



*Research Article*

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## The Anatomy of Credulity and Incredulity: Or, a Hermeneutics of Misinformation

This essay explores the historical process by which the birth and expansion of information systems transformed the relationship between “faith” and “fact.” The existence of recurring forms of credulity and conversely denial—from holocaust denial to climate change denial—suggests that patterns of belief and disbelief will not be easily resolved either with fact-checking or with the regulation of the press. While such approaches see the problem of misinformation in terms of a contest between truth and falsehood, history suggests that people believe falsehoods, because they *need* to for a variety of psychological or socio-cultural reasons. While understanding what “needs” falsehoods meet may not provide an immediate solution to the problem of misinformation, it does open a different perspective on the question. In the end, the essay suggests that the current trend towards STEM education, to the growing exclusion of the humanities, may be slowly undermining the very analytical skills the public needs to be able to counter the tides of misinformation.

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How to cite: Biltoft, Carolyn N. (2020). The Anatomy of Credulity and Incredulity: Or, a Hermeneutics of Misinformation, *The Harvard Kennedy School (HKS) Misinformation Review*, Volume 1, Issue 2

Received: March 2<sup>nd</sup>, 2020 Accepted: April 24, 2020 Published: April 30, 2020

### Research question

- How did the birth of information systems foster the human desire for knowing, believing and feeling reassured?
- How does understanding the dynamics of “denial” help illuminate the appeal and so the prevalence of misinformation?
- How can educational programs offer effective longer-term strategies for addressing the problem of misinformation?

### Essay summary

- This essay seeks both a deeper and a longer-term perspective on the fundamental problem of “misinformation.”
- It offers a historical and philosophical approach, not with an eye to fixing the prevalence of that which is false, but by exploring why some people may continue to believe what they believe despite what the “facts” might say.

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<sup>1</sup> A publication of the Shorenstein Center on Media, Politics and Public Policy at Harvard University's John F. Kennedy School of Government.

- Rather than looking at past examples of “fake news,” it ponders instead forms of belief and “denial” that refuse to engage with bodies of evidence.
- By understanding the dynamics of uncertainty and denial—such as holocaust denial and climate change denial—we can better grasp the anatomy of our “fake news” moment.
- Further research and interventions should then focus on identifying what kind of “needs” denialism fulfills, instead of solely trying to patch it with facts.
- The essay ends by suggesting that the move towards STEM educational models to the exclusion of humanities may—in the long term—undermine our ability to “out-think” misinformation.

### **Implications: *Matters of fact and matters of faith***

“Justice will overtake fabricators of lies and false witnesses.” So said Heraclitus, ancient Greece’s celebrated historian. What a confident, reassuring statement, which arrives now shrouded in the serenity of a past long ago settled, resolved, and put to rest. It’s a tantalizing ideal, is it not? Especially in this current age of so-called “fake news,” where the ability to pursue stable, peaceful and yet “open societies,” seems to be at odds with the daily circulation of all manner of prevarications, false advertisements and even rampant presidential hyperboles. And yet, even bracketing the question of the relationship between truth and justice, quests to take up a more dedicated practice of fact-checking as method for safeguarding journalistic or political honesty might rest on a misconception. Namely, they rest on the idea that more widely disseminated “solid facts” constitute the best defense against the spreading of *falsehood*, whether due to unintended error or willful dissimulation.

History, however, paints a different picture (Cmiel & Peters, 2020). As a number of studies have reminded us, our current era of misinformation is but the most recent episode in a much longer liaison between the arts of “spinning” the truth and the pursuit of any number of political or personal ends (Bloch, 1921; Jay, 2012; Snyder, 2017; Zagorin, 1996). What these historical approaches help reveal is not only the extent to which the misinformation is old, but also that it has never been solely a problem of discerning truth from lies, or identifying the good or evil that made use of them (Jay, 2012). For after all, such studies argue, the truth itself is often hard to disentangle from webs of bias and subjectivity, let alone from quests for power or profit (Foucault, 2008; Foucault, 2010).

Beyond the bounds of history, a growing body of psychologically anchored work on “motivated reasoning”—or people’s tendency to reason according to their pre-existing biases— has cast further doubt on the ability of “fact-checking” to counter the prevalence or acceptance of falsehoods (Nyhan & Reifler, 2010). Through this work we can see that there may not be any stable correlation between the circulation of rigorously checked facts and the willingness to believe those facts (Jarman, 2016). What that literature does not address, however, are the more philosophical dimensions of why and under what kinds of conditions people do or do not believe certain propositions or storylines (Shapin, 1994). I want to suggest that a broadened perspective on the dynamics of misinformation include an effort to even further de-couple the question of “facts” from questions of belief and the need for existential certainty (Guenther et al., 2019). After all, who has not known a reputable scientist who—when faced with an unwritten fate—nevertheless indulges in the superstitious precaution of *knocking on wood*?

While this essay also turns to the past to search out the compound wisdom of precedent, it does not focus strictly on earlier episodes of misinformation per se. Instead, I explore how the growth and expansion of information systems interacted with pre-existing patterns of credulity and incredulity. In particular, I propose that a process I will call “the dematerialization of material life” not only created new opportunities to “spin” the truth, but more importantly, created new forms of psychological confusion and so new patterns of belief, disbelief, or the outright denial of “facts.” This set of reflections offers at once a broader and also more fine-grained set of perspectives on the socio-cultural and psychological anatomy of *misinformation*.

**Findings: Historical analysis. *Are we all Doubting Thomas?***



*Incredulità di San Tommaso, Caravaggio. 1601-1602. Sanssouci, Potsdam.*

The Italian artist Caravaggio's seventeenth-century painting, *The Incredulity of Saint Thomas* (1603), portrayed a resurrected Christ appearing improbably in the flesh, alongside the apostle Thomas reaching to touch the crucifixion wounds. Caravaggio evoked a biblical principle, which discouraged the need for material proof of spiritual truths—that disappointed admonition of John 4:48: “Unless you see signs and wonders you will not believe.” However, the misfit painter also used an emotive baroque realism to expose the humanness of that need. After all, the image rendered Thomas as a sympathetic character, wholly relatable in his urge to touch, feel, or see something before believing in its reality. Given that the painting is a seventeenth-century artifact, we can use it to ponder how

both the desire for and the impossibility of achieving forms of absolute certainty sharpened with the emergence of increasingly virtual and heterogeneous realities associated with successive information revolutions, from Gutenberg onwards (J. Carter & Muir, 1967; Darnton, 1979; Eisenstein, 2009). During the centuries after Johannes Gutenberg's printing press came into being (1440), a higher volume and greater diversity of philosophies, facts, stories, and religious doctrines began circulating, even finding their way to the personal libraries of increasingly literate populations on several continents (Briggs & Burke, 2005).

As I explore elsewhere, the media scholar Marshall McLuhan has claimed that the numerous and endless local and global circulation of divergent facts and concepts in ever growing media outlets have tended to produce mental breakdowns to varying degrees (Biltoft, Forthcoming; McLuhan, 2011). On the one hand, printed books, newspapers, webs and wires, exposed humans to a dizzying array of competing truths and conflicting realities. The eventual circumnavigation of the globe unsettled old understandings of the world and its people, even casting doubt on creation myths (Chaplin, 2013; Elliott, 1970). While print culture was not the only sea change fueling new apprehensions and new habits, it is significant that the news of the European conquest of the New World, new forms of science, and new challenges to religious orthodoxies, circulated more rapidly in a post-Gutenberg world (Guenther et al., 2019; Eisenstein, 2009; Cmiel & Peters, 2020).

Beyond exposing people to disruptive ideas, however, there was another and perhaps even more important component to the existential burdens of information revolutions. Namely, it was not just the “multiplicity” of ideas that were so destabilizing, but also the fact that they emerged alongside what I call “the dematerialization of material life.” In some ways, dematerialization is simply another word for the so-called “space-time” compressions at the heart of global integration, which included the ability of information to circulate increasingly rapidly from place to place. However, I use dematerialization to refer specifically to the process by which an increasing number of exchanges that traditionally depended upon proximity and physical form came to depend upon or take place through information systems (Bauman, 2000; Berman, 1982; Kern, 2003). In other words, each new technological revolution, from printed books to telegraphs and eventually to the internet, meant that greater numbers of people came to invest in foreign ventures, wrestle with unfamiliar beliefs, process news from faraway places, and even take part in long distance relationships. What is more, people heard stories and saw images of numerous “others,” strangers that looked and lived fundamentally differently (Brandtzæg et al., 2018). Of greatest significance

for our purpose, is that people increasingly had to use the mental muscles once reserved for “faith” for all kinds of worldly postulates, ambitions and exchanges.

How did this mingling of the “fact” and “faith” via dematerialization play out in terms of people’s belief systems? As Atlantic World historian John Elliott has reminded us, sixteenth-century Europeans struggled to comprehend second-hand accounts of recently “discovered” humid North and South American jungles and strangely vibrant tropical plants and birds (Elliott, 1970). Suddenly, then, a toucan might come to perch as a “fact,” in the part of the psyche that had once been dedicated to *trusting* the reality of the Eucharist or Christ’s resurrection. Even if one could grasp the details of distant plants or birds, still their existences helped to blur the lines between faith, fact and imaginary. We might keep in mind that in the same moment the rise of empirical science promised observable, testable routes to greater certitude, however the scientific method also often challenged the more spiritual certainties of religious doctrine (Shapin, 1994; Crosby, 1997; Poovey, 2008; Porter, 1986). What is more, often the “facts” furnished by science were often equally “invisible” or “intangible.” In the eighteenth and nineteenth centuries, there were scientific discoveries such as gravity, electricity, gasses, and organisms incapable of being seen with the naked eye (Poovey, 2007; Darnton, 1968; Panek, 2005). Thus, in many ways those new facts required a similar leap of faith as did any religious doctrine— a belief in things that often could not be seen or touched first hand (Connor, 2007; Pascal & Lafuma, 2018).

The world of electronic communications further transformed these patterns. Wherever the telegraph came into use, it altered the nature of both interpersonal and also economic exchange (Kittler, 2006). Through wires and cables, such interactions and transactions managed to wriggle partially free of the bounds of flesh, metal, and local markets, while creating the near instantaneousness of face-to-face encounters (Briggs & Burke, 2005; Gitelman, 2008; Headrick, 1991; Marvin, 1988; S. M. Müller, 2016; Standage, 1998). Similarly, where the telephone allowed immediacy without physical contact, it also introduced insecurities of distance (W. C. Carter, 2014; Kern, 2003). Intimacies became marked with rituals of waiting for the phone to ring, while worrying about the safety or the fidelity of the absent beloved.

There were also financial dimensions of these same patterns. The slow rise and then nineteenth century acceleration of long-distance money transfers, meant that the nature and time of buying, selling and trading also changed (Boeckel, 1937; S. Müller & Tworek, 2015). The faster speed and greater distances of electronic exchanges also fomented deeper fears about financial fraud and vulnerability. What is more, as new information technologies made it easier to duplicate, modify, forge or falsify everything from identity papers, to photographs, to money, it became more and more difficult to distinguish between real and false currency, as well as financial opportunities from “swindles” (Mihm, 2007; Tattersall & Névraumont, 2018).

In summary, in both the personal and financial domains, thus, trust became both more crucial and more fragile, as the ties that bind had to stretch across further distances, encounter more rival claims, and contend with the difficulty of discerning the “true” or the “authentic” story or object (Benjamin & Underwood, 2008). Here then we can return to Caravaggio’s figure of Doubting Thomas, with his skeptical (but hopeful) fingers reaching to touch the wounds of Christ. The imagery of Caravaggio’s painting—in its historical context of a growing empiricism and humanism—does not only demonstrate the felt human need for concrete “proof,” but also speaks more broadly to what Julia Kristeva called an “incredible need to believe” (Kristeva, 2011). Namely, the figure of Thomas also spoke to the human need to have some form of higher belief in order to cope with the vicissitudes and struggles of their daily lives. Here we can think of the “the need to believe,” as something more than just religious or spiritual belief alone. Such a need could also be met by any principle or practice held resolutely that gives one’s life a sense of purpose or meaning. A less than savory example would be normative or ideological claims about the “superiority” of one’s gender, race, nationality or “way of life.” (Skey, 2011) Those forms of racism, sexism or jingoism often give people an aura of moral legitimacy, personal power, or physic security. (Freud, 2004; Reich et

al., 2018; Taylor, 2012; Jung, 1961). They also seemed to offer more “concrete” and so “real” forms of security and belonging.

I want to suggest that by reflecting upon the various expressions of the *need* to feel secure and be certain—and the ways in which media interacts with, feeds or disrupts that need—we might shed a different kind of light on the tides of misinformation (James et al., 1959). In particular, it offers a different lens for looking at cases where people refuse to believe even amplified verified “facts.”

### Belief in “fakes” and denials of the facts

The forces of de-materialization—and the confusion they facilitated between the intangible and the tangible, between “faith” and “fact”—also help us perceive the complex anatomy of credulity and incredulity. In this way, we might link the prevalence of “misinformation” to the persistence of an insidious cadre of doubters who—despite photographic, archival and testimonial evidence to the contrary—deny the historical reality of the holocaust (Lang, 2010; Vidal-Naquet, 1993). Here, such denial is not due to an absence of ample, abundantly verified “facts.” It is rather the exasperating opposite; what we see among those deniers is a widespread *refusal to believe* despite the plentitude of evidence. To those deniers of the holocaust we can add other cases of non-recognition. There are deniers of the Armenian Genocide, deniers of climate change, anti-vaccination groups, and deniers of mass shootings in the United States (*Battling Hoaxers in Court, Sandy Hook Families Replay a Tragedy - The New York Times*; Sinanian, 2017).

Holocaust and massacre denial are relatively extreme cases, because no matter how thick or verifiable the proof, those disbelievers claim that all the offered evidence was “fabricated,” for political power or financial gain. Yet there are a number of variables to consider in making deeper sense of these cases of denial. For one, we do live in an age when information, images, and even historical documents both can be and are manipulated, edited, forged and circulated as “true” (Mihm, 2007; Tattersall & Névrumont, 2018). Thus at the first level we need to ponder how patterns in the use, diffusion and manipulation of information helps to support “conspiracy” thinking (Brotherton, 2016). Even taking these variables into account, we might dismiss these deniers under the banner of a brand of ignorant hatred, which seeks to hold thick and fast to racism or bigotry. And even if in one sense that is true, it is still worth looking more seriously and carefully at the kinds of historical-psychological “needs” that are met or fulfilled by forms of “denial.” Thus, before returning to the question of why certain groups deny the “science” of climate change, or the “evidence” of massacres, it might be useful to look at some nineteenth-century cases where scientific minds wrestled with the difficulties of discerning “real” science from “pseudo-science.”

In an 1883 article in *Science Magazine* entitled “From Superstition to Humbug,” one unnamed author stated the following: “The real conquests of science have been so vast and unexpected, so much like the workings of magic, that people eagerly pay their homage to a power, which, though, mysterious enough to engage their credulity, accomplishes everyday feats that witches, ghosts and magicians performed only on rare occasions.” (“From Superstition to Humbug,” 1883, 637.)

The author then further explained that beliefs in the supernatural had merely given over to belief in forms of “scientific charlatany.” For the author-scientist, superstition grew out of pure ignorance and affected primarily the uneducated. However, “Humbug” involved serious mis-reasoning, which started from false premises and derived false conclusions. Among the examples the author provided was that of “mesmerism,” that is, the “magnetic” or “electrically” produced healing of the sick. And yet, such a statement also overlooked the dilemmas of dematerialization mentioned earlier—namely, the nascent extent to which the nature of empirical knowledge and its forms of media-based circulation meant that even “tested” facts required a mental leap of faith (Darnton, 1968). What is more, often feats of science themselves appeared to resemble the workings of magic or miracles. In an article called simply “Electricity” in the *Scientific American* in 1858, the author L.A. Orcott, described the workings of electricity

as an “imponderable” (Orcott, 1858, 318). More than this, he even marveled at electricity’s ability to seemingly make dead bodies “come to life.” He claimed:

Again, if the poles of a powerful battery can be applied to the nerves of a human subject soon after life is extinct, all the phenomena of life are produced in the most marked degree, such as the raising and depressing of the chest, as in powerful breathing, opening and closing the eyes and mouth, appearances of mirth and anger, and even pointing the finger and shaking the fist. Some experiments of this kind have been of such an extraordinary character that many present have been induced to believe that life had actually returned, and that the subject was about to take vengeance on all in the room (Ibid, 318).

Little wonder then that as much as science challenged the veracity of religious explanations, many religious people tried to use science to prove the “reality” of ghosts, spirits, angels and demons. Such cases represented a felt need for forms of meaning and transcendence that science alone seemed unable to provide. This urge also explains, among other things, the nineteenth and twentieth century popularity of so called “spirit photography,” which through the technique of “double-exposure” appeared to be able to “capture” images of ghosts (Cadwallader, 2008; Chéroux, 2005; Sconce, 2005; West, 1996; Kleinberg, 2017). In these cases, it is worthwhile pondering what motivated people’s desire for scientific “proof” of a reality beyond the sorrows and losses of the visible, mortal world. In that same frame, in 1897 and also in the *Scientific American*, one W.E. Ord laid out a “Scientific View of Ghosts,” in which he admitted: “The question whether spiritual beings ever become manifest to mankind must always be regarded as one of the deepest interest” (Ord, 1897, 42). The reason, he claimed, was that science should not discount spiritual experiences, which might in the end simply be like “electricity” or “gravity” or any of those seemingly invisible dimensions of reality.

He argued:

Recent science has shown that there is probably a world of energy and matter, hidden from our ordinary senses, of which we can only conjecture from the suggestions obtained when the photographic plate records more than the human eye is ever capable of seeing, or the magnetic needle responds to an influence not quite felt by our dull senses. Now it may be that it is in such a hidden world that ghosts have their existence—spirits find their dwelling place in forms as much material as those of ordinary human beings, but of an essentially different perhaps more invisible character (Ibid.).

He then went on to document cases where a dying person—filled with a burning desire to send a final message to a loved one far away—“appeared” to their beloved as a “specter” in the final moments of their material existence. Ord thus speculated that perhaps the human mind also worked like a telegraph, capable of sending and receiving messages across space and in the blink of an eye. For some, Ord’s reasoning might amount to “humbug”, and yet, we can observe how his hypothesis was perfectly in align with the scientific method, as he remained open to the possibility that there might have been spiritual or at least extra-sensory “realities,” for which the scientific proof had not yet been discovered. Even more importantly, Ord’s article points to the persistence of the human desire to securely “belong” on earth as well as to have some sense of a transcendental meaning—even if it is only being remembered—that endures after death (Becker et al., 1932; Fowler, 2009; Johnson, 2007).

These few select cases point to a broader matrix of deep cultural and psychological impulses that shape forms of belief (in spirits, in gods, or in science) and forms of disbelief (in climate change or in the Holocaust) (Febvre, 1985). I want to suggest that understanding or wrestling with such patterns might lead us to a more transversal view of misinformation. Such an approach is akin to shifting one’s object of study from “plants” to the conditions of the soil in which they take root. None of that is to excuse or make excuses for the circulation of falsehoods, especially those whose aim is to stir up hatred and discord. However, some form of historical and psychological “soil analysis” may be precisely what is needed to

make sense not so much of how or why misinformation gets circulated but how it finds an audience who will believe it (Machor et al., 2009).

If we keep in mind the extent to which in an increasingly intangible and virtual age, “facts” often require the same “leap of faith” as other forms of belief, then understanding the tendency to believe or not believe requires that we take up a wider variety of intellectual tools to make sense of those patterns (Cmiel & Peters, 2020). We might then pay careful attention to the broader socio-cultural, psychological and indeed personal contextual dynamics at work in patterns of “denialism.” There is an extent to which one’s perceived sense of security, personal identity, or sense of personal power and self-importance can become tied to any number of “grand narratives,” from myths of racial superiority to myths of an earth of unlimited natural resources. As an aside, it is perhaps not a coincidence that the first wave of nature spoiling industrialization was also an age of publically sanctioned racism and global imperialism (Bell, 2016; Crosby, 2003; S. B. Hecht, 2013; S. Hecht & Cockburn, 2010).

One question worth pondering then is why white supremacy/ holocaust denial and climate change denial have recurred together? In some sense we might at least ponder how claims of absolute racial superiority do link up with claims about the right of some groups or nations to take or secure “unlimited” natural resources. In each case, however, before denouncing those propositions however odious, we still may need to take seriously the nuances that blur the lines between faith and fact to begin with, especially in an era of greater dematerialization.

A great deal of scientific or other forms of knowledge often challenge deeply held beliefs and needs—needs to believe in the transcendence of the soul, the need to believe in the sacrosanctity of the “family,” or “tribe,” the need to believe that one’s own personal “value” is enhanced by virtue of belonging to a certain, gender, race, or sexual preference. As Wood and Porter have recently argued, there are cases where people are or have been willing to “update” their political conceptions based on new information (Wood & Porter, 2019). From a historian’s perspective, the success or failure of “fact-checking” to alter previously held beliefs is only one dimension of a larger and broader set of questions. Namely, how can we strive to understand and from a more complex set of angles (cultural, political, religious, economic) why it is that people believe certain things and refuse to believe others?

Furthermore, how might illuminating those complex patterns help us further understand the instances where people either do or do not update their previously held beliefs based on new or challenging evidence? One goal for further interdisciplinary research might be to try to discern the range of conditions and circumstances that shape how people respond to new information.

### **A methodology to examine misinformation: Secular hermeneutics**

Disrupting forms of “motivated reasoning” or deeply held biases has long been a central objective of humanistic inquiry. Humanistic disciplines—literature, art, history, cultural studies, philosophy—foster not just “critical thinking” but also more specifically the ability to consider multiple perspectives (Kracauer, 2012). What is more, such disciplines often attend to how quests for meaning inform or have informed quests for “truth,” without resorting either to reductionism or to discounting the validity of the scientific method (Burke, 1957; James et al., 1959; Kleinberg, 2016). I suspect that educational policy that pushes STEM courses to the neglect and defunding of the arts and humanities does not provide the intellectual “tools” for parsing out the difference between “faith” and “fact” (Kleinberg, 2016). There is a difference between cultivating a respect for scientific reasoning, and what philosophers of science call *Scientism*—which is an almost religious belief in the singular power of “science” to provide the “correct” epistemological and practical foundations of a given society (Hurley, 2014; Williams & Robinson, 2016).

In our current climate, only a favored and often self-selecting few get early and continued educational training in secular hermeneutics—the ability to read carefully, and interpret (rather than merely explain) a wide variety of evidence, with an eye not only to the document’s or data’s context but also to its latent

or embedded “meanings” (Gardner, 2010; Ricoeur & Ihde, 1991; Ricoeur & Thompson, 2009). Of course, such analytical tools are not wildly popular, wildly desired, or generously funded. Perhaps for good reason— they are fundamentally oriented against the reduction of knowledge to utilitarian tools of power or profit. And yet, in the daily maelstrom of clichés and algorithms—where fact and faith collide and co-mutate—these modes of humanistic inquiry do offer tools for navigating (rather than impinging upon) the necessary perils of free speech. While the idea of a well funded public “city of letters,” may not be feasible, those of us with the tools and training might at least continue to investigate and so to teach how the socio-psychological needs of “faith” inform how people relate both to information and to “misinformation.”

### For Further Reading

Simone De Beauvoir, *The Ethics of Ambiguity* (New York: Open Road Media, 2018)  
 Michele Foucault, *The Archaeology of Knowledge* (New York: Pantheon Books, 1972)  
 William James, *Essays in Radical Empiricism* (Cambridge: Harvard University Press, 1966)  
 Michel de Montaigne, *The Essays of Michel de Montaigne* (New York: Heritage Press, 1947)  
 Ludwig Wittgenstein, *On Certainty* (New York: Harper and Row, 1969)

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### **Competing Interests**

The author has no competing interests to declare.

### **Ethics**

The data for the project were obtained from publicly available sources and thus were exempt from IRB review.

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