

THE PROPHETIC BACON: RESPONSE TO GARBER

Steve Fuller – PhD,
Auguste Comte Professor
of Social Epistemology.
University of Warwick.
Coventry CV4 7AL, UK;
e-mail: s.w.fuller@warwick.ac.uk

This paper is both a reflection on Francis Bacon's social epistemology and a meta-reflection on how we should be think about historical figures such as Bacon, who are of continuing philosophical, scientific and even political relevance. The impetus for this paper is provided by Daniel Garber's 'Bacon's Metaphysical Method', which depicts Bacon as making various moves in the scholastic debates of his time. In contrast, I draw two sorts of conclusions: (1) At the historiographical level, I argue against the sort of 'contextualism' that artificially constrains the 'transcendental' horizons of a thinker such as Bacon, who was clearly addressing not simply his immediate contemporaries but perhaps more importantly, some future readers whose identities he cannot know. What is sometimes called the 'conversation of mankind' has just this rather odd communicative character. (2) At the more substantive philosophical level, it is clear that Bacon does not have a conception of knowledge as a kind of (justified) belief at all. On the contrary, knowledge is the product of a process that is largely conducted by humans on humans, very much in the spirit of a judicial inquisition. In this context, humans – no less than the technologies normally found in laboratories – are instruments of knowledge production. Here Bacon presages the c19-c20 ideas of media as the 'extension of the senses' and Karl Popper's World 3.

Keywords: Francis Bacon, Karl Popper, social epistemology, objective knowledge, scientific method

ПРОРОЧЕСКИЙ БЭКОН: ОТВЕТ ДЭНИЕЛУ ГАРБЕРУ

Стив Фуллер – доктор
философии, профессор.
Университет Уорика.
Ковентри CV4 7AL,
Великобритания;
e-mail: s.w.fuller@warwick.ac.uk

Эта статья является одновременно размышлением о социальной эпистемологии Фрэнсиса Бэкона и метаразмышлением о том, как мы должны думать о таких исторических фигурах, как Бэкон, которые сохраняют свою философскую, научную и даже политическую актуальность. Толчком к написанию данной статьи послужила работа Дэниела Гарбера «Метафизический метод Бэкона», в которой Бэкон изображается как участник схоластических дебатов своего времени. В отличие от Гарбера, я делаю два вывода: (1) На историографическом уровне я выступаю против «контекстуализма», искусственно ограничивающего «трансцендентальные» горизонты такого мыслителя, как Бэкон, который явно обращался не только к своим непосредственным современникам, но и, что, возможно, более важно, к будущим читателям. То, что иногда называют «разговором человечества», имеет именно этот довольно странный коммуникативный характер. (2) На более существенном философском уровне становится ясно, что Бэкон вообще не имеет концепции знания как разновидности (обоснованного) мнения. Напротив, знание – это продукт процесса, который в значительной степени осуществляется людьми над людьми, в духе судебной инквизиции. В этом контексте люди – не в меньшей степени, чем технологии, обычно



используемые в лабораториях, – являются инструментами производства знания. Здесь Бэкон предвосхищает идеи XIX–XX вв. о медиа как «расширении чувств» и концепцию «третьего мира» Карла Поппера.

Ключевые слова: Фрэнсис Бэкон, Карл Поппер, социальная эпистемология, объективное знание, научный метод

An unfortunate feature of the turn against ‘Whiggism’ and toward ‘contextualism’ in late twentieth century intellectual historiography was the tendency to see the past as a foreign country, separated in time as if by space. It started in legal and political history in the late 1960s with Quentin Skinner and John Pocock, but within a decade had spread to the history of science, via Steven Shapin and Simon Schaffer. In this transition, the movement’s philosophical centre of gravity shifted from the later Wittgenstein’s language philosophy to Foucault’s archaeology of knowledge, with Thomas Kuhn’s *The Structure of Scientific Revolutions* serving as a common background influence. In its rhetorically fiercer moments, the movement looked like the literary equivalent of preserving an ancient insect in amber. Its method was aligned with ‘grounded theory’ in sociology, whereby specific meanings are attributed to the words of agents only if they are derivable from the agents’ own experience, which may include various presumed features of their discursive and social environment but to neither ideas that were expressed in parts of the world to which the agents had no contact (i.e. not even through books or correspondence) nor ideas that only become clearly articulated after the agents had died.

However, it does not take long to realize that the cost of all this intellectual rigor is that the agents are effectively rendered what I have called *transcendental dopes* [Fuller, 2015, chap. 6; Fuller, 2019]. In other words, they are made to appear to be addressing *only* their contemporaries and addressing *only* matters that would be of immediate concern to them. In other words, there is little place for agents stretching the limits of ordinary usage to talk about things that, for one reason or another, exceed their discursive and more broadly cognitive capacities. (We don’t need to decide here whether these ‘transcendental’ things are prohibited, repressed or simply rendered very inconvenient by the available means of expression.) Another way to think about this is that agents address audiences both *directly* and *orthogonally*. In the latter case, they expect that others – elsewhere in space and time – will receive what they say, effectively in the role of *eavesdropper*. (‘Message in a bottle’ is another apt image.) If philosophy and/or intellectual history literally records the ‘conversation of mankind’, then these eavesdroppers must be central [Fuller, 1988, chap. 6]. This helps to explain the abstract and metaphorical character of much of this ‘conversation’, since agents are not just addressing their contemporaries but also *whomever might turn out to be the audience*



for whatever might correspond to what they are saying. In effect, it's a kind of second-order communication.

Now, let's turn to Dan Garber [2021], who reverse engineers Francis Bacon's arguments to reveal the metaphysical elements out of which the 'scientific method' was constructed in the context of Bacon's original utterance. But there remains an open question: "What is Bacon ultimately talking about?". The answer to this question requires that we treat Bacon very much as we treat ourselves and other intellectuals – namely, as agents interested in persuading not only our most immediately consequential fellows (e.g. the 'peers' of 'peer review') but also others who come to our texts with certain relevant interpretive competences yet radically different assumptions and concerns from our own. Once we adopt this more 'transcendental' approach to interpretation, it is easy to entertain Leo Strauss-style thoughts that starting with Plato, the 'conversation of mankind' has been one long global conspiracy that has been transacted via texts that are doubly encoded to affirm the status quo at the time of writing but with an eye to overturning it in the future.

However, a less dramatic understanding can be derived from the analytic philosophy of language, where a distinction is drawn between *pragmatic* (or *subjective*) *reference* and *semantic* (or *objective*) *reference*. Roughly speaking, the former corresponds to the contextualist approach of intellectual historiography pursued by Garber and the latter to my own, more transcendental approach. In the former, Bacon is treated as someone who only talks about what he knows, whereas in the latter he seems more like a prophet whose words are in search of whatever satisfies the truth conditions of what he says. This is the spirit in which we shall reconsider the passage from the *Novum Organum*, with which Garber opens his piece:

Those who have dealt with the sciences have either been empirics or dogmatists. The empirics, in the manner of the ant, only store up and use things; the rationalists, in the manner of spiders, spin webs from their own entrails; but the bee takes the middle path: it collects its material from the flowers of field and garden, but its special gift is to convert and digest it. The true job of philosophy is not much different, for it depends not only or mainly on the powers of the mind, nor does it take the material gathered from natural history and mechanical experiments and store it unaltered in the memory but lays it up in the intellect changed and elaborated [Bacon, *Novum Organum* I.95].

It is easy to understand this discussion of insect activities as an extended metaphor, or perhaps allegory, of human affairs. Aesop's fables provide classical precedent. But equally one might think ahead of Bacon to Bernard Mandeville, Herbert Spencer, E.O. Wilson and today's evolutionary psychologists. As we get closer to the present, what might have appeared to be a metaphor starts to look somewhat more literal, especially given our greater understanding of the genetic overlap between



ourselves and other animals. This suggests that the allegory is not as merely ornamental as Garber's reading would suggest. While I shall return to this allegory at the end of this paper, it is already clear from these insect metaphors that Bacon had a very concrete understanding of knowledge as the product of many knowers. It is equally clear that he thought about knowledge as something external to those who produce it and potentially available to others not involved in its original production. (I hesitate to say '*all* others' because Bacon does not seem to be a 'democrat' in the modern sense, though he certainly believes that knowledge should be used for the benefit and even prosperity of society as a whole.) In this respect, his fundamental premises are in line with my original formulation of 'social epistemology'.

Not only do Bacon and I share a conception of knowledge that is essentially 'alienated' from the knower, but we also agree that such alienation should be regarded as an improvement over knowledge understood primarily as a property of the knower. This is especially the case if the knower's mind is presumed to be colonized by various 'authorities' as well as other biases and delusions, what Bacon himself called 'idols', a Biblical term that suggests mistaking the simulacrum for the real. Karl Popper's [1972] idea of a 'World Three' that is inhabited by knowledge in a sense that incorporates yet transcends the material and mental worlds ('One' and 'Two') captures well the ontology that Bacon presupposed. This ontology, while perhaps strange on the surface, is best seen as a kind of modernized Platonism. Popper himself presented it as a library whose books could still be read even after all their authors have died – and indeed, could be used to reconstruct their civilization. Nowadays we would say that World Three is inhabited by 'information' in the ontologically strong sense advanced by the cosmologist Max Tegmark [2017], who holds that 'bits' may be the ultimate units of the reality, out of which both matter and mind are composed. In Popper's youth, this position was called 'neutral monism'. It is also Bacon's position on knowledge.

Bacon's 'objectified' conception of knowledge suited the general spirit of the Protestant Reformation's revolt against the Church of Rome's default Aristotelianism. Here Aristotle should be understood as having reduced knowledge to the embodied beliefs of knowers in ways that enabled them to survive in a world whose capacity for fundamental change was limited. In this respect, Aristotelianism and modern evolutionary psychology adopt the same frame of reference for understanding the human organism, notwithstanding their radically different explanations for that frame. When Aristotelians would say that possibility is prescribed by precedent and genuine novelty amounts to an accident, evolutionists would refer to our genes and their mutations. For his part, Bacon opposed this entire way of thinking – perhaps in ways, the full depth of which we still fail to appreciate today. Most strikingly, Bacon does not seem to have a positive conception of humanity as a material being. Instead he adopts



the Augustinian line of the Protestant Reformers, who defined physical humanity primarily by its psychic liabilities, the legacy of Original Sin, the overcoming of which requires adoption of what we now call the ‘scientific method’ [Harrison, 2007].

This last point bears on an apparent tension between, on the one hand, Protestantism’s celebrated ‘iconoclasm’, which targeted the excessive ornamentation and ‘idolatry’ displayed in Catholicism’s practices and products, and on the other hand, its preoccupation with ‘instituting’ and concretizing the Word of God in the world. The latter was secularised over the seventeenth and eighteenth centuries, resulting in what the US historian Carl Becker [1932] described as the ‘Heaven on Earth’ projected by the Enlightenment philosophers, the source of modern progressive utopias. Bacon’s own resolution of the tension was captured in his term ‘instauration’, which means renewal or restoration. He understood this process in terms of tearing down the edifices of epistemic authority to build back better. From this standpoint, our excessive reliance on ‘appearances’ in the broad sense – including not only direct experience but also received wisdom – simply perpetuates the world’s corruption.

Bacon’s line of reasoning would not make him a natural ally of the accomplished portrayals of Biblical episodes by such Italian artists as Leonardo da Vinci, Michelangelo and Raphael, whose art adorned Catholic churches and palaces. While these works enabled viewers to identify easily with their Biblical subjects, Bacon would regard them as alloyed because their appeal plays to the cognitive and emotional predispositions of the viewer. Indeed, the attempt to make, say, Jesus or Mary appear like Renaissance people verged on idolatry by creating a sense of physical identification that minimized the extent to which humanity had fallen in the eyes of God. But of course, central to such Renaissance artistry was the development of linear perspective, the significance of which for the history of science and epistemology more generally was the subject of Paul Feyerabend’s [1999] great posthumous work, *The Conquest of Abundance*. From Bacon’s standpoint, linear perspective ‘worked’ by fooling the eye into manufacturing three dimensions from a painting’s two dimensional space: It projected depth from breadth by envisaging the viewer as standing at a fixed ‘vanishing’ point, akin to God’s point-of-view. But Bacon’s problem here would not be the effect produced by the art, which he would probably admire, but rather the hidden nature of the artistry, what is often called the artists’ ‘genius’.

Specifically, Bacon was opposed to genius as a hidden source of power, which for him simply meant that its full potential was concentrated in the hands of those who first discovered the relevant knowledge. Nowadays economists talk in terms of ‘monopolies’ and ‘rent-seeking’, and much of the corresponding legal effort is spent on requiring explicit proof of concept prior to the granting of any intellectual property rights. In many respects, the patent process gets to the heart of what Bacon



considered to be the purpose of what we now call the ‘scientific method’ and the sort of knowledge that could result from its application. Bacon’s latter-day readers have been often puzzled by his sustained interest in astrology and alchemy, even though the practices of these fields, by his own account, flew in the face of the scientific method. However, Bacon’s main objections were focused primarily on their esoteric character, which he associated with lack of public accountability. This in turn potentially rendered them an alternative source of power in society. Nevertheless, Bacon held that there was ‘something’ to the claims put forward by these ‘magicians’, but their strategically deployed secrecy made the claims to difficult to assess as long as their claimants were allowed to roam free as political ‘wild cards’.

Here it is worth recalling that Bacon was King James I’s personal lawyer. At the same time, notwithstanding his Reformation sympathies, Bacon was also a great admirer of the Inquisition as practiced by the high courts in Catholic countries. The key feature of that legal procedure is the judge’s proactive role in prosecuting cases. Instead of waiting for a case to be brought to trial by a plaintiff, as in England’s own adversarial judiciary, the judge pursues cases on his own initiative and sets up the standard by which a target defendant is tried. Thus, whereas in an adversarial system the defendant is innocent until proven guilty, in the inquisitorial system the defendant is guilty until proven innocent [Fuller, 2007, chap. 5]. It is easy to see the Popperian sensibility in the inquisitorial system. Regarding a hypothesis from the standpoint of falsification is tantamount to regarding it as false until it has passed a serious experimental test [Fuller, 2017].

As I have already suggested, technology plays a distinctive role in this context, albeit one increasingly taken for granted in the modern period. Prior to Bacon, technology tended to be mystified, sometimes to the point of idolatry. Indeed, ‘innovation’ connoted ‘monstrous’ well into the nineteenth century. In Bacon’s own day, this mystification applied equally to the ‘functional’ technologies associated with agriculture, navigation and warfare as well as the more ‘speculative’ technologies associated with alchemy and astrology. But of course, the same technology – for example, the astrolabe – could do ‘double duty’, as it were, by legitimizing claims relating to both navigation and astrology. Bacon’s contribution was to regard all these technologies as prosthetic extensions of the senses, with the aim of realizing humanity’s latent powers. But this still left the question of how to determine which of the speculative uses of technology were truly functional. The answer lay, quite simply, in being able to judge why they worked when they did and why didn’t when they didn’t – and to determine the difference not simply on a case by case (‘ad hoc’) basis, but systematically.

The Oxford philosopher L. Jonathan Cohen [1980] got to the heart of the matter when he styled a ‘Baconian’ approach to probability that was



distinct from the more ‘Pascalian’ one that is based on the laws of chance. Cohen’s point was that Bacon thought of ‘probability’ as something like ‘true across a range of possible worlds’, which roughly corresponds to the understanding of alternative states of the world that one finds in a controlled experiment. In this context, ‘probable’ is glossed as ‘reliable’ in the sense of a belief or observation that was generated by a means that has been also shown to produce reliable beliefs and observations (of perhaps a different kind) in different settings. The modern laboratory is designed as a ‘reliable’ site for the production of knowledge in this sense. However, in Bacon’s day, such places had yet to exist – the ‘House of Solomon’ was his imagined version. Thus, for Bacon, ‘experiment’ was a certain disciplined approach to experience, whereby one judges what one hears or sees in terms of the track record of the source of that experience. This is very much how the ‘reliability’ of witnesses is judged in a trial. The judgement is typically based on the ‘character’ of the witness, which pertains to other sorts of observations and claims that the witness has made in the past, including ones unrelated to the case at hand.

Nowadays this kind of judgement has been effectively offloaded to the contents of the laboratory, in which many different experiments are routinely conducted using the same instruments and perhaps even technical personnel. Rightly or wrongly, they are normally presumed to be ‘reliable’ in the Baconian sense. (It was one of the original concerns of Science and Technology Studies.) However, in Bacon’s day, people remained the vehicles, which meant that anything they said had to be weighed against their reliability as witnesses. Here Bacon’s ‘idols’ functioned as the source of checks that the scientist had to apply to both himself and his witness, both understood as epistemically fallen agents. Arguably, this Baconian understanding of the scientist as a fallible instrument has been revived in light of the computer revolution, first in medical diagnosis but extending over the years into all knowledge domains that require a routinized sense of ‘expertise’, whereby an algorithm delivers a more ‘reliable’ judgement than the corresponding human [Fuller, 1993]. The result is that we now inhabit a cognitive space in which some machines can produce some forms of knowledge better than humans. This is not so different from Bacon’s epistemic starting point.

The popular view that Bacon adopted an ‘instrumentalist’ attitude towards the production of knowledge understates the ontological depth of his concern. Unlike, say, Heidegger, Bacon regarded our animal bodies and our mechanical inventions as equally available for the task of extricating humanity from its fallen condition. He anticipated such later thinkers as Ralph Waldo Emerson, Ernst Kapp and Marshall McLuhan, all of whom treated the ascendant information and communication technologies of their day as providing a ‘second nature’ through which the diversity of human minds, with their complementary virtues and liabilities, could be gathered and channelled for the betterment of society. Terms



such as ‘extended phenotype’, ‘superorganism’ and even ‘noosphere’ would not be out of place in characterizing the role that Bacon believed science and technology could play in consolidating and focusing society’s collective efforts, perhaps even rendering society into the sort of corporate whole that his private secretary Thomas Hobbes would later present as ‘Leviathan’.

Let us finally return to Bacon’s insect allegory. Perhaps its most striking feature, which captures the distinctiveness of his social epistemology, is that knowledge is located outside – not inside – the organism. The ‘empiric’ ant and the ‘rationalist’ spider correspond, respectively, to two familiar medieval men of knowledge: the encyclopaedist and the scholastic. Both produce knowledge mainly for their own consumption and benefit. However, the honey produced by bees benefit humanity more than the bees themselves. This is very much like Popper’s own view of knowledge production as constituting an independent ‘World 3’. He famously regarded mathematics as the unintended consequence (or ‘second-order reflection’ or ‘positive externality’) of long-standing practices of counting and measuring. It would seem then that Bacon has set modern philosophy down a path followed by Popper and nowadays extended by transhumanists, whereby human minds and bodies – no less than animal minds and bodies or machine minds and bodies – are ultimately little more than technologies for the production of knowledge. And if that knowledge is not fully utilized by those who produce it, there may be others in the future capable of doing so. Little surprise that Popper imagined the contents of World 3 as consisting of a library that some alien visitors might use to rebuild our civilization after the extinction of humanity. This perhaps explains Bacon’s posthumous work, *The New Atlantis*, which presents the prelapsarian world as a project for the future. It is now regarded as one of the first ‘utopias’. But don’t tell Popper!

References

- Becker, 1932 – Becker, C. *The Heavenly City of the Eighteenth-Century Philosophers*. New Haven: Yale University Press, 1932, 168 pp.
- Cohen, 1980 – Cohen, L.J. “Some Historical Remarks on the Baconian Conception of Probability”, *Journal of the History of Ideas*, 1980, vol. 41 (2), pp. 219–231.
- Feyerabend, 1999 – Feyerabend, P. *The Conquest of Abundance: A Tale of Abstractness versus the Richness of Being*. Chicago: University of Chicago Press, 1999, xviii + 285pp.
- Fuller, 1988 – Fuller, S. *Social Epistemology*. Bloomington: Indiana University Press, 1988, xv + 316 pp.
- Fuller, 1993 – Fuller, S. *Philosophy of Science and Its Discontents*. 2nd ed. (Orig. 1989). New York: Guilford Press, 1993, 240 pp.



Fuller, 2007 – Fuller, S. *New Frontiers in Science and Technology Studies*. Cambridge UK: Polity, 2007, 240 pp.

Fuller, 2015 – Fuller, S. *Knowledge: The Philosophical Quest in History*. London: Routledge, 2015, 312 pp.

Fuller, 2017 – Fuller, S. “The Social Construction of Knowledge”, in: L. McIntyre and A. Rosenberg (eds.), *The Routledge Companion to Philosophy of Social Science*. London: Routledge, pp. 351–361.

Fuller, 2019 – Fuller, S. “From Transcendental Dopes to Transhumanists: Prolegomena to a Futuristic Take on the History and Philosophy of Science”, *SERRC* (11 September) [<https://social-epistemology.com/2019/09/11/from-transcendental-dopes-to-transhumanists-prolegomena-to-a-futurist-take-on-the-history-and-philosophy-of-science-steve-fuller/>, accessed on 10.12.2020].

Garber, 2021 – Garber, D. “Bacon’s Metaphysical Method”, *Epistemology & Philosophy of Science*, 2021, vol. 58, no. 3, pp. 22–37.

Harrison, 2007 – Harrison, P. *The Fall of Man and the Origins of Modern Science*. Cambridge UK: Cambridge University Press, 2007, xi + 300 pp.

Noble, 1997 – Noble, D. *The Religion of Technology: The Spirit of Invention and the Divinity of Man*. London: Penguin, 2007, 288 pp.

Popper, 1972 – Popper, K. *Objective Knowledge*. Oxford: Oxford University Press, 1972, 380 pp.

Tegmark, 2017 – Tegmark, M. *Life 3.0: Being Human in the Age of Artificial Intelligence*. London: Penguin, 2017, 384 pp.