

## French geneticist warns 'new religion of precaution' threatens US GMO policy, science

Like many of my fellow researchers, for some years, I have observed the diminishing importance given to scientific facts, opening wide the information market to scaremongering. As an expert in plant biotechnology, I have become—involuntarily—well-trained in uncovering false science and claims distorted by ideology. Since the first cargo of genetically modified soybeans was delivered to the European continent in 1996, European scientists have continuously come under fire from an inseparable triad: activists at war with the industrial society, the media fond of fearmongering, and the dark side of the internet. Well-funded activist groups have now extended their war against GMOs to the U.S. As in Europe, they initiated their campaign with their “right to know” slogan, while their real goal is to destroy a technology.

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The European experience shows us that after GMOs, the same scare tactics are used against other technologies (nanotechnologies, electromagnetic radiation, etc.). As a consequence, it becomes almost impossible for an ordinary citizen to distinguish truth from lies. (And I consider myself to be “an ordinary citizen” for the many scientific fields in which I am not an expert.)

To help understand what is happening, I suggest the following classification of false sciences. At the bottom of the scale, we have (classical) pseudoscience, such as astrology, paranormal, unscientific medicines, etc. supported by an ancient community of believers. Generally, they do not attempt to undermine the foundation of science.

A second category is what the French historian Alexander Moatti termed *altersciences*, mainly represented by individuals who have received scientific training and who use their knowledge to promote alternative theories or rebuild their own discipline. Even when alone against the rest of the scientific world, an “alterscientist” will claim he or she is right and seek recognition elsewhere, usually in the media. Moatti showed that this phenomenon has existed for centuries. Now, via the internet, an “alterscientist” can become an international hero. There are many recent examples of this in the activism against vaccines or chemicals.

A third category is what I call “parallel science,” which is often used to serve a political project. Parallel science is what the tobacco industry used. Similarly, when the results of science are seen as a threat by the “advocates” of a political project, they may be tempted to create or invent their own “science” to create the evidence that suits them.

Parallel science is aided by fake research centers (claiming to be independent), colloquia with

predetermined conclusions, “scientific” journals devoted to the cause—today, it is very easy to create a pseudoscientific journal on the internet—and occasionally heterodox publications passing through the sieve of true scientific journals (and which will be given wide publicity). All combine to create, for the nonspecialist, the appearance of science. False science, but real ballyhoo!

It would be wrong to believe that these phenomena only exist outside official institutions. The International Agency for Research on Cancer, a specialized agency of the World Health Organization, has exhibited questionable behavior. For example, IARC publishes a classification of substances, food, and occupational exposures into five categories ranging from “carcinogenic for humans” to “probably not carcinogenic for humans.” Red meat is classified as “probably carcinogenic,” which is absurd if one does not take into account the amount eaten on a regular basis: Indeed an excess can be deleterious, but reasonable consumption of meat is beneficial to health.

On the IARC website, one can actually read (highlighted in bold) that this classification “does not measure the likelihood that cancer will occur (technically called ‘risk’) as a result of exposure to the agent.” Strangely, the expert working group at IARC did not attach this warning to its classification of the herbicide glyphosate as “probably carcinogenic.” Glyphosate is in the same boat as red meat—its carcinogenicity depends entirely on the dose. At the levels used, the carcinogenicity of glyphosate has been refuted by the European Food Safety Authority, but rather than trying to explain the difference between what a substance *can do* and what it *actually does*—which could have been a way out of polemics for IARC—some of its officials preferred to formulate accusations against the EFSA. (There are details about the exchange of letters on the [EFSA](#) website.)

Today, many other scientific organizations (including another WHO organization) have contradicted IARC’s position on glyphosate. Moreover, suspicions of (ideological) bias have surfaced against an editor of the report and [other IARC officials](#). That IARC advised its experts [not to disclose documents](#) that were requested under U.S. freedom of information laws is doing little to build trust in its work.

Nevertheless, glyphosate use has been banned in some countries; it is still under the threat of a ban in the European Union. The latter has made non-science-based “precautions” a kind of new religion. If a corporation was insisting on such false claims to be made without scientific evidence, there would be outrage. But because the political power of this precautionary approach is stronger, the unscientific process is accepted.

As can be seen, we are far from a “knowledge-based society,” a concept coined by some international organizations (such as the [Organization of American States](#)) and ... the European Union! The debate on the best way to protect science from ideological (or corporate) interference and how to share scientific knowledge deserves to be open. In the IARC/glyphosate case, Utah Rep. Jason Chaffetz, chairman of the U.S. House of Representatives Committee on Oversight and Government Reform, has asked a good question—namely whether taxpayers’ money has been wasted on IARC. Why do I feel I already know the

answer?

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