Theoretical/research paper

P | U | S

Public Understanding of Science
2015, Vol. 24(4) 466–480

DOI: 10.1177/0963662514559891
pus.sagepub.com
SAGE

Contesting epistemic authority: Conspiracy theories on the boundaries of science

Jaron Harambam
Erasmus University Rotterdam, The Netherlands

Stef Aupers
KU Leuven, Belgium

Abstract

Conspiracy theories are immensely popular today, yet in the social sciences they are often dismissed as "irrational," "bad science," or "religious belief." In this study, we take a cultural sociological approach and argue that this persistent disqualification is a form of "boundary work" that obscures rather than clarifies how and why conspiracy theorists challenge the epistemic authority of science. Based on a qualitative study of the Dutch conspiracy milieu, we distinguish three critiques that are motivated by encounters with scientific experts in everyday life: the alleged dogmatism of modern science, the intimate relation of scientific knowledge production with vested interests, and the exclusion of lay knowledge by scientific experts forming a global "power elite." Given their critique that resonates with social scientific understandings of science, it is concluded that conspiracy theorists compete with (social) scientists in complex battles for epistemic authority in a broader field of knowledge contestation.

Keywords

boundary work, conspiracy theories, epistemic authority, knowledge contestation, objectivity, power elite, scientific dogmatism

1. Introduction

Conspiracy theories[1] have long been understood as irrational narratives produced by extremists in the margins of political and social life (e.g. Pipes, 1997). However, in the last decades, discourses about conspiracies have increasingly pervaded mainstream culture. It not only features in popular culture—for example, films like The Matrix, bestsellers like The Da Vinci Code, or TV-series like The X-Files—but conspiracy theories have become an increasingly normalized idiom to account

Corresponding author:
Jaron Harambam, Department of Sociology, Faculty of Social Sciences, Erasmus Graduate School of Social Sciences and the Humanities, Erasmus University Rotterdam, PO Box 1738, 3000 DR Rotterdam, The Netherlands.
Email: harambam@fsw.eur.nl

for seemingly inexplicable phenomena in contemporary society. From narratives about the "real truth" behind the attacks of 9/11, the deaths of John F Kennedy, princess Diana, and Bin Laden, or collective vaccinations like against the Swine flu—official explanations are increasingly challenged, reconstructed, and contested by a discourse of conspiracy.

Conspiracy theories are, however, not new. Narratives about the malevolent acts of Jews or the secret societies of Templars, Rosicrucians, Illuminati, and Freemasons have been circulating in Western societies at least since the crusades in the early Middle Ages (Pipes, 1997). Although such theories about an "exotic Other" still exist, some scholars argue that conspiracy theories are nowadays increasingly about our "own" modern societies, its institutions, and agents (Knight, 2000; Melley, 2000). Contemporary conspiracy theories address the "enemy within" (Goldberg, 2001)—the secret and malicious forces that lurk beyond the surface of modern society and operate within the institutions of politics, the medical industry, multinationals, and the laboratories of scientists. By formulating such alternative accounts about the "real truth"—about "what is the case" and "what lies behind it" (Luhmann and Fuchs, 1994)—conspiracy theorists contest the epistemic authority of science. They openly resist the "regime of truth" (Bratich, 2008; Foucault, 1970 [1966]) through which science has "the legitimate power to define, describe and explain bounded domains of reality" (Gieryn, 1999: 1). Conspiracy theories particularly compete with those formulated by social scientists since both provide an account of social control (Melley, 2000: 42) and "claim to uncover (supposedly) 'hidden' plots or machineries which have caused a particular state of affairs or events to take place" (Parker, 2001: 191).

In this article, we focus on the question, how and why do conspiracy theorists resist the authority of scientific institutions, scientists, and the knowledge they produce? The theoretical relevance of this question lies, first of all, in the fact that those who are labeled "conspiracy theorists" are a priori dismissed by academics and excluded from public debate (Bratich, 2008; Fassin, 2011; Knight, 2000). Such labels obscure rather than clarify the often complex, nuanced, and ambivalent understanding conspiracy theorists have of modern science. Instead of assessing the rationality and plausibility of conspiracy theories, we take a cultural sociological approach and situate their claims in a broader context of epistemological insecurity—a culture where the authority of science is eroding, scientific "findings" are always contested, and where alternative knowledge claims are produced (Bratich, 2008; Melley, 2000). Because academic accounts of conspiracy theories de facto contribute to this battle for epistemic authority, we first consider what images academics construct of conspiracy theorists and how and why they do it.

2. Boundary work: Constructing conspiracy theories as the Other of science

Whereas academic work on conspiracy theories already started after World War II (Popper, 2013 [1945]) and in the middle of the Cold War (Hofstadter, 1966), it was only in and after the 1990s that this scientific knowledge production substantially expanded. Scholars from different intellectual backgrounds have since then studied conspiracy theories—what they are, where they come from, and how they are to be understood. Much of the debate is centered around the (ir)rationality of conspiracy theorists and the plausibility of their claims. Some scholars point to the (potential) rationality of conspiracy theories because conspiracies do, in fact, exist (Coady, 2012; DeHaven-Smith, 2013; Olmsted, 2009; Pigden, 1995) or they emphasize that "the postmodern tendency to put 'the real' in quotation marks has undermined the pathologization of paranoia" (Melley, 2000: 19). A paranoid habitus is, from this perspective, a "tactical" (Fenster, 1999: xiii), "necessary" (Knight, 2000: 8), "reasonable" (Marcus, 1999: 2), "logical" (Melley, 2000: 14), and "understandable" (Olmsted, 2009: 11) response to the complexities and uncertainties of (post)modern society.

The majority of scholars, however, still disqualify conspiracy theories as false claims about how "reality" works. What, then, are the arguments developed by academics and how can we explain these from a sociological perspective on knowledge production and the struggle for epistemic authority?

Disqualifying conspiracy theories

First of all, academics critique the empirical, epistemological, and methodological flaws of conspiracy theories and, based on that, label them as "bad science." This common assumption is the heritage of Karl Popper (2013 [1945]) who refuted conspiracy theories in *The Open Society and Its Enemies* (pp. 306–308). Like teleological historicism—as in the works of Hegel and Marx—conspiracy theories envisage whatever happens in society as the intentional design of people. As an explanation of history, Popper claims, conspiracy theories fail because they downplay the unintended, unforeseen, or random consequences of human action. This argument has been recycled in the academic literature ever since: conspiracy theorists allegedly reduce "highly complex phenomena to simple causes" (Barkun, 2006: 7) and envision conspiracies "to drive history" (Pipes, 1997: 43). In reality, such authors claim, history works not as simplistic and mono-causal as conspiracy theorists would have it: there are simply "too many independent degrees of freedom" (Keeley, 1999: 124). This argument that conspiracy theorists are "bad scientists" is also formulated in a straightforward attack on their methodologies. These scholars argue—in line with Popper—that conspiracy theorists are not interested in falsification but, instead, selectively seek evidence to confirm their theories. As such they "indiscriminately accept any argument that points to conspiracy" (Pipes, 1997: 41). Besides this "confirmation bias," scholars critique conspiracy theories for their alleged "self sealing quality: they are resistant and in extreme cases invulnerable to contrary evidence" (Sunstein and Vermeule, 2009: 223). In other words, evidence against the alleged conspiracy is ultimately seen by its adherents as evidence *in favor* of the conspiracy. Herewith "they ultimately defeat any attempt at testing," and this "paradox of evidence" renders conspiracy theories "at their heart unfalsifiable" (Barkun, 2006: 7).

A second, yet intrinsically related argument is introduced here to disqualify conspiracy theories and their advocates: if conspiracy theories are no (or bad) science, they ultimately are unsubstantiated (religious) beliefs. Following Popper (2013 [1945]) who envisions conspiracy theories to be "the secularization of a religious superstition" and "the very opposite of the true aim of the social sciences" (p. 306), these scholars see conspiracy theories as an unwanted remnant from the religious past: "conspiracy theorists are some of the last believers in an ordered universe [they] embody a thoroughly outdated worldview" (Keeley, 1999: 123). Conspiracy theories may be presented as scientific but in fact have more affinity with religious epistemologies: "no matter how much evidence their adherents accumulate, belief in a conspiracy theory ultimately becomes a matter of faith rather than proof" (Barkun, 2006: 7). Olmsted (2009) argues correspondingly that "conspiracists come to believe in their theories the way zealots believe in their religion: nothing can change their mind" (p. 11). Or, as C.A. James rhetorically asks himself, "are conspiracy theories just another religion, full of improvable beliefs, with nothing but faith to sustain them?"[2] Religion, superstition, and magic are employed as tropes to widen the gap between science and conspiracy theories. The image is constructed that they are not just un-scientific but, ultimately, the counterpoint of the "rational" enterprise of science.

The popularity of conspiracy theories, these scholars warn, does not come without its costs. Pipes (1997: 171–185) devotes a chapter to their dangers and relates conspiracy theories, like Robins and Post (1997), to virtually all the horrors of the twentieth century. But these scholars also express their concerns about the effects on science and truth. Conspiracy theorists are criticized for "muddying the waters" (Pipes, 1997: 30) so that "the commonsense distinction between fact and

fiction melts away" (Barkun, 2006: 29) and "we degrade to relativism" (Aaronovitch, 2010: 335). These scholars stress the difficulties to "distinguish between the scholarly and the slapdash, the committed researcher and the careless loudmouth, the scrupulous and the demagogic" (Aaronovitch, 2010: 335). Ultimately, what is critiqued are the "forged scientific practices" of conspiracy theorists and their lack of "respect for truth and evidence" (Showalter, 1997: 206). They are therefore not only considered a menace to a peaceful and just society but also subvert the solid foundations of truth and fiction on which modern societies are (or should be) based.

Resisting boundary work?

Many academics thus portray conspiracy theories as knowledge claims that share more with the interpretative framework of religion than that of science. But more than merely showing the historical and epistemological affinity between conspiracy theories and religion, many of these scholars alarm us about the societal dangers of proliferating conspiracy theories. To some extent, this can be explained by their historical and social positionality: Popper, for instance, wrote about conspiracy theories in the dark days of the Second World War and aligned those with other totalitarian threats to his ideal of an "open society" (e.g. DeHaven-Smith, 2013: 76–106). Hofstadter, to give another example, saw liberal democracy at stake in the 1950s of McCarthyism with the visible rise of reactionary groups like the John Birch Society (e.g. Bratich, 2008: 25–51; Fenster, 1999: 3–21). Academic claims about conspiracy theorists as "bad scientists" and "religious believers," then, are not simple empirical descriptions since they are situated in a social–cultural context and informed by moral considerations about a "good society" and "real science" (cf. Bratich, 2008; Fenster, 1999; Gieryn, 1999; Latour, 1987).

Thus, although the situational contexts of these scholars may be markedly different, there is a similarity in the way they use "Reason [as] a shibboleth for authority or academic prudence" (Birchall, 2006: 71) to create a wide gap between "irrational" conspiracy theories and "rational" scientific explanation. Such "descriptions of science as distinctly truthful, useful, objective or rational," Gieryn (1983) argues, "may at best be seen as ideologies" that are part of a "struggle for authority, power and resources" (pp. 792–793). The appeals of these scholars to distinguish "the solid ground of fact from the swamp of fantasy" (Pipes, 1997: 38) and their efforts to actively downplay the similarities and exaggerate the differences between conspiracy theories and (social) scientific explanations seem an excellent example of professional boundary work (Gieryn, 1983; Locke, 2009: 568) and exemplify what Bruno Latour (1993) calls a modern "practice of purification": efforts by scientists to erase the hybrids that disturb the boundaries between fact and value, truth and fantasy, and science and belief. The analyses of these scholars on conspiracy theories reinforce such a "modern divide" between "rational" science and its alleged "irrational" counterparts.

Boundary work has, of course, always been part of the scientific enterprise to defend, legitimate, and maintain its position in a broader field of knowledge production (Gieryn, 1999; Shapin, 2008). The history of science is a "border war" since the boundaries with "other" intellectual activities was neither stable nor permanently settled (Haraway, 2001 [1985]: 29). However, as scientific truth claims are increasingly questioned this scientific boundary work acquires particular urgency. The academic reaction to conspiracy theories exemplifies this trend: since conspiracy theorists publicly challenge the epistemic authority of science and are involved in an "interpretive contest" (Melley, 2000: 17) about truth, we can expect that scientists "will highlight those unique properties or accomplishments of science that make it a distinctively superior way of knowing" (Gieryn, 1999: 22).

In this article, however, we will not focus on how academics create boundaries and discursively exclude conspiracy theorists from public debate. Instead, we study how such boundaries are contested, negotiated, and re-defined by conspiracy theorists themselves. Social groups producing popular knowledge are, after all, neither passive nor powerless (Birchall, 2006; Fiske, 2006 [1998]). Conspiracy theorists are aware of the boundary work done by scientists and of the stigma of being "bad scientists" and "religious believers" ascribed to them. In this study, we will therefore analyze in empirical detail how and why conspiracy theorists resist the authority of scientific institutions, scientists, and the knowledge they produce.

3. Methods, data, and analysis

The "multi-sited ethnography" (cf. Falzon, 2012) on which this article draws was conducted in the Netherlands over a period from November 2011 through January 2014. We will mostly use the interview data collected. We theoretically selected our respondents ($N=20$) on the basis of diversity and their prominence in the Dutch "conspiracy milieu." Loosely borrowing Campbell's (1972) notion of the "cultic milieu"—oppositional by definition—this term is intended to describe the relatively stable, yet always fluid movement of people who express ideas generally labeled as conspiracy theories. Respondents were recruited at several (online) places where these people gather: three at a David Icke performance (one of the most famous/notorious conspiracy theorists); two at a screening of the documentary "Thrive" (often linked to the conspiracy underground); three at rallies of the SOPN party (Sovereign Independent Pioneers Netherlands—a political party running up for the Dutch national elections of 2012, dubbed as the "UFO-Party" in mainstream media); and on fora of popular Dutch conspiracy theories websites: three at "argusoog.nl," three at "zoekdewaarheid.nl" (*seekthetruth.nl*), four on a Facebook conspiracy theories group page, and two through prior contacts. The respondents differ in age (23–67 years), gender (12 males/8 females), and education (International Standard Classification of Education (ISCED) levels 0–3: 5; level 4: 6; levels 5–6: 9).

These semi-structured in-depth interviews—ranging from 1.5 to 5 hours—were mostly conducted at the homes of respondents and focused primarily on personal biographies, motivations, conspiratorial ideas, and experience with and thoughts on modern institutions and its representatives: politics, media, food and nutrition, health and medicine, and most relevant for this article: science, scientists, and scientific knowledge. The analytical categories used in this article were inductively established in the course of the fieldwork period by systematic comparison, tracing the recurrence of similar and different observations and, through saturation, the development of an analytical framework (e.g. Glaser and Strauss, 1967). Systematization of analyses was enhanced by making use of the qualitative data analysis software ATLAS.ti 7.

4. Contesting the boundaries of science

Conspiracy theories come in all shapes and sizes: from theories about a secret race of shape-shifting reptilians governing the world to radical suspicions about the contents of airplane trails. The people active in the conspiracy milieu are no less diverse. In our sample, we find, for instance, a single father of a young child living on welfare in the city of Amsterdam, a young student of economics, a retired psychotherapist living in the affluent suburbs of a middle-sized Dutch town, and a 40-year-old squatter we visited in his "residence" in the woods.

And yet, it is not just plain diversity that characterizes the conspiracy milieu. What respondents have in common is, first of all, a very critical stance toward modern mainstream institutions and, motivated by that, the assumption that (a coalition of) powerful, malicious groups de facto control

our lives. They are, however, no passive "believers," but can be understood as "prosumers" (Ritzer and Jergenson, 2010): they (inter)actively deconstruct official versions of the "truth," consume alternative accounts, and, simultaneously, produce their own constructed theories on forums, (their own) websites, or YouTube. The typical conspiratorial worldview is in most cases connected to an "alternative" lifestyle: some are into organic, macro-biotic food and have adopted eastern philosophies of life, others are involved in all kinds of (sub)political groups to "wake up the dormant masses," whereas yet another part of our respondents tries to change "the system" from within by starting a fair trade business.

These social practices are fundamentally related to their ideas about science, and, in particular, to the cultural authority of science. The scientific worldview, they all argue, is an overarching cultural force in the West that informs and legitimates the mainstream institutions of medicine, education, nutrition, health, politics, and law. This critical stance toward science has a social dimension as well. When alternative understandings of "how things work" are expressed by conspiracy theorists, they do not just question the knowledge of scientific experts, but also the institutional and social position on which their authority is based. Respondents are therefore focused on the question, who has the authority to explain how things work and on what epistemological and social grounds can they make such claims? The "knowledge-power nexus," so prominent in the work of Michel Foucault, seems to be popularized in the cultural milieu of conspiracy thinkers. Such conspiratorial ideas are not mere philosophical speculations formulated in the abstract but are related by the respondents to their biographies and life-histories. Their distrust of science has been fueled by personal encounters with medical specialists, doctors, university teachers, and other academics. As we will see, it is particularly motivated by the boundary work performed by such experts.

Scientific dogmatism and the free spirit of inquiry

A shared assumption among the respondents is that they consider themselves skeptics and critical thinkers. They are, in their own words, "skeptic by nature" (Michael, 23 years), "dare to think differently" (Pauline, 67 years), "think out of the box" (Lucy, 54 years), and "put question marks over nearly everything" (Steven, 29 years). Motivated by this self-proclaimed skepticism, they critique every form of "dogmatism"—including those that, according to them, characterize modern science. On the most abstract level, they especially critique the materialist foundations of the scientific worldview. They argue how modern science labels phenomena that are inconsistent with its materialistic worldview as illusionary and their critical narratives are structured around phenomena like telepathy, consciousness, and hands-on healing. They emphasize how these "parapsychological" phenomena are discarded not on the basis of research or counterfactual evidence—as proper scientists would have it—but simply because their materialist worldview does not allow for the existence of such phenomena. They are, hence, left unexplained.

To be sure, these respondents continuously emphasize that they embrace the scientific enterprise to accumulate accurate knowledge about the self, the world, and the universe, but they argue that radical skepticism—the free spirit of inquiry—has evaporated and got smothered by dogma. This is why the book of Rupert Sheldrake (2013) *The Science Delusion*—delving into the nonmaterial world and hugely popular in the conspiracy milieu—can simultaneously be coined by him "pro-science" (p. 7). Liam (67 years)—a former mayor of a middle-sized town and founder of a platform advocating governmental transparency about issues like *chemtrails*, vaccinations, and European food regulations—explains,

> so religion has been replaced by modern science in the Enlightenment, which in my opinion only obscured matters. Because it said: "reality, what is that? That is matter! All that there is, is what we can observe. And everything that does not fit this logic is speculation, that's nonsense, that's for charlatans." But this is such an unimaginable reduction it is sad. If we know that of all there is in the universe matter only represents four percent, yet we come to the situation that science defines that four percent as the only reality. What we do is looking through a keyhole and everything we cannot see is simply nonsense.

Material reductionism not only prohibits explorations into worlds unknown, respondents argue, but simultaneously denies the existence of nonphysical powers, "for that doesn't fit the regular way of thinking," Lucy, a 54-year-old holistic psychotherapist explains. She adds,

> if only we would start to imagine that when quantum physics shows how even scientists' mood influences test results, how far reaching this all is. If only we start to realize what this means, we would think twice saying what is real and what is not, what is ridiculous or not.

These opinions about the existence of nonphysical phenomena are often grounded in and validated by experience of the "supernatural" in everyday life. Neal, a 58-year-old real estate project manager, explains how he got cured from permanent back aches:

> So there was this woman I knew via work. One day she put both her hands on my back. Three minutes or so, very quickly. "Do you feel anything?" she asked, I said "no, not really." The next day I woke up without any pain in my back. Just like that, in one strike completely over. Something has happened to me then. If you experience that first hand, and I wasn't even prepared to understand it, if that is possible, what more may be possible? So since then much of my reticence towards people's odd stories disappeared. So from that moment on, because for me there is no doubt about it, you start looking at things differently. It has set the door wide open, because I was really eh … well a science kid …

Despite his technical background, and against all of his preconceptions, something supernatural like hands-on healing proved real to him and fed his critique on science because "to know is to measure, and we measure nothing, so it isn't there" as he said.

But the critiqued dogmatism of science is enhanced by the socialization of scientists into an expert culture—with their own particular sets of assumptions and beliefs. This results, respondents argue, in the social exclusion and stigmatization of other, seemingly "deviant" forms of knowledge. Steven, a 28-year-old employee of a "green energy supplier," explains about his encounters with scientists: "You know what it is: they have had a certain education, they have already received certain information, they are formed in a particular way. Their vision excludes therefore all others." A much debated topic, in this context, is the effectiveness of vaccinations. Because of their education in modern medical science, it is argued, medical specialists no longer question the basic foundations of what vaccinations are, how they function and whether there are alternatives. And "if they are being educated like that, and it's a whole industry, there are hundred thousands making a living out of it. Yeah, well, that myth continues to exist then" (Liam). Likewise in the field of economics, Steven was struck by the scientific dogmatism he encountered during his studies: "I asked all professors: 'do you know where money comes from and how that mechanism works?' None of them could give a clear answer, so I investigated further on my own, because there's no room for such fundamental discussions." John, a holistic food adviser, encountered similar responses when talking about the topic of nutrition with an expert in the field:

> So I notice with this professor, in a simple discussion about vitamin B-12 deficits: "oh yeah, just buy some pills" he replies when I speak of bad nutrition as its cause. Completely stuck in his own way of thinking. Pills don't do the same. (34 years)

To conclude, these respondents argue how scientific advancements have turned knowledge into dogma and show how the materialistic orthodoxy of scientists incarcerates the "free spirit of inquiry." They do not in any way deny or dismiss the relevance of science. Quite the contrary, their argument is that modern science is not scientific enough since it has lost the openness and skepticism that should inform the habitus of "real" scientists. If we look at modern science and its development, we may, of course, argue that it always had two faces since "science depends not [only] on the inductive accumulation of proofs but [also] on the methodological principle of doubt" (Giddens, 1992: 21). Radical skepticism about epistemological foundations and methodological rules has always been an intricate part of the modern scientific enterprise since the sixteenth century. This "hidden agenda of modernity" has, however, always haunted the scientific quest for certainty—the Cartesian ambition to find de-contextualized, universal laws and, hence, the evident legitimation of the scientific enterprise (Toulmin, 1992 [1990]). Following these scholars, such epistemological considerations of radical skepticism have nowadays found their way from the ivory towers of science to everyday life. Conspiracy theorists, allegedly putting "question marks over nearly everything," exemplify this democratized form of skepticism and radical doubt.

Objectivity and the social construction of knowledge

A second line of critiques is directed at the purported neutrality or objectivity of scientific knowledge. Lucy (54 years) asserts, "science always tests on the basis of certain assumptions, yeah, one needs to start somewhere of course, but there are already conditionalities." Universality is therefore an odd sort of ideal because, as William, a 25-year-old student explains,

> to look at something scientifically is to look at things in a particular way, or from a particular point of view. It is never impartial, so there's no absolute truth either, because that is always approached from a certain perspective. It is always … biased.

Respondents often point out how "objective" facts and figures presented by the scientific community are actually the product of selection and exclusion. The controversy around "global warming" is frequently brought up since "these reports showed how these scientists left out many data so that global warming figures appeared much stronger than it actually is" (Neil, 58 years). Again, day-to-day experiences inform these critiques about the construction of "facts." Michael—a 23-year-old Business Administration major—noticed, for example, how prices of groceries went up much higher than what official "inflation numbers" accounted for. After some research, he found out that some of the items "measuring" inflation were excluded to "artificially keeping inflation low."

The ideal of the objectivity and universality of scientific knowledge is built on the assumption that its production is void of power or financial interests, but, respondents argue, this is a rather naive position. This is particularly so because scientists inevitably (and increasingly) depend on external funding for their research projects. John, for instance, argues that "scientific research is never independent, [because] of who do they receive money?" Most mentioned is medical research since it is highly dependent on and interconnected with "big pharma," respondents argue: "those scientific studies are very often financed by the pharmaceutical companies producing those medications" (Julie, 31 years). Knowledge presented as the outcome of independent, disinterestedness, scientific research is, following these people, the outcome of power games. To understand how it works, they argue, we have to look at the context in which knowledge is produced—the social, political, and economic forces that impinge upon it. Like George, a 38-year-old male care giver explains,

> You probably know that in all kinds of products there's a sugar replacement called aspartame, that is approved by the European Commission. Well, little by little it becomes clear that aspartame is really bad for us. But how does it work with scientific research? In order to sweeten the products with less costs, research is done to get a certain ingredient approved that is cheaper than sugar. Numerous studies are done, and if the research agency or university comes with results that don't satisfy the food producer they will look for another agency. They will do this until they can prove it is good, or at least not bad. That is the odd part: the food industry can command their own research and then have solid reports on the basis of which it is decided whether or not it should be allowed. "Hmmm thirty mice died, now let's try it on rats, oh hey, the rats don't die, it's a good product!" that's how crooked things are …

The connection between research findings and financial interests, they argue, make it difficult—if not impossible—to take an informed standpoint in controversies about global warming, food safety, and medications. Citizens can never know for sure who is right and who is wrong, what is true and what is not in public debates between scientists. That said, it is generally assumed that the established and most powerful organizations are the least to be trusted:

> the strange thing is that those scientists confirming the conventional perspective are paid by organizations who have an interest in keeping us believing it is such. Those arguing against this don't have the means and resources to make their findings public. (Robert, 43 years)

In conclusion, respondents in the conspiracy milieu argue that the ideal of objectivity is highly problematic: scientific "facts" are not so much "discovered" but "constructed," and this knowledge production is intimately related to political power and economic interests. Such popular claims resonate with assumptions in the social sciences. Authors like Berger and Luckmann (1991 [1966]), for instance, have contributed to the sociology of knowledge by theorizing that reality, in all its forms and manifestations, is socially constructed. Postmodern theorists, in turn, have radicalized this constructivism by proclaiming the end of truth and reality itself (e.g. Baudrillard, 2000 [1981]). Although conspiracy theorists are definitely not radically relativistic, they do point to the "fuzzy," "messy," everyday practice of science that is inherently vulnerable to external interests—a notion developed by scholars in the social studies of science (cf. Collins and Pinch, 1993; Latour, 1987; Law, 2004). The thought that scientific knowledge is deeply embedded in politico-economic power structures then has a strong affinity with critical, neo-Marxist theories in the social sciences. Marcuse (1991 [1964]) and Horkheimer and Adorno (2010 [1944]), for instance, have extensively argued that "Reason" (science, technology, and the bureaucratic apparatus) has lost its neutral status since it is increasingly aligned with the cultural logic of capitalism. Scientific "objectivity" becomes a legitimation to obscure the *real* interests of the modern capitalistic enterprise—its hegemony, the material interests it strives for, and the social control it exerts. Likewise, our respondents argue that scientists "have an interest in keeping us believing" that scientific findings are objective, neutral, and uncontested. Not unlike scholars from the Frankfurter Schule, they hold the general public ("the sheeple") to live in "false consciousness" and consider it their moral task to reveal the real powers operative behind the scenes and free citizens from their ignorant views on science.

Power elite: The authority of experts and ideals of equality

Building on the cultural status of science, experts enjoy an authoritative social position in society, which is, following our respondents, problematic and unwarranted. They argue how alternative sources of knowledge are structurally undervalued as modern science upholds its monopoly on truth. In everyday life, our respondents feel excluded, mocked, and stigmatized as "crazy" when

they propose alternative ways of looking at the world. John, a 34-year-old nutritional health counselor, for instance, sees the credibility of his knowledge constantly being disputed:

> I am no medical expert, I am no doctor, so it's not true, right? They ask me what my scientific background is, so I tell them about the anthroposophic studies I completed in Germany. But that's not scientific, so it means nothing. Lately I've been asking my wife: "should I also attend university and get a medical degree? More people would believe me." But why is that? Who decides that? I find it ridiculous.

Respondents question why the experiential knowledge people gather in the course of their life remains unacknowledged by experts who prioritize the "abstract" and "detached" knowledge of science. As Julie (31 years) says,

> But why? I am also a human being and I have done my study of life, so why? I have my own feelings and emotions and experience so why? Because you've studied you know how it works, right? When you haven't studied you don't count in this society …

The superior epistemological position of science finds its translation in everyday interactions between laymen with experts. According to respondents, these are structured in a hierarchical fashion, making an open and egalitarian conversation virtually impossible:

> It's all like: "I have studied, I am a doctor, I know more than you, so I will enlighten you. You are a layman." So already from moment A there's a hierarchy, and they just instruct you to have your baby vaccinated, because well, that's procedure. So I said, "listen, I've done my own research and I have this and that consideration." And the nurse at the clinic just sits there and does exactly what she's learned to do: just copy and paste. (Julie, 31 years)

Instead of being told what to do in an authoritarian way, respondents emphasize a need for personal choice—for possibilities and an open discussion with experts. Pauline (67 years) confirms,

> I consider it strange that people think: "Oh these white coated people, they know it all, so we follow, we surrender." Because they don't know it all! As a human being I can decide "how," I want to stay in charge and don't want to surrender to doctors like that! I would like to have conversations about how we are going to fix things, what the other possibilities are.

As Lucy (54 years) stresses about her interaction with scientific experts, "We may have different roles, but we are equal. It's not because you have a different role, your truth is worth more than mine." The message is experts should not course on their scientific credentials and cultural authority in the treatment of patients. They should have a more open interaction with patients and acknowledge their practical wisdom, subjective feelings, and life experiences.

But respondents also point out that the social position of scientific experts is legitimated, guarded, and protected through practices of professional in-group protection. Being a professional group with similar educations, assumption, and norms, (particularly) medical specialists protect one another against "outside threats" and, collectively, cover up for failures. This covering up, they hold, is not only a social in-group dynamic but institutionalized in and legitimated by law. The social and juridical position of laymen is diminished by laws set up to protect the medical profession. According to Simon, a 40-year-old self-acclaimed victim, "there's an oath of secrecy, and that oath is purely there for the protection of their profession. Even the experts informing the judges can exempt themselves, so how can there be any justice? That's Kafka, you know." The precarious position of laymen is particularly felt when social norms of in-group protection collide

with institutionalized forms of professional protection. John (34 years), from this perspective, explains that when his baby attracted sepsis during a medical treatment, the hospital tried to avoid responsibility by reporting the parents at "Counsel for Child Abuse." Their argument was the baby was underfed by its parents and brought to the hospital too late:

> Of course, the hospital tried to save itself. They know the fault is theirs. They just thought: hey, before we get into trouble because of the death of that child, we report the parents and play it like they didn't take care of her, resulting in her death. Luckily it's all over now: we won in court, they acquitted us from further persecution. But are we going to do anything about the hospital? I mean, you always see, those in power just want to keep their dominant position. And they are very powerful. Doesn't this tell you something about the system? Doesn't a light bulb go off now? What is actually going on here with these hospitals and those in power?

All stories thus point toward the structural inequalities between the educated, scientifically trained experts and ordinary laymen. Scientists are considered an untouchable elite exerting social power over "ordinary people" and are thought to operate in alliance with other elitist members of society: politicians, multinationals, and medical industries. Such ideas, typical for conspiracy theorists, resonate with, what C. Wright Mills called the "power elite"—a small group of people in the higher echelons of major institutions and organizations with great influence. Wright Mills (1956) writes,

> For they are in command of the major hierarchies and organizations of modern society. They rule the big corporations. They run the machinery of the state […]. They direct the military establishment. They occupy the strategic command posts of the social structure, in which are now centered the effective means of the power and the wealth and the celebrity which they enjoy. (p. 4)

Scientists, our respondents argue, are part of such a (globalizing) power elite that protects its own interests and those of others in the "higher circles." In doing so, *they* exclude the interests of contemporary citizens.

5. Conclusion and discussion

Despite the popularization and normalization of conspiracy theories in contemporary society, academics often neglect or dismiss such discourses. There is, in the words of Fassin (2011), still a tendency "to underscore the irrationality of such beliefs without examining its meaning" (p. 41). In this study, we approach the phenomenon from a cultural sociological perspective and, based on that, argue that this persistent disqualification of conspiracy theories is a form of "boundary work" (Gieryn, 1983): an ideological attempt to demarcate legitimate sociological analyses (conceived as a value-free analysis of facts) from conspiracy theories (conceived as "non-scientific" religious beliefs or superstition). Boundaries set by (social) scientists are, however, not uncontested. Since this dismissal of conspiracy theories as "irrational" obscures rather than clarifies how conspiracy theorists perceive and react to this boundary work, we empirically researched instead how and why conspiracy theorists resist the authority of scientific institutions, scientists, and the knowledge they produce.

The analysis demonstrated, first of all, that conspiracy theorists are overly critical about modern science but not straightforward *against* science as a way to accurately describe and understand the world. Although it has already been assessed that conspiracy theorists often emulate scientific practices and credentials (e.g. Byford, 2011; Pipes, 1997), our analysis has shown the motivations

underpinning this ambivalent understanding of modern science. More than merely mimicking modern science in order to augment epistemic authority, conspiracy theorists wish to purify it and re-install its free spirit of inquiry. Their critique is targeted at the dogmatic nature of scientific assumptions, the authority of scientific institutions, and, indeed, the epistemic and social boundary work performed by scientists to sustain this authority. Science, we may say, is at once sacralized for its intentions but demonized for its manifestations.

Ironically, this critique on science is by and large expressed in the discourse of the social sciences. Academic scholars have shown that the "public image" of science as detached from context is difficult to maintain when we look at the "messy" "back-stage" of science that is vulnerable to political influences and interests (cf. Collins and Pinch, 1993; Latour, 1987; Law, 2004). Scientific knowledge is not transcendent, but the product of particular people, in a particular setting, and in a particular time (Doyle McCarthy, 1996; Gieryn, 1999; Shapin, 2008). Conspiracy theorists popularize such notions: they deconstruct the public front-stage image of science and want to reveal the social, economic, political powers that color its findings. Indeed, we argue, the discourse of conspiracy theorists resonates with postmodern skepticism about "grand narratives," social constructivist accounts of knowledge production, neo-Marxist perspectives on the power of capital, and sociological assumptions about a (global) power elite. Conspiracy culture is therefore a sort of pop-sociology (Birchall, 2006; Knight, 2000). But this elective affinity works both ways. Critical theories from Marcuse, Horkheimer, and Adorno about "false consciousness" may easily slide into paranoid sociology. Parker (2001) goes as far to say that "the holy trinity Marx, Durkheim and Weber all claimed access to some level of explanation which was somehow beyond the comprehension of ordinary people" whereas "Marxism in general has functioned as a pervasive conspiracy theory for most of the century" (pp. 192, 198). Latour (2004) similarly poses the rhetorical question: "what's the real difference between conspiracists and a popularized version of social critique, inspired by, let's say, a sociologist as eminent as Pierre Bourdieu?" (p. 229).

The adaptation of sociological insights by conspiracy theorists is a good example of what Giddens (1984) describes as the "double hermeneutic" (p. 20). This trickling down of academic knowledge in everyday life, and of social critique in particular, may be yet another reason for academics to furiously demarcate their "scientific analyses" from "conspiracy theories." We argue therefore that this elective affinity posits conspiracy theories not outside of science, but right in the middle of its most fierce battle: the science wars. These clashes between scientific "realists" and "constructivists" centered exactly around the objectivity of scientific knowledge and the "pollution of science" by external factors. But although the arguments of conspiracy theorists resonate with those in the social studies of science, it appears imperative in these science wars for the latter to disassociate themselves from conspiracy theories. Bruno Latour—one of the most influential exponents of the "constructivists" in these wars—writes about conspiracy theories as those "mad mixtures of knee-jerk disbelief [that] are an absurd deformation of our own arguments" (Latour, 2004: 230). Conspiracy theorists are thus subjected to a double form of boundary work: they are excluded by academics defending the positivistic ideals of science *and* by scholars coming from the social studies of science.

The question is, finally, why we should study conspiracy theorists and their critical theories? Over half a century ago, Robert Merton (1973: 267) stated that "a tower of ivory becomes untenable when its walls are under attack". Today, this is all the more true. Societal currents like complementary and alternative medicine testify to an increased distrust toward modern science among the population at large. Of course, the erosion of scientific authority in Western countries may be considered a serious social problem, but this does not help us much to understand these cultural discontents. Moreover, the moral reflex of boundary work among social scientists only validates such critiques and, hence, motivates a return of the repressed. With this case study

of the Dutch conspiracy milieu, we hope to have contributed to research on public distrusts of science and hope to see more future research on this important topic.

Funding

This article is based on research funded by The Netherlands Organisation for Scientific Research (NWO) and is part of the project "Conspiracy Culture in the Netherlands: Modernity and Its Cultural Discontents", file number 404-10-438

Notes

1. Although the terms "conspiracy theories" and "conspiracy theorists" are derogatory and part of the epistemic power struggle we research, we continue to use these terms for the sake of clarity and to avoid confusion, not in the least place because they are e*mically* referred to as such.
2. http://religionvirus.blogspot.nl/2010/02/911-conspiracy-theories-just-another.html

References

Aaronovitch D (2010) *Voodoo Histories: How Conspiracy Theory Has Shaped Modern History*. London: Vintage Publishers.

Barkun M (2006) *A Culture of Conspiracy: Apocalyptic Visions in Contemporary America*. Berkeley, CA: University of California Press.

Baudrillard J (2000 [1981]) *Simulacra and Simulations*. Ann Arbor, MI: University of Michigan Press.

Berger P and Luckmann T (1991 [1966]) *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. London: Penguin Books.

Birchall C (2006) *Knowledge Goes Pop: From Conspiracy Theory to Gossip*. New York, NY: Berg.

Bratich JZ (2008) *Conspiracy Panics: Political Rationality and Popular Culture*. Albany: State of New York University Press.

Byford J (2011) *Conspiracy Theories: A Critical Introduction*. London: Palgrave Macmillan.

Campbell C (1972) The cult, the cultic milieu and secularization. *Sociological Yearbook of Religion in Britain* 5: 119–136.

Coady (2012) *What to Believe Now: Applying Epistemology to Contemporary Issues*. Oxford: Wiley-Blackwell.

Collins HM and Pinch T (1993) *The Golem: What Everybody Should Know About Science*. Cambridge: Cambridge University Press.

DeHaven-Smith L (2013) *Conspiracy Theory in America*. Austin, TX: University of Texas Press.

Doyle McCarthy E (1996) *Knowledge as Culture: The New Sociology of Knowledge*. London: Routledge.

Falzon MA (ed.) (2012) *Multi-Sited Ethnography: Theory, Practice and Locality in Contemporary Research*. Surrey: Ashgate.

Fassin D (2011) The politics of conspiracy theories: On AIDS in South Africa and a few other global plots. *Brown Journal of World Affairs* 17(2): 39–50.

Fenster M (1999) *Conspiracy Theories: Secrecy and Power in American Culture*. Minneapolis, MN: University of Minnesota Press.

Fiske J (2006 [1998]) *Understanding Popular Culture*. London: Routledge.

Foucault M (1970 [1966]) *The Order of Things: An Archeology of the Human Sciences*. New York, NY: Pantheon Books.

Giddens A (1984) *The Constitution of Society*. Cambridge: Polity Press.

Giddens A (1992) *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford, CA: Stanford University Press.

Gieryn TF (1983) Boundary-work and the demarcation of science from non-science: Strains and interests in professional ideologies of scientists. *American Sociological Review* 48(December): 781–795.

Gieryn TF (1999) *Cultural Boundaries of Science: Credibility on the Line*. Chicago, IL: University of Chicago Press.

Glaser BG and Strauss AL (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago, IL: Aldine.
Goldberg RA (2001) *Enemies Within: The Culture of Conspiracy in Modern America*. New Haven, CT: Yale University Press.
Haraway D (2001 [1985]) A manifesto for Cyborgs: Science, technology and social feminism in the 1980s. In: Trend D (ed.) *Reading Digital Culture*. Oxford: Blackwell, pp. 28–37.
Hofstadter R (1966) *The Paranoid Style in American Politics and Other Essays*. New York, NY: Knopf.
Horkheimer M and Adorno TW (2010 [1944]) *Dialectic of Enlightenment: Philosophical Fragments*. Stanford, CA: Stanford University Press.
Keeley BL (1999) Of conspiracy theories. *The Journal of Philosophy* 96(3): 109–126.
Knight P (2000) *Conspiracy Culture: From Kennedy to the X-Files*. London: Routledge.
Latour B (1987) *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, MA: Harvard University Press.
Latour B (1993) *We Have Never Been Modern*. London: Prentice-Hall.
Latour B (2004) Why has critique run out of steam? From matters of fact to matters of concern. *Critical Inquiry* 30(2): 225–248.
Law J (2004) *After Method: Mess in Social Science Research*. London: Routledge.
Locke S (2009) Conspiracy culture, blame culture, and rationalisation. *The Sociological Review* 57(4): 467–585.
Luhmann N and Fuchs S (1994) "What is the case?" and "What lies behind it?" The two sociologies and the theory of society. *Sociological Theory* 12(2): 126–139.
Marcus GE (ed.) (1999) *Paranoia within Reason: A Casebook on Conspiracy as Explanation*. Chicago, IL: University of Chicago Press.
Marcuse H (1991 [1964]) *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society*. Boston, MA: Beacon Press.
Melley T (2000) *Empire of Conspiracy: The Culture of Paranoia in Postwar America*. Ithaca, NY: Cornell University Press.
Merton RK (1973) The Normative Structure of Science. In: Merton RK and Storer NW (ed) *The Sociology of Science: Theoretical and Empirical Investigations*. Chicago: University of Chicago Press.
Olmsted KS (2009) *Real Enemies: Conspiracy Theories and American Democracy, World War I to 9/11*. Oxford: Oxford University Press.
Parker M (2001) Human science as a conspiracy theory. In: Parish J and Parker M (eds) *The Age of Anxiety: Conspiracy Theory and the Human Sciences*. Oxford: Blackwell, pp. 191–207.
Pigden C (1995) Popper revisited, or what is wrong with conspiracy theories? *Philosophy of the Social Sciences* 25(3): 3–34.
Pipes D (1997) *Conspiracy: How the Paranoid Style Flourishes and Where It Comes From*. New York, NY: The Free Press.
Popper KR (2013 [1945]) *The Open Society and its Enemies, Vol. 2: The High Tide of Prophecy: Hegel, Marx and its Aftermath*. London: Routledge.
Ritzer G and Jergenson N (2010) Production, consumption, prosumption: The nature of capitalism in the age of the digital "prosumer." *Journal of Consumer Culture* 10(1): 13–36.
Robins RS and Post JM (1997) *Political Paranoia: The Psychopolitics of Hatred*. New Haven, CT: Yale University Press.
Shapin S (2008) *The Scientific Life: A Moral History of a Late Modern Vocation*. Chicago, IL: Chicago University Press.
Sheldrake R (2013) *The Science Delusion: Freeing the Spirit of Inquiry*. London: Hodder & Stoughton.
Showalter E (1997) *Hystories: Hysterical epidemics and modern culture*. New York, NY: Columbia University Press.
Sunstein CR and Vermeule A (2009) Conspiracy theories: Causes and cures. *The Journal of Political Philosophy* 17(2): 202–227.
Toulmin S (1992 [1990]) *Cosmopolis: The Hidden Agenda of Modernity*. Chicago, IL: University of Chicago Press.

Wright Mills C (1956) *The Power Elite*. New York, NY: Oxford University Press.

Author biographies

Jaron Harambam (1983) is currently finishing his PhD thesis based on ethnographic fieldwork in the Dutch "conspiracy milieu." He writes on the personal biographies of conspiracy theorists, the different subcultures to which they belong, and their interactions with outsiders like scientists. Besides this fascination for conspiracy theories, his sociological interests lie at the empirical intersections of science, religion, and popular culture. He has published before on the commercialization of virtual worlds (2011) and is affiliated with the Erasmus Graduate School of Social Sciences and the Humanities (Erasmus University Rotterdam, the Netherlands) and a member of the Centre for Rotterdam Cultural Sociology (CROCUS).

Stef Aupers (1969) is professor "media culture" at the Institute of Media Studies, Communication Sciences, University of Leuven. He published widely on religion, spirituality, and conspiracy theories in modern society and, particularly, on the popularization and mediatization of these cultures through the Internet and online computer games. His latest books are *Religions of Modernity: Relocating the Sacred to the Self and the Digital* (edited with Dick Houtman, 2010, Brill publishers) and *Paradoxes of Individualization: Social Control and Social Conflict in Contemporary Modernity* (with Dick Houtman and Willem de Koster, 2011, Ashgate Publishers).