'm appalled. My lab colleagues were right: "Never date a sociologist. . . ."

**He:** But of course I *don't* think so. I *told* you that was an insult, not a concept. The relativist is always the other guy, the guy to accuse of not respecting axiology, of not distinguishing between a mad and a sane scientist, between a cardinal and Galileo, between a Holocaust denier and a genuine historian.

**She:** Well, *do* you see the difference? Because if not, you're a relativist for sure.

**He:** Of course I see the difference. What do you take me for? The difference between departments of geology or geoscience and the curio cabinets of the creationists (I've visited some in San Diego—the "creationist research centers"!)- is so huge that I don't see the point of adding an even more absolute distinction between true and false. On the one hand, there are those who, for the last two centuries, have constructed the history of a world several billion years old, and on the other, there are those obsessed by the Bible and at war with abortion. There's no connection between the two. They live in incommensurable worlds.

**She:** So if I understand you correctly, you reject the accusation of relativism but claim there's no need for an *absolute* distinction between true and false in order to distinguish between this case and that. In my field, if you reject absolute frames of reference, you're a relativist. But for us, that's a positive designation, and relativity's the only means of achieving commensurability.

**He:** Very well, if you wish: I'm a relativist in the sense that I, like you, reject an absolute point of reference. I agree that this rejection permits me to establish relations and distinctions, and to measure the gaps between points of view. For me, being a relativist means being able to establish relations between frames of reference, and so, being able to pass from one framework to another in converting measurements (or, at least, explanations and descriptions). It's a positive term, I agree, to the extent that the opposite of *relativist* is *absolutist*.

**She:** If what you say is true, why do my colleagues so attack you? Are you keeping something from me? You're a wolf in sheep's clothing, *n'est-ce pas*?

**He:** Forgive me, but your colleagues aren't simply physicists, they're politicians too, and it's for *political* reasons that they call me every name under the sun. They're wolves pretending to be sheep under attack by wolves.

**She:** Hardly! And it's you they accuse of playing politics. They say you confuse matters of scientific truth with questions of value and that, for your disciples, everything is politics. To determine if my quasars are really there, in the constellation of the star Betelgeuse, and if they date from just a billion years after the Big Bang, all we'd have to do is gather the people in my lab and let them vote—after which, abracadabra, by consensus, the four quasars in question would appear in the sky at just the right time. As easy as adding a regulation to the traffic code or passing a law on compensation for acts of God.

**He** (*sighing again*): Easy! Only because you think politics consists of meetings and voting. Decisions are made and new things come into existence—abracadabra, as you say—all by themselves! But politics is a little more complicated than that.

**She:** Of course, yes of course—politics also consists of interests, passions, values, questions of ethics. But ultimately, is it Yes or No? Are you claiming that I can arbitrarily modify the number of quasars in the constellation of Betelgeuse, that my scientific papers aren't subject to any constraint from celestial phenomena, that science is simply a “language game” (I hear that's the à la mode expression)—are you claiming that I can say just anything that occurs to me?

**He:** Yes, you can say just anything that occurs to you. The question you've just asked is proof of that!

**She** (*beatedly*): Instead of insulting me, you'd do better to explain how a quasar is a social construction made out of whole cloth by my colleagues and me. You've written, it appears, some awful things about the “social construction of reality.” And to think I'm the one accused of saying just anything that occurs to me!

**He:** You see, this is what the Science Wars amount to: two intelligent academics posing stupid questions to each other. First of all, “social construction” doesn't mean a thing. And second, I'm not the one who uses the term—some of my colleagues do. At any rate, it's not the term that's the problem, it's your perversity and your scandalous double standards.

**She:** Now you're really over the top—you stand publicly accused of imposture and you permit yourself not only to insult me but also to claim that I'm a fraud?

**He:** But you *are* a fraud! Maybe the word's a little violent, but your colleagues insulted me first! Look, when you use a radio telescope, when you do simulations on your computers, when you print your maps in "false colors," when you calculate the redshift, when you apply the theories of particle physicists—do these instruments, theories, methodologies play a role or not in the conclusions you reach?

**She:** That's self-evident. Of course. We couldn't say a thing without them. The existence of quasars could never have been proven if—

**He:** Wait, wait, not so fast!—don't rush to the best part. Picture, if you would, a ledger, consisting of a credit column and a debit column. If I understand you correctly, you'd place your instruments, radio telescopes, budgets, theories, etc., in the credit column.

**She:** Of course, because they allow me to have my say about quasars.

**He:** Then what would you place in the debit column?

**She:** I don't know. Whatever prevents me from talking about quasars: poor instruments, confused data, disputes among theoreticians—above all, an inadequate budget. We can't transform the planet into an immense radio telescope, we can't coordinate our efforts to accomplish it, unless—which is incredible, because if we could coordinate our machinery, we could achieve . . . incidentally, at the last meeting of the International Association, I was elected to organize the second phase of the Sloan Digital Sky Survey, which should interest you because . . .

**He:** If you don't mind, let's not get lost. Your business interests me, but I'd like to finish with this little matter of accounting. So—it would never occur to you to say, "I've come to posit the existence of quasars *despite* the existence of radio telescopes and the panoply of equipment and theories that are connected to them"?

**She:** Certainly not. Because, as I've just told you, I've even been elected a member of the council entrusted with coordinating all the telescopes on Earth to make one huge antenna by 2005. And you haven't been listening to me.

**He:** Not so. I'm listening with great satisfaction as you entangle yourself in contradictions.

**She** (*piqued*): How am I contradicting myself? I'd like to know.

**He:** Because you're sweating blood to get new machinery in the credit column of your lab accounts. The more powerful your machines are, the more—so you claim—you can say exact things about your quasars. . . .

**She:** Naturally. That's how we work. What could be wrong?

**He:** What's wrong, my dear physicist, is that you change your accounts ledger depending on your audience—whether it's me or the general public. You always have two columns, one for credit and one for debit. But on the credit side, you now place the quasars, as if they're beyond discussion, and on the debit side you place your instruments, your budgets, theories, papers, colleagues—and you whine: “If only I didn't have all these machines and impediments, I could at last talk plainly and without obfuscation about my quasars.”

**She** (*coldly*): I said ex-act-ly the opposite. I said that without radio telescopes we couldn't speak about quasars.

**He:** Why, then, did you pretend, in making fun of me, that there's a choice to be made between politics and reality? *Either* you play politics and arbitrarily decide, abracadabra, by consensus at a meeting of your lab colleagues, on the existence of the four quasars of the constellation of Betelgeuse *or else* the quasars determine what you say about them in print. You were the one who imposed this awkward choice on me, this choice of “language game” versus “reality.” There are indeed two columns here: a debit column and a credit column; a column of language games, social construction, and discourse, a column of reality, truth, and exactitude. You have two languages, and your tongue is as forked as a viper's. When it suits you, when you're asking for money, you say, “The instruments permit quasars to speak.” And on the other hand, when it suits you, you say, “We must choose between social constructions and reality.” Personally, I think that's the epitome of fraud. . . .

**She** (*slightly embarrassed*): Hmm, perhaps I haven't been clear. It was my colleagues who said that you force a choice between social construction and external reality. And they said that, if you had free rein, there would be no way to distinguish between the sciences and all the absurdities of pataphysics, numerology, and astrology. They went to a talk that Alan Sokal gave and I was shocked by their report of what he said. According to them, you pose a matter of life or death for scientists. We can't let that happen.

**He:** But what is “that”? So far as I'm concerned, what we can't let happen is for the “Sokalists” to perpetuate this fraud, this intellectual imposture, this accounting racket whereby, on the one hand, reality and social construction are synony-

mous (the better the instruments are, the better reality can be grasped), and on the other hand, social construction and reality are in opposition. I'm sorry, but I think that there's the real scandal. If we were talking about the mafia, we'd say they were laundering dirty money . . . and what's more, it's antiscience. The Sokalist imposture renders the defense of scientific activity impossible.

**She:** So now you're interested in defending scientific activity, Mr. Sociologist—since when have you posed as a friend of the sciences?

**He** (*amused*): Oh, for some thirty years. I find the sciences interesting, rich, cultivated, civilized, useful, passionately engaging; and I can't understand how so many scientists comply in making them cold, stupid, uncouth, contradictory, antisocial, useless, and boring.

**She:** I'm completely lost. I also find the sciences passionately engaging. I devote my life to them, they *are* my passion. Then why are we in opposing camps? If you're right, we should be allies.

**He** (*somewhat tenderly*): But we are, my dear physicist, of course we're allies. It's the battle cry of the science warriors and *that alone* that forces us to believe in opposing camps, to rally and align ourselves as if there were a battle. But there *isn't* a battle. . . .

**She** (*once again distrustful*): No, if that were the problem, the Science Wars would not be so intense. My colleagues were foaming at the mouth when they came back from Sokal's seminar. The danger you represent must be more real than that of a dispute over accounting practices or the limits of constructivism.

**He:** Of course we represent a danger. We're the Sokalists' *political* adversaries.

**She:** So you admit, after all, that you want to *politicize* the sciences.

**He:** No, I attest I want to *depoliticize* the sciences so that they can't be used in this unsavory way as a tool for silencing political discussion.

**She:** Okay, then: the Sokalists, as you call them, are the ones who play politics. That's all there is to it?

**He:** There's more. While emphasizing the link between their language and reality, their constructions and truth, their instruments and the external world, they still act as if they and they alone had *unmediated* access to reality, truth, and the

external world. They act as if they possessed a magical machine that speaks the truth and pays no price for it in controversy, in construction in the laboratory, in arduous historical labor.

**She:** They don't say that, though. They're too reasonable to say so.

**He:** Oh yes, they do say so. But they have their cooked books, their crooked ledger, and can have it all both ways. When it suits them, they point to the link between instruments and truth. And when it suits them, they act as if the laws of physics fell from heaven, and as if those who point up the role of instruments and language games are madmen or criminals.

**She** (*ironically*): Funny to hear you saying that, because, so I've been told, it's you they accuse of double-dealing. On occasion you say that you're a social constructionist and, when it suits you, that you're the most loyal friend of the sciences and a born-again realist. And in this way you give both your publics (those against science and those for it) what they want to hear without blemishing your reputation.

**He:** With the Sokalists, of course, I have to speak two languages because they don't understand what I'm saying. I speak of wave-particles and they say one has to choose: either it's a wave or it's a particle.

**She:** You're not going to start doing physics, surely.

**He:** I'm using an image to show you the extent of their incomprehension. They haven't even begun to pose the question that we're trying to resolve in the history, sociology, and anthropology of science: how human beings can speak truly about events, about the irruption of new objects into the world. For the science warriors, there simply isn't a problem. They think that I'm playing the fiend, that I'm avoiding difficulties. Whereas I'm actually studying what they're scrupulously avoiding with their fraudulent accounts—and that is: how human beings imbue and fill the world with language. How do you yourself, my dear, set about to speak the truth about quasars, which are scarcely a billion years younger than the Big Bang itself? But instead of listening, understanding, and reconstructing the difficulty involved, the science warriors deny the difficulty altogether. They arrive in the middle of the discussion in their clumsy clogs and shout, "The question shall not be posed! Over here we have the quasars of Betelgeuse and over there is Mme. X, the physicist. Those who wish to complicate this matter are dangerous relativists." For my part, I say, "Let us do our work. You go do your dirty business elsewhere. If you don't understand the problem we're posing, don't disturb those of us who do."



**She** (*softened completely*): But this problem I do understand! It evens fascinates me, it occupies me night and day. How can one speak the truth?—You’re right, the question can’t just be put aside. . . . Is that the kind of research you do?

**He** (*moved a little*): Yes, that’s my quasar, my Betelgeuse, that’s what occupies my nights and days.

**She**: You, too, are a researcher . . . I thought that sociologists . . . [*fading sarcastically yet tenderly*]. In fact, you do have a proper job, then.

**He**: I believe so, yes. I hope so. Only by modifying the concept of science can we prevent the political use that your physicist friends make of it, and it is this attempt, at bottom, that they can’t forgive us. The controversy doesn’t directly concern a problem of research.

**She**: I still don’t understand what’s political about their attitude.

**He**: But obviously, in insisting ceaselessly on the existence of an external world beyond discussion, directly known without mediation, without controversy, without history, they render all political will impotent. Public life is reduced to a rump of itself.

**She**: But if I’ve followed you, you also believe in an external reality, or haven’t I understood, after all?

**He**: Oh, I ought to kiss you! Sign a certificate for me: “Mme. X, physicist, certifies on her honor she has proof that Mr. Y, sociologist, believes in external reality.” It is the phrase *beyond discussion* that is at issue. For my part, external realities are what make me speak; they augment and complicate, they enlarge discussion.

**She**: Oh for me too. You can’t imagine the difficulties I’ve had in convincing my colleagues that there are four and not three quasars in this corner of the universe and that one of them is the oldest object ever discovered.

**He**: But they, the science warriors, equate external reality with what’s beyond discussion, with silence, with what permits miserable human beings *to be* silenced. Those who speak without saying anything, the politicians. . . .

**She:** Politicians do perhaps speak without saying much, but what about me? What if they tried to silence me with their reality-beyond-discussion? Actually, Professor —, a real macho jerk that one, did try to shut me up on the pretext that I'd made a mistake in the calculation of the redshift. I certainly told him what's what. You're right! We have to fight against those who want to shut our mouths. If that's what the Science Wars are, then I'm ready to fight beside you.

**He:** Beside *me*? But we're in opposing camps, according to you. And those who want to close discussion by confusing reality with silence are your colleagues, my dear friend—your dear colleagues, those who you said. . . .

**She:** Oh my, that's possible too. I don't know any longer where I stand. These Science Wars are so obscure. . . .

**He:** That's what I've told you from the beginning. Why not talk, quite simply, about peace?

**She:** Yes, let's speak about something more interesting than wars. I could explain the business about the antenna as large as the planet . . . I'm sure that that would passionately interest you. . . .