Misplaced trust in expertise: pseudo-experts and unreliable experts

1. Scientific Misconceptions and the Anti-Expertise Narrative

In the "information age", the world's knowledge is at everybody's fingertips: all one needs is a device connected to the internet. As information becomes more accessible than ever, optimists[1] expected a corresponding rise in scientific education and knowledge—with the passing of time, superstitions and misconceptions that fly in the face of scientific consensus would be destined to disappear. Yet, as we know all too well, this reassuring prophecy did not come true. Scientifically disproven misconceptions are still alive and well, and continue to be fairly widespread among digital citizens.

Popular culture and public discourse often explain this phenomenon by pointing to a decline in trust in experts. According to a widespread "anti-expertise narrative", misconceptions persist because people have lost faith in expert opinions. This narrative has deep historical roots: Collins and Evans (2007: 1) trace its origins to the late twentieth century, when public trust in expertise began eroding due to several factors, including the politicization of scientific debates, growing environmental concerns, and the spread of postmodernist thinking that challenged traditional sources of authority.

This anti-expertise narrative gained renewed prominence in recent years. In 2016, editor Roger Cohen warned readers of The New York Times that we live in an "age of distrust"— a society in which ordinary people see the system as governed by elites merely interested in making money and largely unconcerned with everyone's welfare.[2] In the same year, Tom Nichols's *The Death of Expertise* (2016) blamed education institutions, the Internet, and the media for experts' sudden loss of epistemic authority in our communities. Contrary to the optimistic view outlined above, authors like Nichols identify digital technologies as part of the problem: by empowering people to access all sorts of opinions and sources, including low-quality ones, the internet aggravates the effects of their decreased trust in expertise.

Under these conditions, some people are led to "do their own research", seeking alternative sources that go beyond scientific consensus. Options include forums and message boards, but also

[1] For a quick discussion of optimistic and pessimistic outlooks on the internet, see Habgood-Coote (2024).
[2] https://www.nytimes.com/2016/09/20/opinion/the-age-of-distrust.html

"alternative" news websites (Chinn and Hasel 2023; Levy 2022).[3] Taken together, these factors are taken to explain why scientific misconceptions continue to thrive.

Crucially, many of these misconceptions are easily avoidable: evidence refuting them is abundant, compelling, and readily available. For example, misconceptions about climate change persist despite near-unanimous agreement among climate scientists. Beliefs in the healing powers of crystals and essential oils continue to thrive within the New Age community. During the Covid-19 pandemic, harmful beliefs about supposed cures (infamously, drinking bleach) spread widely and quickly despite clear expert guidance against them. And misconceptions about immigrants continue to fuel racist narratives, often in direct opposition to well-documented evidence.

Though prominent in public discourse and media, the anti-expertise narrative is more of a story than a scientific theory. In fact, it is unclear whether empirical data supports it. Some recent research indicates that distrust in expertise and intellectuals[4] has grown at a fast pace (Kitcher 2011; Oreskes & Conway 2011; Gundersen and Holst 2022), notably on climate change (Dunlap and McCright 2011) and vaccines (Goldenberg 2021). Yet other surveys show that in the last few years there has not been any significant decrease of trust in experts (IPSOS Mori 2019; GlobeScan 2020; Gundersen et al. 2022) or that most people trust experts despite recent decline (Pew Research Center 2023). The high percentage of U.S. adults who had a good or high confidence in scientists working in the best interests of the public at the beginning of 2016 (76%) remained virtually unchanged in 2021 (77%). Similarly, in the EU only 6% of the surveyed population holds unfavourable views of scientists working at universities, whereas 53% of them hold a favourable perception (PEriTiA 2022).

Against this narrative, we want to highlight a related, but different mechanism that can lead the citizens of the digital age to adopt and maintain scientific misconceptions – one that is also connected to the difficulties arising when digital technologies expand the options available in our information diet. While the anti-expertise narrative blames pervasive misconceptions on decreased trust in experts, this explanation overlooks another important phenomenon: misplaced trust in expertise.

To illustrate, consider misconceptions about the safety of Covid-19 vaccines. Leaving aside matters on which there was genuine controversy, let's focus on blatantly false claims, which were

[3] We are thinking of websites like Naturalnews.com (a family of fake news websites proposing, among other things, quack health remedies), Infowars (Alex Jones's infamous "news website") and Breitbart (known for spreading misinformation about a variety of subjects, like immigration and climate change).

[4] Sometimes, this same sentiment is classified as *anti-intellectualism* (Merkley 2020).

known to be so by the scientific community. For instance, the claim that better cures (like vitamin D or ivermectin) were available; that the vaccine contained secret surveillance devices; that the pandemic was planned by a secret cabal of powerful individuals; or that the virus was "ethnically targeted" to spare Ashkenazi Jews and Chinese people. Many of these beliefs were promoted by individuals who had all the appearance of being genuine experts. These included figures like Luc Montagnier, joint recipient of the 2008 Nobel Prize in Physiology or Medicine; Judy Mikovits, a former research director with a PhD in biochemistry who featured in the viral documentary *Plandemic*; and Robert W. Malone, an accomplished scientist who conducted pioneering research in the field of mRNA vaccines.

It would be a stretch to argue that these individuals played no role in laypeople's acceptance of misconceptions about Covid-19 vaccines. Quite the contrary: in our experience, people who accept and reassert such misconceptions often justify their opinion by appealing to authoritative figures like the ones we just reviewed. If this is true more generally, understanding how debunked misconceptions persist in the face of scientific consensus requires a more nuanced approach than the one offered by the *anti-expertise narrative*: sentiments of resentment and mistrust towards experts are only part of the explanation. Another important part is that people sometimes fail to identify which experts truly deserve their trust. For example, an inquirer might agree that experts are best positioned to decide whether vaccines are safe but, led astray by the many options that they find online, still end up relying on an untrustworthy expert. In these cases, it is *misplaced trust* in expertise, rather than *lack of trust* in expertise, that sustains such misconceptions.[5]

This paper is concerned with this phenomenon: people often seek expert judgments but find themselves trusting the wrong sources. The persistence of misconceptions, then, cannot be fully explained by a general decline in trust in expertise, since many who hold such misconceptions do so precisely because they place their trust in sources that turn out to be unreliable. Our goal is to better explain how misplaced trust in expertise, in addition to lack of trust in expertise, contributes to the formation and persistence of scientific misconceptions. The paper is structured as follows. We will briefly introduce our disciplinary approach (§2), and then define the phenomenon of interest, namely *misplaced trust in expertise* (§3). As anticipated by our case studies, not all misplaced trust in expertise involves trusting *fake experts* (like pseudo-experts or pseudo-scientists). Sometimes experts who possess the relevant competence become unreliable – a

[5] For related discussions of this phenomenon, see Watson's considerations about the "confounding of expertise" (2020: 11-26) and Goldenberg's distinction between a "crisis of expertise" and a "crisis of trust" (2021). Both authors agree with us that most people still trust experts but choose the wrong ones.

phenomenon we describe under the label of *rogue expertise* (§4). After exploring the phenomenon in detail, we conclude (§5) by highlighting how these misleading figures generate challenges for laypeople seeking expert opinions, and how this helps explain the growth of scientific misconceptions, especially in online spaces.

2. Investigating the Dark Side of Expertise

Contemporary discussion in the epistemology of expertise has primarily focused on its positive (or "bright") side, investigating aspects that are truth-conducive and ensure the generation of rational beliefs and the circulation of knowledge. This research agenda addresses questions about what it takes to be an expert (e.g., Fricker 2006; Coady 2012; Goldman 2018; Croce 2019, forthcoming; Watson 2020; Grundmann 2025), how laypeople can identify expertise when they are novices in a domain (e.g., Goldman 2001; Anderson 2011; Guerrero 2017; Martini 2019), and how rational agents should respond to expert testimony, especially in situations of expert disagreement (e.g., Zagzebski 2012; Keren 2014; Jäger 2016, 2025; Croce 2018; Lackey 2018; Constantin and Grundmann 2020; Hauswald 2021).[6]

Yet, expertise has a *dark side* too (a *via negativa*), which has received considerably less attention in the literature. Just like there are aspects of expertise that are truth-conducive, there are others that facilitate the acquisition and circulation of false beliefs and constitute obstacles to knowledge. Only a few scholars took it upon themselves to study how and why attributions of expertise can go wrong (Levy 2019; McKenna 2023), the different ways in which expertise can be manufactured and faked (Fuhrer et al. 2021; Jäger 2024; Tappe and Lucas 2022), and the effects that these actors (or "pollutants") have on our epistemic environment (Begby 2021, Levy 2021, 2023).

That paying attention to epistemic failures can advance philosophical inquiry is old news. Since its inception, epistemology has attempted to understand what knowledge is and how we acquire it by exploring how knowledge acquisition can go wrong, as in perceptual illusions, sceptical scenarios, Gettier cases, false and insincere testimony. A similar approach can help advance the agenda of the epistemology of expertise. Focusing on cases of failure can help uncover how expertise and its assessment are embedded in actual situations, moving beyond idealised thought experiments and delivering a more accurate diagnosis of the threats that information-

[6] For a comprehensive overview of these issues, see Croce and Baghramian (2024a, 2024b).

seekers face in epistemically polluted environments. In this spirit, this paper explores the phenomenon of *misplaced trust in expertise* (which we characterise in the next section) and its role in the circulation of misconceptions that go against scientific consensus, especially in online environments.

3. Misplacing Trust in Expertise

> Researchers have settled on what they believe
> is the magic number for true expertise:
> ten thousand hours.
> Malcolm Gladwell - *Outliers - The story of success*

Trusting the judgement of people that we take to be experts is generally a truth-conducive heuristic. This is what we regularly do in mundane situations that require expert advice, like fixing a car, curing a bad cold, or buying an unfamiliar piece of technology. These situations tend to have a common structure: *an agent forms a belief that p* (e.g. "that the carburetor is busted") *about a question Q* (e.g. "why is my car making this noise?") *based on (i) someone's (E) authoritative testimony that p, and (ii) the assumption that E is an expert, and therefore a reliable source of information about Q*.[7] By *authoritative testimony* (or assertion, claim, advice, recommendation) we mean a speech act that is presented as being based on the speaker's expertise on Q (regardless of whether it is actually based on such expertise).[8] Henceforth, we shall say that beliefs formed following the above schema are based on *trust in expertise*. When all goes well, our trust in expertise is *well-placed*: e.g., by trusting my mechanic's reliable expert judgement, I acquire the true belief that the carburetor is busted.

Sometimes, however, our trust in experts is *misplaced*. Take Gladwell's *Outliers*, the book quoted in exergue. Gladwell claims that researchers agree that ten thousand hours is the "magic

[7] This characterisation captures paradigmatic cases of trust in expertise, where one trusts what the expert says based on the expert's authority (trusting "preemptively", in the terminology of Keren 2014). As Keren (this issue) illustrates, there are also cases in which one believes an expert's testimony by assigning significant weight to the expert's words in one's own balance of reasons. Such cases also warrant our attention, since they constitute a similarly flawed belief-forming process. While it might be debatable whether these cases constitute genuine instances of "trust" (Hieronymi 2008 thinks they are, while Keren, this issue, disagrees), nothing of what we say in the paper hinges on settling the issue.

[8] For a discussion of scientific testimony, see Gerken (2022). As we understand it, *authoritative testimony* differs from Gerken's *scientific testimony* at least in one important aspect: authoritative testimony covers testimony that is falsely presented as scientific (like the advice of pseudo-experts), whereas Gerken's scientific testimony only covers testimony of actual scientists.

number" for true expertise (meaning that if you exercise ten thousand hours at a given activity, intellectual or not, you will master that skill). Not only is this not true: there is no consensus between researchers on a magic number at all – if anything, researchers agree that no such number exists. Gladwell's claim is both false and unwarranted. Many readers of this book, however, will trust Gladwell's opinion on this matter. This constitutes an exemplary case of misplaced trust in expertise (ironically, the result here is that readers form incorrect beliefs about expertise itself).

Trusting expertise can go wrong in several ways. Some failures relate to the *content* of the expert's recommendation – that is, failures relating to clause (i) above. If my mechanic tells me that the carburetor is busted, when in fact the injection pump has a problem, trusting them will lead me to acquire a false belief. In this case, I identified an appropriate epistemic authority but the content of their advice happened to be wrong nonetheless. Other failures are related to the *source* of the expert recommendation: they are due to the incorrect assumption that one is trusting a reliable source – clause (ii) above. For example, the mechanic might be totally incompetent (unbeknownst to me, they are my mechanic's cousin, filling in for the week) or dishonest (carburetors are expensive to change, and they are just trying to inflate the bill).

In this article, we are concerned with scientific expertise that goes wrong because one trusts the wrong sources. To refer to such failures, we introduce the label "*misplaced trust in expertise.*"[9] We shall say that S's trust in E is misplaced when S forms a belief about Q following the schema above, but E is not a reliable source of information about Q.

What is it for a source of information to be reliable in this sense? We shall come back to this in §4.2. For the moment, we shall simply say that E is a reliable source about Q to the extent that E's testimony about Q is supported by adequate reasons (adequate by the evidential standards of the field, with which they will be acquainted qua experts).[10] Reliable expert testimony should also include, where appropriate, qualifications and markers *calibrated*[11] to the quality of the reasons in its support: uncertain claims will be marked as such with hedges, while established facts will be communicated in a more direct manner.

[9] It may sound odd to some ears that our (stipulative) conception of misplaced trust in expertise covers cases in which the trustee is in fact not an expert. This is why we talk of "expertise" rather than "expert": the goal is to highlight that trust that is allocated on the *assumption* (rather than the fact) that the trustee is an expert.

[10] For a more detailed discussion of what it means for authoritative testimony to be supported by adequate reasons, see Gerken (2022).

[11] Here calibration is used in the technical sense, borrowed from the psychological literature on the communication of confidence, which studies how speakers are expected to use markers of certainty that match their degree of confidence (and the evidence available to them). See, for example, Tenney et al. (2008), Pozzi & Mazzarella (2023) and Marsili (forthcoming).

Given our characterisation, *genuine expert mistakes* fall outside of the scope of our inquiry. Experts often turn out to be wrong: many scientific theories have proved incorrect throughout the years. Consider the belief that Mars had a system of "canals", first observed by Italian astronomer Giovanni Virginio Schiapparelli in 1877. Schiapparelli (1878) claimed to have detected straight linear markings that covered the surface of the red planet. We now know that they were an illusion, caused by the effect of the chance alignment of craters (and other features of the surface) on the limited resolution of the telescopes used at the time. But the astronomers who endorsed and reasserted Schiapparelli's theory were not offering (by our definition) unreliable testimony: based on the observational standards of the time, his hypothesis was reasonable and judged so by his contemporaries (Payne 1904). Thus, people who formed the false belief that there were canals on Mars were not (by our definition) misplacing their trust at the time.

Compare this to the fanciful speculations of Percival Lowell who, based on the same observations, forcefully pushed the claim that the canals were enormous stripes of vegetation bordering irrigation ditches, excavated by intelligent aliens to transport water from the polar caps. Albeit very popular, Lowell's claims were unwarranted and recognised to be such by his contemporaries trained in astronomy (Crossley 2000). According to our characterization, people who accepted Lowell's claims were misplacing their trust because, despite his expertise, Lowell's testimony was not supported by appropriate reasons (nor appropriately hedged or qualified).

In this article, we shall restrict our focus to misplaced trust in *scientific* expertise – that is, expertise on matters that are typically settled by scientific inquiry. We shall therefore no longer discuss misplaced trust in practical expertise (like previous examples involving car mechanics). Nor shall we cover the important phenomenon of misplaced trust in news sources, which has been subject to extensive debate in social epistemology (Bernecker, Flowerree, and Grundmann 2021; Weatherall and O'Connor 2024; Frost-Arnold 2023; Harris 2024b, Marsili forthcoming) and amply studied in scientific work (Tucker et al. 2018; Pennycook and Rand 2021; Pfänder and Altay 2025; Linden 2023).

4. How to misplace trust in expertise: some epistemic traps

As anticipated, misplacing trust in expertise occurs when one trusts a testifier based on the incorrect assumption that they are an expert (and therefore a reliable source of information about a given topic). To better explore this phenomenon and understand its implications, this section discusses three main ways in which a putative expert can constitute an "epistemic trap" for

novices—that is, an apparently reliable source that is in fact unreliable. *Fake experts* lack the competence to be considered as experts. *Rogue experts*, instead, possess the required competence but systematically offer unreliable advice in some domain. *Epistemic trespassers* offer authoritative advice on matters that fall outside their domain of expertise. As we shall see, despite having received little attention in the specialised literature, rogue experts are perhaps the most dangerous epistemic trap for novices seeking expert judgement on a given topic.[12]

4.1 Fake expertise: pseudo-experts and pseudo-scientists

Del Bigtree is a television and film producer who rose to prominence in 2016 by producing the film *Vaxxed: From Cover-Up to Catastrophe*, which promoted the discredited claims of Andrew Wakefield linking vaccines to autism. Bigtree then proceeded to fund the anti-vaccination group Informed Consent Action Network, of which he is CEO. During the pandemic, he leveraged this platform to spread conspiracy theories about Covid-19, urging his audience to disregard public health guidelines. Bigtree is charismatic and highly influential and draws large crowds at rallies. People who are interested in his opinions perceive him to be an authority about vaccines: an expert whose judgement deserves to be trusted. Their trust, however, is fundamentally misplaced: Bigtree is no expert on the matter. He has no medical training – beyond directing the medical show "The Doctors", that is. In our terminology, he is a *fake expert*[13]: broadly speaking, an individual that makes authoritative claims as if they had expertise in a given domain, when in fact they lack such expertise.

To be more specific, Bigtree is a *pseudo-expert*—a particular category of fake expert. What is a pseudo-expert, exactly? Pseudo-expertise is one of the few "dark sides" of expertise that has received substantial discussion in epistemology. Goldman characterises pseudo-experts as agents who create false theories (i.e., ideologies) for political purposes without possessing any relevant body of truths in the relevant domain (2018: 7). Tappe and Lucas, instead, define pseudo-experts as people who "first, claim knowledge they do not possess and, second, gain their importance by

[12] Our analysis aims to capture cases in which the agent misplaces trust by deferring to the wrong source. While an occasional lie by a typically honest expert can lead a novice astray, such cases fall out of the scope of our inquiry. We are grateful to Arnon Keren for urging us to clarify this point.

[13] This notion comes close to Jäger's account of fake authorities, which he understands as agents who are falsely believed by their clients to be competent in a domain and intend to be treated as genuine epistemic authorities (2024: 8). For Jäger, the realm of false epistemic authorities also includes "unintended false authorities": agents who do not intend to be treated as genuine authorities and nonetheless are falsely believed by their clients to be competent in a domain.

having contrary opinions to mainstream research" (2022: 126).[14] Fuhrer and colleagues (2021) offer a more systematic characterization of pseudo-expertise:

> A pseudo-expert is someone who (C1) seeks to be granted by non-experts the social status typically granted to experts in domain d in the novice-oriented sense; and (C2) engages in behaviors related to novice-oriented function of experts in domain d; (C3) while being either unable to fulfill the related novice-oriented function (because they don't have the required degree of knowledge and skill in the domain) or unwilling to fulfill it (because they don't want to comply with the norms inherent to this role); (C4) while there are people with expertise in domain d who fulfill or would fulfill this function in a better way (2021: 5). [15]

While several authors associate pseudo-expertise with lack of competence and/or an epistemically inappropriate—i.e., often deceptive—intent, there is no consensus on what it takes to be a pseudo-expert.[16] We consider this lack of consensus unproblematic because we don't think that it would be particularly fruitful to aim to settle such differences. Contrary to what Fuhrer et al. (2021) seems to assume, we doubt that there is only one correct analysis of pseudo-expertise. If (as we think) stable and convergent intuitions are lacking for the concept of pseudo-expertise, it is not fruitful to attempt to develop a definition that matches ordinary language speaker's intuitions about the concept[17]. Accordingly, we won't attempt here to develop "intensionally adequate" (Gupta 2015) definitions of pseudo-expertise and the other epistemic traps we are about to review. A broad and somewhat stipulative characterisation will do, as long as it serves our explanatory purposes.[18]

We have said that *some* fake experts are pseudo-experts. This is because we find it useful to differentiate between *pseudo-experts* and *pseudo-scientists*. *Pseudo-scientists*, too, advertise expertise that

[14] Tappe and Lucas introduce a further distinction between pseudo-experts and mere imposters: the former, but not the latter, know how to distinguish between reliable and unreliable information and have a legitimate place in the academic community.

[15] This definition relies on a functionalist view, according to which the defining role of experts is to help laypeople solve their problems in the domain—hence the *novice-oriented* function—which typically amounts to passing on the knowledge experts have acquired or teaching them the skills they possess (Croce 2019).

[16] See Sorial (2017) for a related account of pseudo-expertise.

[17] Traditional conceptual analysis typically operates on the assumption that intuitions about particular cases can help us elucidate the intension of a concept. This assumption, however, arguably does not hold for concepts that are stipulative, technical, or that lack sufficient cultural penetration for intuitions to be convergent and widespread. We are not the first to notice that this can constitute an obstacle for some definitional projects. Habgood-Coote (2019), for instance, suggests that we lack sufficiently convergent intuitions to engage in productive conceptual analysis of the concept of "fake news". See also Bright (2019) for a similar move about group lies.

[18] For further discussion, see the Carnapian concept of explication (Carnap 1950) and its discussion in contemporary literature (e.g. Brun 2016).

they don't have. As it is usually defined, pseudoscience amounts to non-science posing as real science (Hansson 2021). A pseudo-scientist, in turn, is an individual who takes part in such a non-scientific enterprise or contributes to spreading its tenets. The distinction can be drawn as follows: while pseudo-scientists claim scientific competence in a domain where there is simply no domain-specific scientific knowledge to be had (such as aromatherapy, crystal healing, and alien abduction), pseudo-experts pose as experts in domains where scientific knowledge is possible (and in which genuine experts achieve it).

An example of a pseudo-scientist is David Michael Jacobs, a retired Associate Professor of History at Temple University, who has made a career studying the alleged phenomenon of alien abduction. He uses hypnosis to retrieve supposed memories of abductions from his subjects. Jacobs claims that these abductions are part of an alien breeding program that aims to create hybrid beings that integrate human and alien DNA, who are then subtly introduced into human society to achieve undisclosed alien objectives. While Jacobs calls himself a scientist and mimics some aspects of scientific methodology, people who take his theories seriously are misplacing their trust in expertise: they are endorsing the rambling of a pseudo-scientist, not the opinions of an expert.

Quite straightforwardly, trust in fake experts is misplaced because fake experts lack competence in the relevant domain. Trusting their authoritative judgement on the assumption that they are genuine experts is therefore a mistake. What's less straightforward is why many apparently rational people end up trusting fake experts. A plausible explanation can be derived by considering a much-debated issue in the epistemology of expertise: namely, the *credentials problem* (Cholbi 2007) or *recognition problem* (Selinger 2011; Watson 2020). Essentially, this problem arises when novices attempt to identify experts in a domain D while knowing nothing or very little about D. Identifying competent sources, it is argued, often seems to require that one already possesses expertise in D. This would render reliance on experts futile (or, at best, limited to those who are already experts themselves). To resist this near-paradoxical conclusion, philosophers typically note that novices can rely on indirect clues – in the technical jargon, the *markers of expertise* – to discriminate between potential sources. Standard markers listed in the literature include: *track-record of achievements; reputation; experience; communicative skills;* and *evidence of insincerity or bias.*[19]

Let's briefly consider how these markers apply to some of the cases under consideration here. For example, it should appear fairly uncontroversial that Bigtree and Jacobs possess sophisticated *communicative skills*, which they deploy to give the impression that they are

[19] See Croce and Baghramian (2024a) for an overview. Scepticism over the effectiveness of these markers has been recently raised in, e.g., Guerrero (2017), Levy (2021), and McKenna (2023).

knowledgeable about the subject. Furthermore, their popularity within relevant circles reveals that they score high in one of the key social indicators of *reputation* (Origgi 2022): *influence*, namely the capacity to mobilize other people to action (Acerbi 2019). Additionally, some pseudo-experts (like Jacobs) also possess *formal qualifications* (e.g., university degrees and appointments; Grundmann 2025) and a *track record of achievements* (e.g., scientific publications, commercial success; Goldman 2001; Collins and Evans 2007), which can strengthen the perception that they are genuine experts. In other cases, pseudo-experts create their own formal qualifications (for instance, Bigtree is president of an association he himself created) – or forge them, if necessary.[20] In short, fake experts can instantiate several markers of expertise in the eyes of the novice.

It is not completely unreasonable, then, for a novice to mistakenly place their trust in fake experts. This observation puts pressure on a fairly common take in epistemology, according to which accepting debunked scientific misconceptions is something for which laypeople bear substantial epistemic responsibility – typically because it reveals some epistemic vice on their part, like gullibility or wishful thinking (Cassam 2018, Meyer et al. 2024). This diagnosis is too harsh: novices attempting to identify genuine expertise can unwittingly fall prey to epistemic traps like fake experts and end up accepting misconceptions on what they take to be good authority. However, this is not to say that accepting such misconceptions is entirely blameless.[21] Fake experts can instantiate markers of expertise to a greater or lesser extent, and their attempt to fake them can be easier or more difficult to spot. This suggests that novices can be more or less epistemically blameworthy for misplacing their trust in expertise. Consequently, the epistemic responsibility for misplacing trust depends, among other factors, on the extent to which fake experts display the relevant markers of expertise, and how well one is placed to detect their inadequacies.

4.2 Rogue experts

In the introduction, we mentioned some scientists who spread misconceptions about Covid-19. Judi Mikovits, for example, became internationally famous during the Covid-19 pandemic for appearing in the viral documentary *Plandemic*, in which she made various false assertions, such as the claim that masks "activate" the virus. As uninformed as her views may sound, Mikovits is no

[20] As Origgi (2022: 546) points out, reputation is a fragile marker of expertise that encompasses both a formal and an informal dimension and is exposed to bias and deceptive intentions. While formal qualifications contribute to establishing one's reputation as an expert, social indicators like influence, status, values, and authority (i.e., the "aura" that surrounds their words) are often treated as social cues of an expert's trustworthiness.

[21] Levy (2021) defends a view closer to this side of the spectrum, although it comes with cautious qualifications.

stranger to medical science: she holds a PhD in biochemistry from George Washington University and served as research director at the Whittemore Peterson Institute (WPI).

Mikovits is not the only genuine scientist responsible for spreading misconceptions on Covid-19. Robert W. Malone, an MD who was involved in some landmark studies for the development of mRNA vaccines, was once highly respected, and served as an academic and chief medical officer in various labs and pharmaceutical companies (Dolgin 2021). During the Covid-19 pandemic, Malone became a prominent critic of the recommendations of health authorities, making several unwarranted and false claims—for instance, by repeatedly misreporting data on mRNA vaccines side-effects in order to argue that they are both dangerous and ineffective. Malone's assertions gained worldwide attention following his appearance on the Joe Rogan Experience (currently the most popular podcast in the US, according to Spotify's charts), where he warned listeners about "mass formation psychosis" and continued to criticise vaccine safety.

Neither Mikovits nor Malone are *fake experts*. Both are scientists who possess qualifications and competence in the relevant field. Despite their knowledge, however, they systematically make unreliable judgments on a particular topic (such as the reliability of vaccines) within their domain of expertise. They exemplify what we call *rogue experts*.

Malone and Mikovits are by no means exceptional cases: rogue experts play a key role in spreading misinformation. We already mentioned Luc Montagnier, a Nobel laureate infamous for making wild claims (e.g., concerning DNA teleportation, homoeopathic water memory, and Covid-19 vaccines). Another example is Michael Yeadon, who holds a Ph.D. in respiratory pharmacology (expertise relevant to Covid-19, a respiratory disease) and formerly served as a Vice President at Pfizer (one of the companies responsible for developing Covid-19 vaccines). Despite his background, Yeadon has made unfounded claims about Covid-19, such as suggesting that the majority of the population is already immune and that vaccines constitute an attempt at "mass depopulation", aimed at the "deliberate execution" of "potentially billions of people" (Salazar 2021)—claims that, despite having been debunked, contributed to vaccine hesitancy.

Experts can go rogue for various reasons. Sometimes, economic incentives lead them to insincerely misrepresent their opinion: a notorious case is that of Andrew Wakefield, whose work first purported to establish a link between autism and vaccines (Rao and Andrade 2011). In other cases, wishful thinking, biases, or other internal motivations can lead experts to present dubious claims as certain. Given that no field is immune to social incentives and cognitive biases, rogue expertise is a general phenomenon that applies to different contexts and domains of competence.

Yet, despite the epistemic threat they pose, rogue experts have been mostly ignored in the literature.

In what sense is trust in rogue experts *misplaced*? According to our schema, to trust one's authoritative testimony about Q is to trust their testimony based on the assumption "(ii) that E is an expert, and therefore a reliable source of information about Q". In the case of fake experts, this assumption is false because the first condition (E is an expert) is not satisfied: fake experts are not genuine experts, because they lack competence in the domain to which Q pertains. In the case of rogue experts, it's the second clause of assumption that is not satisfied. Despite being competent in the relevant domain, rogue experts are not reliable sources of information about the relevant question Q (e.g., the safety of a vaccine). By our earlier definition, whether a source is reliable depends on the reasons that support their testimony about Q. Rogue experts systematically offer unreliable testimony about Q – that is, authoritative testimony not supported by adequate reasons. It's not just that rogue experts defend views that are false or that contradict the scientific consensus. The problem is that they fail to calibrate the confidence of their statements to available evidence.

To illustrate, imagine that a rogue expert R confidently claims that *p* (e.g. "Ivermectin is a better treatment for Covid-19 than Remdesivir") is the right answer to Q ("How should we treat the virus?"). In support of *p*, R cites journal articles without mentioning that they have been retracted or that did not pass peer review; conveniently omits substantial evidence against *p*; and unwarrantedly speculates that "Big Pharma" wants to hide the truth about *p*. By our standards, what makes R's testimony unreliable here is not that it is false: R might actually be right (if only by accident) about *p*. Rather, R's testimony is unreliable because the reasons in support of *p* fall short of what constitutes adequate evidence for authoritatively asserting *p*. If R had appropriately qualified their statements (e.g. "even if evidence is mixed at best, I still think that *p* is a hypothesis worth exploring"), they would still be a reliable source about Q. In our view, then, rogue expertise is a matter of offering testimony that is not supported by adequate reasons[22], rather than merely false testimony, or testimony that goes against scientific consensus.

[22] This characterisation also captures cases in which competent experts present *true* propositions as much more certain than the evidence warrants (cf. Intemann & de Melo Martín 2023). Their statements are still misleading, because they knowingly lead audiences to acquire false beliefs (for example, that *p* is supported by stronger evidence than it is actually the case). Note, relatedly, that rogue expertise is not just a matter of dissenting. Dissenters who stray from scientific consensus (like Einstein and Copernicus) are not rogue experts, insofar as they don't misrepresent the evidence available to the scientific community. To illustrate, going back to Mars canal theories introduced in §3, Percival Lowell would count as a rogue expert while Virginio Schiapparelli would not, even though both made scientifically incorrect claims. Separating legitimate dissenters from rogue experts is particularly important in a situation like the Covid pandemic, where time did not allow for a stable scientific consensus to emerge on many issues. During

Arguably, rogue experts represent a much more dangerous epistemic trap than fake experts. Unlike fake experts, rogue experts are genuine experts and therefore exhibit most – if not all – markers of expertise (they tend to have formal qualifications, a track-record of professional achievements, and so forth). While going rogue inevitably damages an expert's track-record and reputation within the expert community, laypeople nonetheless have excellent reasons to take the rogue expert's testimony as authoritative[23]. After all, rogue experts used to be reliable sources, qualified to share knowledge about a given domain. Furthermore, laypeople typically lack the specialist knowledge required to realize that their testimony is unsupported by available evidence. This puts additional pressure (building upon previous consideration on fake experts) on epistemological views that blame the acceptance of scientific misconceptions primarily on laypeople's gullibility, negligence, or epistemically vicious conduct.[24] Even responsible agents can occasionally mistake a rogue expert for a reliable source and end up accepting misinformation by trusting what they (for good reasons) take to be a reliable epistemic authority.

Nonetheless, it would be equally mistaken to suggest that novices are entirely defenceless against rogue experts, or that trusting rogue experts is perfectly reasonable. Red flags are often available. For example, Mikovits has been accused of scientific misconduct[25] – and incarcerated on felony charges – which, as we saw earlier, is a *negative*[26] marker of expertise. Similarly, Malone has made unwarranted claims about mRNA vaccines also outside of the vaccine debate, which

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the pandemic, several authors have observed attempts to artificially promote consensus, or the appearance thereof, at the expense of dissenting voices that should have been taken more seriously (Russell and Patterson 2023). We are grateful to Rico Hauswald for urging us to address this point.

[23] As a rogue expert continues to progressively erode their reputation (for example by spreading misinformation, or by endorsing a growing number of quack views), it will be less and less rational to trust their testimony. Once a certain threshold is reached, it might even become no longer appropriate to take them to be expert in their field. For simplicity, our focus here will be on rogue experts that have just gone rogue, but the phenomenon of progressive erosion of the rogue expert's credentials is certainly of philosophical interest.

[24] Ordinary people's epistemic blameworthiness is discussed in nearby contexts, such as conspiracy theories (e.g., Feldman 2011: 22; Cassam 2018), climate change denialism (e.g., Fouke 2012; Robichaud 2017), and fake news (e.g., Croce and Piazza 2019). For arguments against attributing epistemic blame to laypeople in these contexts, see Harris (2018), Pongiglione and Martini (2022), and Millar (2019).

[25] Scientific misconduct can take several forms, ranging on a spectrum that goes from lack of transparency to overt manipulation. At the lower end, we find scientists who have been accused of mild forms of misconduct and have never suffered serious disciplinary or public consequences. Take Francesco Squadrito, professor in pharmacology at the University of Messina. Despite being repeatedly accused of misconduct on PubPeer and seeing seven of his publications retracted for image duplication, Squadrito has not incurred serious disciplinary issues and continues to conduct research at his institution. At the higher end of the spectrum, we can find experts who were publicly acknowledged as fraudsters, like Mikovits. This suggests that rogue experts' unreliability might equally come in degrees, which complicates matters in two ways. First, definitionally, it suggests (once again) that aiming to identify clear cut boundaries for this concept is unlikely to be productive. Second, the fuzziness of these boundaries highlights another obstacle that laypeople face when they need to assess whether the hiccups in the track-record of a given expert suffices to undermine the expert's reliability. For more on this topic, see Fuhrer et al. (2021: 5) on "bad researchers".

[26] In the literature, accessible clues of dishonesty and lack of epistemic responsibility constitute *negative* markers of expertise, as they reveal that one lacks fundamental features of an expert (see, e.g., Anderson (2011).

were repeatedly debunked by the scientific community (Dolgin 2021). His *track record* is therefore not impeccable: rogue experts progressively erode their track record as they continue to spread unwarranted claims.

Still, laypeople may lack access to such information. And even when they have such access, they might hold beliefs that allow them to coherently dismiss these red flags. Laypeople might think that Mikovits has been accused of misconduct and ostracised precisely because she spoke against powerful entities, or that scientists who claim to have "debunked" Malone are simply closing their ranks to discredit unwanted dissenters. Independently on whether one regards these considerations as rational (cf. Levy 2021), they illustrate that rogue experts constitute a more dangerous epistemic trap than fake expertise, since the testimony of rogue experts (although unreliable) carries stronger epistemic weight, coming as it does from a position of genuine expertise.

Misplaced trust in rogue experts can generate another worrisome effect. When the unreliability of figures like Mikovits is revealed, the public might be led (justifiably, to some extent) to question whether they can trust experts in general. Rogue experts can therefore contribute to the public perception that "mainstream" experts are not reliable sources, since they, too, can be motivated by dishonest agendas or irrational biases. Interestingly, this side effect can fuel the anti-expertise sentiments that are central to the narrative introduced in the opening section. Awareness of dishonest expert conduct can encourage individuals to "do their own research" and seek "alternative" sources, increasing consumption of misinformation (Rini 2021, Harris 2024a, 2024b, pt. I). Keeping all this in consideration, then, the underestimation of rogue expertise amounts to a significant and worrisome gap in the extant epistemological and scientific literature.

4.3 Epistemic trespassers

Shiva Ayyadurai is an MIT-trained engineer with multiple degrees, including a Ph.D. in biological engineering. Ayyadurai is, by all counts, an expert in his domain. Despite lacking expertise in virology or infectious diseases, however, Ayyadurai rose to prominence during the Covid-19 pandemic by leveraging his credibility to make several false claims that appealed to conspiracist thinkers – for instance, that Covid-19 is curable with alternative treatments like vitamin C and hydroxychloroquine.

Ayyaduray is a paradigmatic example of an *epistemic trespasser:* he is an expert commenting on matters that fall well beyond his domain of expertise without qualifying his claims. As

Ballantyne defines them, "epistemic trespassers are thinkers who have competence or expertise to make good judgments in one field but move to another field where they lack competence—and pass judgement nevertheless" (2018: 367). Epistemic trespassing is not always problematic: Ballantyne's seminal analysis acknowledges *hybridized questions* that can be productively addressed "by combining evidence and techniques from two or more fields" (2019: 200), conceding that such trespassing may prove essential for addressing important interdisciplinary questions (2019: 217; Gerken 2022; Watson 2022). Epistemic trespassers bring about epistemic harm to the extent that trespassers attempt to convince their audiences to assign greater credibility to their testimony than it deserves. Expert testimony constitutes harmful epistemic trespassing when the expert's competence does not encompass the topic on which they pass judgement, but is nonetheless leveraged as support for the expert's claims (as it happens with Ayyadurai's advice).

In light of these considerations, one might wonder whether epistemic trespassing falls under the banner of rogue expertise, or qualifies as a different, non-overlapping phenomenon. For reasons already stated, we don't find such definitional and taxonomical disputes particularly productive, and prefer to eschew them. But we lean towards understanding epistemic trespassing as a form of rogue expertise, or at least a closely related phenomenon. When epistemic trespassers pass judgement on matters outside their domain, they often offer testimony for which they lack adequate evidential support – just like a rogue expert. What is distinctive about the trespasser, however, is that they lack evidential support because, unlike typical rogue experts, they lack expertise in the relevant domain. They are unreliable sources because they are speaking outside their competence – as opposed to passing judgement within one's domain, as is the case for the other rogue experts discussed so far.

Importantly for our purposes, much like other rogue experts, epistemic trespassers are *genuine* experts who systematically offer unreliable testimony – that is, authoritative testimony that is not supported by adequate reasons. Crucially, like rogue experts (and unlike fake ones) epistemic trespassers display most markers of expertise – most notably, strong formal qualifications and a positive track-record of achievements. As such, it is not unreasonable for novices to assume that their authoritative testimony is trustworthy. All the while, it is possible for laypeople to detect negative markers of expertise: sufficiently informed novices should be able to spot the trespassing. As with every other epistemic trap discussed so far, then, assessing whether laypeople are epistemically blameworthy for misplacing their trust does not lead to a clear-cut judgement. Trusting these sources is not entirely blameworthy (since trespassers instantiate key markers of expertise) nor entirely blameless (since signs of untrustworthiness are available). Where each

specific instance falls between these two extremes (blameless or blameworthy) depends on the availability of cues: the less evident the source's unreliability, the less blameworthy an agent's decision to trust it.

While the epistemological and scientific literature has mostly ignored rogue expertise, epistemic trespassing has received attention in recent philosophical literature, with some scholars discussing how trespassers constitute a pernicious source of misinformation (DiPaolo, 2021; Gerken, 2018). Additionally, it has been pointed out that public episodes of epistemic trespassing can generate the wrong perception that experts disagree with each other. In turn, this perception of expert disagreement can erode public trust in science, leaving laypeople wondering which experts they should trust (De Cruz 2020). Also in this sense, epistemic trespassers generate challenges analogous to the one arising from standard rogue expertise.

5. Conclusions

Let's recapitulate. The widespread persistence of scientific misconceptions in the digital age cannot entirely be blamed on lack of trust in experts – as a popular "anti-expertise narrative" (or some suitable caricature of it) would have it. Often, people who seek expert advice simply fail to place their trust in the right sources. Their "misplaced trust in expertise" targets different figures who offer authoritative but unreliable testimony, and who instantiate some markers of expertise. Against a scholarly tendency to focus on *fake experts* (who advertise expertise they don't have), we have stressed that *rogue experts* (who possess expertise yet offer unreliable testimony nonetheless) are key to understanding this phenomenon.

In our discussion, we have introduced terminology and tentative characterisations, summarised in the table below:

Type	Category	Description
Fake Expert	Pseudo-expert	Lacks competence in a domain, but pretends to have it
	Pseudo-scientist	Conducts or advocates research that appears to be scientific, but is not scientific

Unreliable Expert	Rogue expert	Possesses expertise in a domain, but systematically makes authoritative claims that are not supported by available evidence in that domain
	Epistemic trespasser	Possesses expertise in one domain, but offers authoritative advice in another where they lack expertise

As previously stated, the purpose of these characterizations is not to offer a comprehensive taxonomy that exhausts the logical space. In fact, we think that there is interesting overlap between these categories. For example, a pseudo-expert that endorses and defends pseudo-scientific theories would also qualify as a pseudo-scientist.

In the literature, misplaced trust in expertise is sometimes considered the result of epistemically blameworthy behaviour, such as biassed reasoning or "expert shopping" (Contessa 2022) – the practice of selecting experts who match one's pre-existing opinions, political views, or social identity. While this certainly explains some cases of misplaced trust, our analysis has shown that there are other factors that lead novices astray. Non-experts have limited resources to identify trustworthy sources of information. Even these resources (typically, markers of expertise), we have shown, are fallible: they can lead people right into an epistemic trap. For there are agents who instantiate these markers even if they are not reliable sources of information.

Relatedly, our analysis challenges the standard view according to which accepting debunked scientific misconceptions is something for which laypeople bear substantial epistemic responsibility – or worse, that it reveals epistemic vices on their part. We showed that matters are substantially more complicated – especially when one considers that rogue experts are hardly distinguishable from real experts. The resulting view does justice to the fact that we are mostly rational animals, even if we resort to heuristics that can lead us astray.

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