

Focusing on "science in the making" as prelude to questions of ethics in science

As we begin a brief look at the place of ethics in the natural sciences, it is useful to understand why Bruno Latour is arguing that we should pay attention to the state of a scientific investigation: are we looking at a time when science knows or when it does not know yet? The selection entitled "Introduction" is from one of Bruno Latour's most influential books, *Science in Action*. It sets the stage for much of what we will do this term and so it deserves our close attention. What is Latour's point in starting with the three stories that occur at different times? In which scenes is uncertainty emphasized? Pay particular attention to what sorts of considerations are weighed as the human "actors" in the three scenes decide what to believe (or not). Why does Latour introduce the Janus figure? Notice that one of the two faces of Janus looks to the past and the other to the future. Notice in Latour's account that the Janus figures "say" very different things about facts, whether something "works," and what truth consists of.

The following is taken from an article I wrote a number of years ago ["Unsettling science literacy" appeared in the journal *Liberal Education* 86(3): 36-45 (2000)]. Here you see a portrayal of science that reasonably confirms Latour's view.

Gradually inquiries wind down and solid claims about the world become manifested in a settled array of procedures, instruments, and textual portrayals. Nobel laureate François Jacob's characterization of science (in his book *The Statue Within*, 281) is consistent with Latour's tale of the two Janus faces:

The three or four years spent studying bacterial conjugation, erotic induction, the coitus interruptus, was a period of jubilation. A time of excitement and euphoria. But my memory of it is frozen. It has crystallized in articles and reviews, abstracts and lectures. It has lost its color, dried up in a story too often told, too often formulated. A story that has become so logical, so reasonable as to have lost all juice, no longer conveying the sound and the fury of the daily research. What gave it life has been swallowed up by time. Gone are the abortive trials, the failed experiments, the false starts, the misguided attempts. Forgotten are the fallacious arguments, the hesitations, the jabs of the sword in the water, the groundless joys, the spurts of rage against oneself or against others. Vanished are the hours spent counting the colonies, the anxieties, the uncertainties, the endless waiting. Everything has become smooth and polished. A fine story, very clear, with beginning, middle, and end. With well-oiled, well-articulated, well-arranged experiments, one following another, leading without fault, without hesitation, in seamless argumentation, to a well-established truth. The truth found in textbooks on genetics.

The textbook is nearly an afterthought in Jacob's account. He knows that textbooks neither convey the excitement and vagaries of science-in-the-making nor invite inquiry. Textbooks are not where the action is, representing instead the outcomes of the actions that were.

Latour begins ***We Have Never Been Modern*** (published in France in 1991 and in English translation in 1993) with a chapter entitled "Crisis" (of which you have been provided an excerpt), in which the first section introduces us to the notion of hybrids and their proliferation. He does this by turning to a newspaper. What is Latour showing us with his several opening paragraphs? Pay attention to where he uses words such as "mixes," "single thread," "links," "same story," "imbroglio" and "uncertain." By contrast to the way Latour sees these webworks, what does he say the "analysts" do? In his next section, "Retying the Gordian Knot" (why the "knot" imagery?), Latour contrasts what the critics see with what several authors (e.g., Hughes, Callon and others) had intended to demonstrate in their studies. What does Latour want us to see in these contrasts? What "misunderstandings" (he identifies several) is he warning us against? Finally (at least in the excerpt you have in hand), Latour poses a "crisis"; what do you understand that crisis to be? Here pay particular attention to the long paragraph that begins in the middle of page 6 (you may have to read it several times...and slowly). What sense are you making of Latour's claim that "networks" (such as those he sees described in the newspaper) "are simultaneously real, like nature, narrated, like discourse, and collective, like society"?

Now having spent some time with Latour, in what ways do you see his characterization of the natural sciences of use in thinking about the short articles by Jasanoff and Darnovsky? In what ways do you see the four articles opening up the possibility of seeing "politics in science" and thus, by extension, questions of ethics in science?