How should scientists respond to the rising tide of anti-scientific sentiment in the world? The backlash against modern technology is widespread: Protests against genetic engineering, vaccines, "chemicals," modern agriculture, neuroscience, nuclear power (and almost any other form of power), animal research, and embryonic stem cell research threaten to hold back, if not reverse, decades of progress. What can scientists do to address this problem?

The typical response, as elaborated in a report [2] by the National Academy of Sciences, is "public engagement," which can range from education to the alignment of values between scientists and the public. While the former is fine, the latter is utterly problematic according to Marcel Kuntz, Director of Research at the prominent French institution CNRS (Centre National de la Recherche Scientifique). He eloquently aired his grievances in the journal Trends in Biotechnology.

Specifically, Dr Kuntz (as well as the NAS report) was addressing the controversy over "gene drive" technology, which could be a vital tool to protect public health. Gene drives may be used, for instance, to reduce the populations of disease-carrying mosquitoes. His pointed comments, however, are applicable to any technology that the public finds upsetting.

Dr Kuntz blames sociologists who embrace postmodernism, a cultural and philosophical movement that the Encyclopædia Britannica [3] describes as "characterized by broad skepticism, subjectivism, or relativism" combined with "a general suspicion of reason." In other words, postmodernism is diametrically opposed to everything the scientific method stands for. The professor extends the definition with his own interpretation:
Postmodernism considers that scientists cannot be trusted, and that their research must be subject to a democratic process, more precisely to a ‘participative democracy’.

This is deeply problematic when confronting activists, many of whom do not understand complex scientific topics. It is not possible for scientists to align their values with the public -- let alone to invite non-experts to participate in the scientific enterprise -- when a substantial proportion of the populace wants to shut science down. As evidence, Dr Kuntz cites the example of anti-GMO activists who, despite being extensively engaged by biotechnology researchers, vandalized field trials. Occasionally, anti-GMO activists mail explosive letters to scientists, too. So much for public engagement.

Dr Kuntz's conclusion is forceful:

Postmodernism is often confused with values of respect and democracy. However, science is not a matter of democracy – it is about the application of a method, and it is an elitist activity, open to all provided that one learns and applies the scientific method. Scientists should be able to ‘reflect upon and revise their own opinion’ without injunction from postmodern political correctness.

He's absolutely right. But he does not address how scientists can effectively fight back.

Besides, postmodernism isn't the only problem. Americans, in particular, increasingly believe that scientists should not be allowed to do whatever they desire and instead should be held accountable to the public. Because many scientists receive funding from taxpayers, many Americans feel that politicians have a right to dictate what scientists can and cannot study. Even though the vast majority of politicians (and voters) are not in a position to decide which research is worthwhile, the point is still legitimate and, in our current cultural and political climate, nearly impossible to dispute.

It could be that there is no solution to the problem the scientific community faces. Philosophical movements come and go. Perhaps the best we can hope for is that the current fad of postmodernism passes as quickly as possible.