
Who was the Founder of Empiricism After All? Gassendi and the ‘Logic’ of Bacon

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Contentions about the origin of early modern empiricism have been floating about at least since the 1980s, where its exclusive “Britishness” was initially questioned, and the name of Gassendi was provocatively put forward as the putative “founder” of the current to the detriment of Francis Bacon. Recent scholarship has shown that early modern empiricism did not derive from philosophical speculation exclusively but had multiple sources and “foundations.” Yet, from a historical viewpoint, the question whether Bacon’s method had any influence on the origin and development of Gassendi’s version of empiricism still carries significance, for its answer may open up different views on how the relation between British and “continental” empiricisms shall be framed. In this paper, I deal with Gassendi’s reception of Bacon. On the basis of a deep examination of Gassendi’s corpus, I contend that there is no trace of

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a consistent influence of Bacon on Gassendi's empiricism before 1650s; although I show that an indirect influence can be found through the mediation of Peiresc, I put forward the hypothesis that it was more the empirical attitude characterizing Peiresc's intellectual figure, rather than his interest in Baconianism, to be relevant, along with Epicurus' philosophy, for Gassendi's early empiricism. I then analyze Gassendi's treatment of Bacon's logic in Gassendi's Syntagma philosophicum. I show that despite Gassendi's sympathy for Bacon's project, his own logic lays on fundamentally different assumptions. Despite this, I argue for Gassendi's reception of Bacon's theory of the idols in Syntagma philosophicum. On this basis, I conclude by restating the untenability of "national" accounts of the rise of empiricism, and the importance of highlighting instead the sharing of ideas between its actors.

Introduction

In a famous 1981 article, Norton criticized a traditional understanding of early modern empiricism as a “British” philosophical current—one that had its founder in Bacon and its continuators in Locke, Hume, and Berkeley. If there was a real “founder” of empiricism, Norton argued, it should rather be identified with the French philosopher Pierre Gassendi. As he concluded, “[c]ontrarily to that myth, we know that the British did not discover Empiricism, and that Locke, Berkeley and Hume borrowed significantly from continental philosophers [...]” (Norton 1981, pp. 334, 341; see also Loeb 1981).

Norton aimed to criticize what he considered as an Anglocentric narrative of the rise of empiricism; as such, his claim was certainly polemical—but it is not for this reason that it was historically inaccurate. For in the last decades, scholars have stressed Gassendi's impact on Western empiricism through a number of studies; they have proven its influence on canonical figures of British empiricism, on the British experimental context (for instance, Kroll 1984; Michael and Michael 1990; Puster 1991; Lennon 1993; Milton 2000; Wilson 2008; Garau 2017); they have also explored his influence on European empiricism at large (see the articles published in Murr 1997 and Taussig 2008; see also Alexandrescu 2013). So, there are good reasons to claim that Gassendi's Epicurean-inspired theory of knowledge played a crucial role in the development of philosophical empiricism, and that for this reason, as well as for others, empiricism cannot be considered as a “British” phenomenon.

At the same time, however, a number of studies have stressed the prominence of Bacon in the development of early modern empiricism, implicitly putting into question Norton's claim that Bacon has to abdicate his place as the “founder” of empiricism in the historiography of early modern philosophy in favor of Gassendi (see for instance Rossi 1957; Gaukroger 2001; Jalobeanu 2015).

In general, recent historiographical discussions have outmoded the quest for such a founding figure by stressing the importance of the intellectual contexts in which philosophical empiricism emerged; by reflecting critically on empiricism as a historiographical category; and by highlighting how its supposed irreconcilability with rationalism was indeed an *a posteriori* construction that did not reflect the actors' perception (see for instance Sgarbi 2012; Dobre and Nyden 2013; Gaukroger 2014; Vanzo 2016; Feingold 2016; Bodenmann and Rey 2018; for a synthesis of the current debate, see Calvente and Manzo 2020).

But even if one puts in brackets (or even abandons) the quest for a putative founding figure, a series of questions still remain unanswered—that is, what was the relationship between Gassendi's empiricism and Bacon's? Was Gassendi's empiricism indebted to Bacon's, and, in case, to what extent? Further, at what stage of Gassendi's reflection on knowledge (its onset or maturity) can we recognize Bacon's possible influence on Gassendi, if any? Answering these questions might contribute, at least in part, to address the following—and more historically relevant—ones: to what extent was "Gassendism" (understood here as a form empiricism) autonomous from Baconianism in its origin and development? And—even more broadly: is that of the early modern theorizations of empiricism a story of confluent, or crossing, paths? Such questions bear also consequences for our understanding of the history of early modern logic, for Gassendi understood his own empirical theory of knowledge, as well as Bacon's, as logic, and even integrated them in a narrative about the historical development of the discipline (see *Syntagma philosophicum* I, "On Logic," in OO1, pp. 31–124).¹ Michael (1992, 1997) has shown how the question of the origin of ideas in the mind is to be seen as a characterizing feature of early modern logic, and how Gassendi was the first to assign such a new role to the discipline, then followed by the Port Royal logicians.² Did Gassendi's reception of Bacon played any role in such a new understanding of logic?

To be sure, scholars have not overlooked these questions. Their predominant view appears to be that Bacon was Gassendi's "favorite contemporary" (Lolordo 2006, p. 34). Rochot ascribed to possible Baconian influences the origin of Gassendi's early empiricism (Rochot 1955). On the basis of an analysis of Gassendi's Latin letters, Taussig has argued that Gassendi's conception of history bears similarities with, and was perhaps influenced by, Bacon's (Taussig 2000). Fisher has provided an apposite comparison of Bacon's method with Gassendi's (Fisher 2005, 2008). Cassan has also

1. From now on, I refer to *Syntagma philosophicum* by quoting from Gassendi's *Opera omnia* and using the acronym OO followed by the number of volume.

2. For a discussion on early modern logic, see Cassan in the introduction to this special issue.

provided an insightful assessment of Gassendi's treatment of Baconian "logic" in the short history of logic he traces in *Syntagma philosophicum* I (published posthumously in 1658), arguing that such an assessment was functional to his attack against Descartes (Cassan 2012). Concerning OO1, Jardine commented that Gassendi "read Bacon as a system-builder, intent on finding the indemonstrable first principles of science—the hidden essential natures of things—by means of a new logic" (see Jardine 1990; for Gassendi's account of Bacon's logic, see also Bottin 1993).

But at least two questions still linger unanswered. First, truly Bacon's "logic" receives a flattering treatment in *Syntagma philosophicum*; but the *Syntagma* is the outcome of a long reflection on logic that includes works such as *Exercitationes paradoxicae* (written across the late 1610s and early 1620s),³ the *Carpentras Manuscript* (likely drafted in the mid-1630s and not published),⁴ and *Animadversiones* (1649).⁵ While *Syntagma philosophicum* displays Gassendi's most refined, as well as original, understanding of logic, it does not mark the origin of his empiricism—a characteristic that is rather present in the whole of Gassendi's reflection on logic. Did Bacon play a role in Gassendi's early adoption of empiricism and in its development?

Second, though significant advances have been provided,⁶ scholars have not yet pointed to specific elements in Gassendi's logic—including in *Syntagma philosophicum*, OO1—that can be traced back to Bacon's influence or reception. As Bloch glosses, "if indeed the Baconian resonances of the theme of 'nature' and of 'experience' [in Gassendi's works] can be hardly put into question, it looks like Gassendi did not retain anything of the work of the British philosopher else than this general, and indeed vague, inspiration" (Bloch 1971, p. 50).⁷ Are there specific elements of Gassendi's mature logic that can be traced back to Bacon's influence or reception?

In the first part of the paper, I address the question of Bacon's influence in Gassendi's early reflections on knowledge, arguing that although an assessment of Gassendi's intellectual context may induce to retain it as highly likely, direct references to Bacon before *Syntagma philosophicum* are spare and quite not meaningful. I also suggest that Gassendi's early empiricism does not need

3. The first book was published in 1624, while the second book, though likely written in the same period, was published only in OO3 in 1658 and then in La Haye in 1659. I will refer to the French translation provided by Rochot as Gassendi 1959.

4. I will refer to Taussig's translation (Gassendi 2012) as "Carpentras."

5. Gassendi 1649. I will refer to the work as "Animadversiones."

6. Especially by Cassan 2012.

7. "[S]i en effet les résonances baconiennes du thème de la "nature," de l' "expérience," et de l' "observation" ne sont guère douteuses, il ne semble pas que Gassendi ait retenu autre chose de l'oeuvre du philosophe britannique que cette inspiration générale, et pour tout dire vague."

necessarily Baconianism to be contextualized appropriately. I then address Gassendi's treatment of Bacon in *Syntagma philosophicum* (sections 3, 4), and argue for Gassendi's reception of Bacon's theory of the idols (§5). I will follow up with some more general conclusions (§6).

1. Was Bacon really Gassendi's "Favorite Contemporary"?

Lolordo (among others) has good reasons to stress Gassendi's admiration for Bacon: as we shall see, the treatment of Baconian philosophy in *Syntagma philosophicum* justifies this judgment. But such a passion for Bacon's works must have struck Gassendi well towards the end of the 1640s. Indeed, quite surprisingly, an extensive research based a meaningful sample of Gassendi's letters written before *Syntagma philosophicum* finds no mention of Bacon by Gassendi.⁸ Neither does Peiresc—who often lent Gassendi books from his own library, which he would send along with his letters—ever mentions providing Gassendi with texts of Bacon's. A doubt may emerge in relation to a letter that Peiresc sent Gassendi on October 25, 1635, where, from Aix-en-Provence, he writes:

... you will receive the usual package from Mr. Lullier with a small letter which I consider to be from Mr. Hortensius⁹ since I see it accompanied by two copies of his book *de Oculo*, one of which I am sending you, as I sent you the other for the book of Primerose against Harveys' *de circulatione sanguinis*, which I am responsible for sending to Rome with the volume *de insectis*, and two opuscles by Verulamius in the English language.¹⁰

8. I based my research on the letters that can be found in the following places: Pierre Gassendi, *Pierre Gassendi (1592–1655) Lettres Latines*, trans. Sylvie Taussig, 2 vols (Paris: Brepols, 2004), and corresponding Latin originals in OO6; Philippe Tamizey De Larroque, ed., *Lettres de Peiresc*, vol. 4 (Paris: Imprimerie Nationale, 1893); Marin Mersenne, *Correspondance du P. Marin Mersenne, religieux minime*, ed. Cornelis de Waard and Armand Beaulieu, 16 vols (Paris: Éditions du Centre national de la recherche scientifique, 1959); Pierre Gassendi, *Lettres familières à Francois Luillier pendant l'hiver 1632–1633* (Paris: Vrin, 2003). I also consulted the following manuscripts: Pierre Gassendi, "Lettre de Pierre Gassendi adressée à Nicolas-Claude Fabri de Peiresc au sujet des parhélies en date du 15 Juin 1629" (Bibliothèque-musée Inguimbertaine, Carpentras, Ms 1832 folios 15r à 16v); "Recueil de lettres, françaises, italiennes et latines, pour la plupart autographes, de Charles-Quint, de Rubens et de divers Savants du XVIIe siècle." (BnF, Manuscript, 1700 1601), URL: <https://gallica.bnf.fr/ark:/12148/btv1b10036136z>, accessed 01/10/2020.

9. The Dutch astronomer Maarten van den Hove (1605–1639).

10. Letter 138, Peiresc à Gassendi, in De Larroque, *Lettres de Peiresc*, 4: 557–58: "... vous aurez le paquet ordinaire de Mr. Lullier avec une petite lettre que je crois estre de Mr. Hortensius puisque je la vois accompagnée de deux exemplaires d'un sien livre de *Oculo*, dont je vous envoie l'un, comme je vous envoyay l'autre pour le livre de Primirosius contre Arvoeus de circulatione sanguinis, lequel je suis chargé d'envoyer à Rome avec le volume de *insectis*, et deux opuscles de Verulamius en langage anglois [...]."

The note that the opuscles are “two” and that are written in English may induce us to identify them with *The Two Bookes of Sr Francis Bacon of the Proficience and Advancement of Learning, Divine and Humane*, published in Oxford in 1633 (see Bacon 1633), though doubts persist.¹¹ But as the exchange unfolds it is unclear whether Peiresc had sent these “opuscles” to Gassendi in the first place, or whether he is just mentioning that he was to send them “to Rome.” Indeed, Gassendi replies two days later from Digne (October 27, 1635), and thanks Peiresc for “the book” (singular) that he sent him. He mentions that, having known of a Monsieur Taxil who was ready to leave to Aix and who had taken “a bare quarter of an hour” to run through its pages, not finding its arguments as convincing as those of the scholar it intended to challenge.¹² It is clear that the book to which he refers is James Primerose’s *Animadversiones* against Harvey’s *De motu cordis* (Primerose 1630). So, it appears that Gassendi was not the recipient of Bacon’s *Two Books*.

That’s all: in the 162 letters between Peiresc and Gassendi that I examined, Bacon is never mentioned again. Nor is he in the others: but this is perhaps particularly surprising because Peiresc—who was not only Gassendi’s patron and friend, but to a certain extent also one of his intellectual models—had keen interest in Bacon’s thought. As early as in 1623, Peiresc was endeavoring to obtain a copy of *De augmentis scientiarum*; further, he corresponded with William Boswell to obtain a copy of the *Advancement of Learning* (see Jalobeanu 2014, pp. 140–1). Later in 1627, Peiresc expressed the preoccupation with finding a translator for the *Sylva* and the *New Atlantis*. He was also involved in the attempt of publishing the Baconian manuscripts stolen by de la Hogue in 1623 (Jalobeanu 2014, pp. 140–2). In his library, he held copies of Bacon’s *History of Henry VII*, of *Instauratio magna*, *De augmentis scientiarum*, and of the essays on “Religion” and “Superstition” (Miller 2000, p. 22). In addition to Peiresc, Gassendi had also numerous contacts with Mersenne—another prominent promoter, and perhaps even translator, of Bacon’s philosophy in France (Buccolini 2013). Moreover, Bacon’s philosophy (though not his logic in particular) was popular within the environment of French libertinism, with which Gassendi was very familiar (Fattori 2002). Despite this, he never discusses Bacon’s philosophy, let alone method, in any of the letters he exchanged with Gassendi.

11. One of the anonymous referees has urged me that, despite its title, the work would have been likely to be considered as a single work rather than two separate ones, and that even in the latter case they would have been unlike to be defined as “opuscula.”

12. Letter 139, Gassendi à Peiresc, in De Larroque, *Lettres de Peiresc*, 4: 558: “...le livre... un petit quart d’heure...”

To sum up, Bacon's stunning absence from Gassendi's letters before *Syntagma philosophicum* is perhaps enough to conclude that Verulam was not Gassendi's favorite contemporary up to that point. Galileo's writings and vicissitudes appear rather to be at the center of his concerns; few years later, he defines Isaac Beeckman as the best philosopher he had so far met.¹³ No interest is shown in Bacon.

Yet, it is not enough to argue that Gassendi did not read, or know the content of, Bacon's writings. Rather, the contrary appears to be plausible. As I recalled, Peiresc was very engaged with Baconianism—something of which Gassendi was certainly aware.¹⁴ Moreover, Gassendi likely read Mersenne's *La vérité des sciences*, which devoted an entire chapter (I, 16, see Mersenne 1625, pp. 206–24) to the treatment of Bacon's method. The work was published in 1625, therefore soon after the release of Gassendi's *Exercitationes*. Further, Gassendi's biographer Bougerel reports that at the end of a letter dating April 13, 1628, Diodati "... informs Gassendi of the death of the Chancellor Bacon, the restaurator of philosophy, of which he gives a eulogy" (Bougerel 1737, p. 32).¹⁵ Though Bougerel is at last partly wrong, for the eulogy he cites appears to be missing from the letter,¹⁶ it is clear that he refers to Bacon as someone of whom Gassendi knew and likely appreciated. It is therefore clear that Gassendi was deeply immersed in an intellectual environment that held Bacon's philosophy in high esteem. Is this reflected in his early writings?

2. Bacon in Gassendi's Early Writings: A Loud Absence

Indeed, granted that Gassendi's acquaintance with Bacon's philosophy was highly likely, one nevertheless struggles to find traces of his reception in Gassendi's writings before *Syntagma philosophicum*. In both published books of *Exercitationes*, we find a number of passages that unmistakably display Gassendi's early attitude towards empiricism and experimentalism, as well as his disdain for the verbosity of the Scholastic discussions. Scholastic dialectics has the pretension of telling us something about the external

13. See Gassendi to Peiresc, July 21, 1629 in De Larroque, *Lettres de Peiresc*, 4: 198–202, 201.

14. I will return on this later in the paper.

15. "En finissant, il lui annonce la mort du chancelier Bacon, le restaurateur de la philosophie, dont il fait un grand éloge."

16. Diodati only informs Gassendi's about the Verulam's death, and that "...les livres & les escriptes [sic] par le commandemt du Roy d'Angre s[ont?] conservéz [sic]." See 'Lettre de Diodati à Gassendi En Date Du 13 Avril 1628' Bibliothèque-musée Inguimbertaine, Carpentras, Collection peiresc, P., XLI, t. II, Ms 1810, folio 166.

world, but indeed any knowledge of it must be based on sense experience. For instance, if I wanted to learn something about the brightest thing of all, that is, the sun,

[d]o you think that logic will light some lamp by which I will see it better? I am indeed grateful to nature for providing me with the senses by which I perceive its brilliance, its heat, its shape, its size, and other characteristics. [...] Is it truly the province of logic to examine, to uncover, and consequently to explain the nature of things, rather than the province of Physics and the other sciences instead? [...] [Aristotelian dialectics] ... does not reveal nature to us, but only does the same as the man who promised to discover a treasure and then says 'Look, where it is hidden and you will find it' (Gassendi 1972, p. 30; OO3, p. 150).

Similarly, Gassendi argues that the criterion of truth is ultimately empirical:

If you should say that experience is the balance in which the truth of any matter is to be weighted, such as whether fire is hot or not, whether the sun is bright or dim, I would not disagree with you by very much. For this is the instrument of judgment, or as the Greeks say the *kritêrion*, which it seems must be preferred over all the other candidates. But experience belongs to the senses, or natural capacity, not to artificial logic [...] (Gassendi 1972, p. 30; OO3, p. 152).

Rochot speculated that these comments are signs of a possible reading of Bacon's by Gassendi in his early career (see "Introduction" in Gassendi 1959, p. xiii).¹⁷ This can of course be the case—but can also be otherwise. Certainly, these references to experience may be too vague to draw an analysis of their possible sources on their basis; still, we do know that the *Exercitationes* was meant to include a treatment of Epicurus' logic, which thus as early as in 1624 Gassendi considered as the ideal alternative to Aristotelian Scholasticism. Epicurus' reliance on empirical knowledge might have well inspired Gassendi's judgment here. Moreover, Bacon was not the only one who stressed the important of empirical knowledge and sensation. For one, focusing on *sensate esperienze*, Galileo's "workflow," though famously lacking a full-fledge methodological systematization, could have well inspired Gassendi, who had already started his astronomical observations under the

17. "... déjà se relèvent certaines préférences pour l'observation et l'expérience sensibles, opposées aux raisonnements abstraits sur l'acte et la puissance, la substance et l'accident. Déjà l'on pressent une nouvelle façon d'interroger les faits, que peut être la lecture de Bacon a suggérée."

initial guidance of Joseph Gautier, and soon after autonomously, as early as in 1616 (see Bougerel 1737, p. 9–10).¹⁸ Soon after the publication of *Exercitationes*, Gassendi writes to Galileo (July 20, 1625) to express his heartfelt adherence to the Florentine’s “philosophy.”¹⁹ In the same years, Gassendi (and Peiresc) read, and corresponded with, Galileo. We shall also consider Gassendi’s general attitude towards erudition, and his tendency to quote painstakingly his sources (see, for instance, Sumida Joy 2002), which would make it unusual for Gassendi to have been inspired by Bacon without quoting him. Lastly, despite Le Doeuff having shown that certain of Bacon’s works were already diffused in France in the late 1610s, Peiresc himself struggled to get access to them by the time Gassendi composed the *Exercitationes*, and so did Mersenne (see Le Doeuff 1984; Jalobeanu 2014). In a nutshell, these references to experience can be accounted for in a number of ways, without necessarily referring to Bacon.

My hypothesis here is therefore the following. At the time Gassendi publishes the *Exercitationes*, he was part of an intellectual circle—that of Peiresc—that was certainly influenced by the philosophy of Bacon: but this influence was *a consequence*, and not a cause, of an empirical and anti-Scholastic approach to knowledge that was already a feature of Peiresc’s intellectual attitude, and to which Bacon likely gave voice, but which did not stem from him. This is at least the way in which Gassendi saw it. In this respect, his description of Peiresc’s reading of Bacon is emblematic. Compared to Peiresc, Gassendi writes,

... no man made more observations, or procured more to be made, to the end that at least some Notions of natural things more sound and pure, than the vulgarly received, might be collected: for which cause he admired the Genius, and approved the design of the great Chancellour of England Sir *Francis Bacon*, often grieving that he never had the happiness to speak with him, being then alive when he was at, and came last from Paris (see Gassendi 1657, Book VI, p. 207 for an early modern translation; see also Gassendi 1641, pp. 376–8 for the Latin original. For Peiresc’s intellectual attitude, see Miller 2000, esp. pp. 16–48).

18. For a definition of “workflow” see Valleriani, “Introduction” in Valleriani ed. 2017, p. 1: “... the knowledge needed to obtain... a certain defined output... following a defined workflow.”

19. Gassendi 2004 vol. 1, p. 7: “En premier lieu, mon cher GALILÉE, je voudrais que tu te persuades de ce que j’accueille tes sentiments coperniciens en Astronomie avec une si grande joie au cœur que je crois être honnêtement dans mon droit lorsque mon esprit détaché et libre parcourt les espace immenses maintenant que les rempart et les systèmes du mond selon la conception vulgaire ont été rompus.” See also OO6, pp. 4–6, 4.

Peiresc's attitude towards Scholasticism as described by Gassendi is also emblematic if we think about the spirit that animated Gassendi's *Exercitationes*. Peiresc, Gassendi writes, "... was verily, displeased with that Doctrine of Nature, which is commonly taught in the Schools, as being too obscure and imaginary, built more upon tricks of Wit, than experiments of Nature", to the point that he displayed intolerance in respect to those "... Writers of natural Philosophy, which did contend more with subtilty than solidity" (Gassendi 1657, Book VI, pp. 207–8). The few who displayed a sincere curiosity and "love of the truth" were "wonderfully affected [...] by the relation of his own, or other means experiments, of which he had alwaies plenty to produce (so continuously curious was he to note down and collect the same) or by producing the things themselves, about which the question was; for he was furnished with an infinite quantity of rare Minerals, Stones, Plants, Animals, such as for any price or by any Art he could obtain and keep" (Gassendi 1657, Book VI, p. 208). Moreover, Gassendi notes,

... he was not pleased with those Logical and Metaphysical niceties, which are no waies profitable, and serve to maintain bawling, and contentious disputes. For though he was delighted to hear a thing acutely concluded; yet he grieved that the Subject matter was but a trifle. So was he also many times troubled, when he heard men could ascend so high, as to Ideas and separate substances, that he accounted to a thing to be admired and commended; but to dream so many things concerning them, and to go about to prove the same, by such weak Reasons and Analogies: that was a thing which he did not approve, but pittie. For he was grieved that excellent wits should passe over, unknown and unhandled, such things as we see with our eyes, and feel with our fingers, and busie themselves about such matters, as they cannot reach, no not so much as by probable conjecture (1657, Book VI, pp. 208–9).

In this description of Peiresc's intellectual attitude overall, one can certainly find a number of "Baconian" elements—from the collection of experimental data in a fashion that is reminiscent to Bacon's natural history to the scorn for the School's verbose and pointless disputes. But Gassendi, though he acknowledges Peiresc's admiration for Bacon, interprets them as traits of Peiresc's intellectual sensibility rather than elements of a Baconian methodology that he intentionally pursued. If we agree that the Peiresc circle is the milieu that most contributed to Gassendi's formative years, it is in this empirical attitude—which did indeed include an appreciation for Bacon, but was not necessarily informed by it—that (I suggest) we might contextualize Gassendi's early experimentalism.

Traces of Bacon's influence on Gassendi's theory of knowledge are also absent in the places where one would mostly expect to find them, that is, in works where Gassendi addresses epistemological issues. In the "Carpentras logic" (circa 1636) he does not mention Bacon, and neither does he in *Animadversiones* (1649). In other works, before *Syntagma philosophicum*, references to Bacon (or at least those I could find) are scarce and passing.²⁰ So when did Bacon become Gassendi's "favorite contemporary"?

3. Becoming "Gassendi's Favorite Contemporary": Bacon in *Syntagma philosophicum*

Gassendi's attitude towards Bacon changes somewhat during the composition of *Syntagma philosophicum*, where most of his references to Bacon are found. Scholars have shown how Gassendi put together the work mainly in the six years between the publication of *Animadversiones* (1649) and his death (1655); he mainly reworked material already present in *Animadversiones*, to which he added entire sections, among which the one on logic (now corresponding to Part I of *Syntagma philosophicum*, OO1).²¹ The redaction of the work on logic is of particular interest for the scope of this paper, for it is there that we mainly find Gassendi's references to Bacon. On the basis of an analysis of Gassendi's manuscript Tours 706, Pintard has showed that Gassendi's Logic in *Syntagma philosophicum* was drafted after 1649, and that Gassendi also drew from material contained in the Carpentras logic (Pintard 1943, p. 42). While the Carpentras logic displayed mainly an antiquarian interest (in the sense that it mainly focuses on ancient sources) the 1658 Logic also treats of contemporary sources, such as Ramus, Descartes, and Gassendi—and Bacon (see Pintard 1943; Rochot 1944, p. 78). In *Syntagma philosophicum*, "On Logic" is composed by a proemial book (OO1, pp. 31–7): two books discussing the history of logic and its goal respectively (*De origine et varietate logicae*, OO1, pp. 38–66, and *De logica fine*, OO1, pp. 67–90), and by an *Institutio logica* (OO1, pp. 91–124)—Gassendi's

20. If the corpus was not so broad, I would venture even bolder claims about the presence of Bacon in Gassendi's pre-*Syntagma philosophicum* works. The references I have found are scarce and not meaningful. In his response to Cherbury's *De veritate* (1634), Gassendi flatters him by describing how happy Britain is to have found such a new hero after the death of Bacon (OO3, p. 441).

21. For the dating and development of Gassendi's project of publication of *Syntagma philosophicum*, I mainly rely on the classic studies of Pintard 1943. Rochot has also provided a comparison between Gassendi's manuscript and the published version of the *Syntagma* in Rochot 1944, especially pp. 167–202. I also consulted Kirsop 2000. Bellis has recently published a new manuscript source on Gassendi's envisioned project of *Opera omnia*: see Bellis 2019.

own logic, which appears almost as if Gassendi conceived of it as an autonomous work.²²

Bacon appears in book I and II. In book I, *De origine et varietate*, where Gassendi provides a short history of logic. Here he includes a very detailed abridgement of the *Novum organum*, which he defines as Bacon's "logic," "which he wished to differentiate from ordinary logic especially with respect to three issues: the end, the way of demonstrating, and the origins [*ininitis*] of the investigation" (OO1, p. 63).²³ Concerning the end, Gassendi, explains, Bacon's goal "... is not to contrive arguments, but rather arts; not conclusions, not plausible demonstrations that will persuade in a disputation, but rather indications of the works of nature that will convince the mind" (OO1, p. 63). Second, Gassendi highlights Bacon's criticism of syllogistic reasoning and the adoption of induction:

... as concerns the order and way of demonstrating, ordinary logic makes use of syllogism, while he uses induction, and a very rigorous form of it. For this reason he also rejects syllogism, as syllogism consists of propositions, propositions consist of words, and words are tokens of notions. But the notions of things are held to be poorly and blindly abstracted from the things, from which it follows that the propositions are indeed distorted prejudices from which it is not possible to elicit anything sound (OO1, p. 63).

It is interesting to note how Gassendi highlights the notion of prejudices, and how their derivation from words that are mistakenly derived from things is at the core of Bacon's criticism of syllogism. Finally, concerning the origins of the investigation, "... ordinary logic trustingly adopts unsuitable principles, while his logic subjects the principles themselves to *doubt* and scrutiny, by which it aims to strip away all prejudices, and to

22. Indeed, it was reprinted as such in England in 1660 and 1668. See Pierre Gassendi, *Institutio Logica, et Philosophiæ Epicuri syntagma*. (Ex officina Rogeri Danielis: Londini, 1660); Pierre Gassendi, *Institutio Logica ; et, Philosophiæ Epicuri Syntagma* (London: Ex officina Johannis Redmayne, 1668). Part of the Institutio was also reprinted in Philippe Du Trieu's *Manuductio ad logicam*. (Oxford: typis & impensis Guil, 1662). Passages from Part I of the *Syntagma* (especially from book I and II of Logic) were translated by Brush in Gassendi, *The Selected Works of Pierre Gassendi*. The *Institutio* was also translated by Jones (see Gassendi, Pierre, *Pierre Gassendi's Institutio Logica (1658)*, ed. Howard Jones. Assen: Van Gorcum Limited, 1981). As I am writing this article, I am finalizing, along with Justin E. H. Smith, a translation of *Syntagma Part I*. I will therefore quote from our translation and refer to the corresponding page of OO1.

23. Though he does not enter into details, Gassendi also cites the titles of *Of the Dignity and Advancement of Learning*, the *Preparative Towards a Natural and Experimental History [Parascvem]*, the *History of the Winds* and a *History of Life and Death*.

draw the thing itself out from its foundations” (OO1, p. 63; emphasis added).

Here Gassendi’s wording, and especially his references to “doubts” and “prejudices,” is clearly reminiscent of Descartes’s language in the *Meditations* and *Discourse*. Yet for Gassendi Descartes’s project is fundamentally derivative of that of Bacon. As Gassendi later writes, “[i]t is clear that [Descartes] followed Bacon in also aiming to develop a new philosophy from the foundations up, in that he wished first to completely rid himself of all prejudice, and then, having discovered a very solid principle, he wished to build up the whole edifice upon it as a foundation,” though he decided to lead this path starting from “very remote things” such as God and the soul, confiding (for Gassendi, mistakenly) in the power of the intellect alone (OO1, p. 65).

Gassendi emphasizes especially the role of the idols, as he highlights how Bacon’s enterprise of stripping away all prejudices that hinder true knowledge begins from “... the first notions of the things, or almost idols, which, insofar as they are almost innate, shall be purged, or, insofar as they are received in the mind from philosophical sects and opinions, or from twisted rules of proof, have to be replaced” (OO1, p. 63). It follows a detailed explanation of Bacon’s method, which also recalls the technical terms employed by Bacon in *Novum organum*. Gassendi emphasizes Bacon’s commitment to a form of induction that does not “... fly off immediately to form general axioms,” but rather proceeds by degree through intermediate axioms (OO1, p. 63). He expounds in detail Bacon’s theory of idols, then highlights how Bacon

... brings to light the various causes of errors as well as of the impediments to achieving a veracious philosophy, including the scarcity of serious and constant observations and experiences [...], including reverence of antiquity; admiration of the inventions and writings of others; pusillanimity and superstition; the artifice and cunning of the teachers, and the nature of the exercises they give; lack of profit; desperation and the presumption of impossibility. He also shows those things that give hope that a better philosophy might be found, as for instance, besides trust in God, in recognizing the errors of our predecessors, and then indicating a surer path from the histories of things more perfectly collected; from their multitude, noted down in a coordinated way with a new method; from the new light of the axioms themselves that arise in due course. (OO1, p. 63)

Gassendi then stresses Bacon’s rejection of final causation and his endorsement of a *sui generis* form of formal causation, as well as his idea of latent schematism and of a practical goal for philosophy through

the superimposition of new forms, “but since each of these is accomplished *per minima*, there is no person who can hope to be able to govern or transform nature, who has not understood it in the appropriate way—not through vulgar anatomy, which is studied in organic bodies, but through that which is obtained by reason and true induction” (OO1, p. 64). Gassendi also pays attention to the functioning of Bacon’s inductive method: induction, indeed, “is itself the key for the interpretation of nature, is to be used so that the intellect may govern in the operation [*in opificio*] of the axioms, for a presentation [*comparentia*] is provided for it, that is, tables and coordinations of the instances—or, if you prefer, of the notions that are held from experience of a certain thing—are offered [...]” (OO1, p. 63). There follows a detailed and faithful abridgement of Bacon’s experiment on heat.

4. Praises, Criticisms, Misreading: Gassendi’s Judgment on Bacon’s Logic

In book II, *De logica fine*, Gassendi provides his own assessment of Bacon’s logic. The first remark that Gassendi puts forward is that Bacon’s logic is directed “towards physics” only (OO1, p. 93)—a comment that he will repeat about Descartes’s logic (OO1, p. 93). Gassendi had already made this remark in Book I, where he had noted that although Bacon’s “institution” could be extended to other branches of philosophy, “... it mainly concerns physics, or the science or interpretation of nature.”²⁴ This vision of logic as (so to say) a mere “scientific method” is profoundly at odd with Gassendi’s own understanding of the scope of the discipline. For Gassendi defines logic as the “art of thinking well,” which consists in four distinct operations: to form ideas well, to form propositions well, to infer well, and to order one’s thoughts well. In turn, corresponding to what he deems to be the four parts of logic in which he articulates the *Institutio*, namely, logic may be divided into four parts: of which the first is “On Simple Imagination,” the second “On Propositions,” the third “On Syllogism,” the fourth “On Method” (see the preface to *Institutio logica* in OO1, p. 91). This art of thinking well, Gassendi specifies, certainly aims at truth: but just as its external, and not internal, goal. In the same way as the art of bridle-making has as its own internal goal, the production of a bridle, and as its external goal, the direction of a horse, so logic has as its internal goal, the correct direction of thinking, and as its external goal, the attainment of truth (OO1, p. 63). This reflects on Gassendi’s separation between logic and physics. As he writes,

24. OO1, p. 63. The use of the term “institutio” (perhaps translatable as “instructions”) is worth noting, for Gassendi, as I expounded above, titles the section of *Syntagma I* where he expounds his own logic “*Institutio logica*.”

... as the bridle-making art has realized its purpose when it teaches how to make a bridle that succeeds in the control of the horse, and leaves the rest, that is the use of the bridle itself, or the direction of the horse, to the rider, so too logic appears to have realized its purpose when it prescribes the formation of thoughts in a way that is suitable for inquiring and discovering, and leaves the rest to physics or another science to use such thinking for itself in its own subject matter (OO1, p. 63).

Logic, in other words, is an art that serves a number of disciplines, whose list does include physics, but also (for instance) ethics and rhetoric. On this basis, Gassendi criticizes Bacon (and later Descartes) for not having provided a more general and inclusive picture of logic but having addressed the whole of his methodological effort uniquely to the discovery, and exploitation, of nature.

A second (but connected) criticism is addressed to Bacon's exclusion of syllogism. Gassendi appears to recognize Bacon's merit in having identified correctly (though having just focused on physics) two of the four operations that he sees as composing logic as an art, namely, to form ideas well, and to form propositions well. In a language that closely recalls that which he uses in the *Institutio* (see above), Gassendi claims that Bacon's logic

... consists chiefly in forming clear ideas [*bene imaginemur*], to the extent that he wishes above all for all prejudices to be cast off, and then for new notions or ideas to be introduced from new experiments that are duly carried out. It also consists in expounding well [*bene enunciare*], to the extent that he wishes for us to construct axioms from particular truths that are suitably tested by means of experiment, not by flying at once to the highest or most general axioms, but rather gradually, and proceeding in order through intermediate axioms (OO1, p. 90).

Bacon's logic also teaches to "infer well" ("ut bene colligamus"), but only through induction, while Bacon "...did not approve of syllogism." But Gassendi considers Bacon's rejection of syllogism as unjust: syllogism, indeed, is "as the very core and foundation of reasoning," and even induction "...does not prove anything unless this is by virtue of a syllogism, on account of a general proposition clearly implied in induction, by which it is announced that all things that can be enumerated individually have been enumerated, or that none can be imputed that is not of this sort" (OO1, p. 90). Therefore, despite rejecting it, Bacon "...can be convicted of using it [...] whenever he engages in reasoning at all" (OO1, p. 90). So, Bacon does

not seem to have rejected syllogism in general, but only “the syllogism that is not constructed from sufficiently clear or sufficiently solid propositions.” He should have indeed discussed the “form” and “use” of syllogism, but, before that, “... he should have established to what extent the propositions are judged to be very general and not susceptible to any objections.” But not only a treatment of syllogism is missing: also “... any other general treatment of method,” that is, the fourth element of logic according to Gassendi, “though perhaps he intended to deliver such a thing in his work on the division of the sciences” (OO1, p. 90).

Interestingly, Gassendi’s remarks on Bacon’s lack of treatment of syllogism do not take into account that Bacon *did* treat of the syllogism; he did not do so in the *Novum organum*, but rather in a work that Gassendi himself quotes in the *De origine et varietate*—that is, in *De augmentis scientiarum* (V, iv), which Gassendi even defines as an “excellent” work (see OO1, p. 63), though he seemingly did not pay painstaking attention to its content. It is also interesting to note that also Mersenne, in *La vérité des sciences*—another text that Gassendi in all likelihood knew—²⁵ stressed Bacon’s criticism of syllogism in the *Novum organum*, but acknowledged that “... he does not reject the syllogism, and indeed focuses on it in the fifth book of *De augmentis scientiarum*, chapter 4.”²⁶

5. Gassendi’s Logic and Bacon’s Idols

It is worth noting that the overwhelming majority of Gassendi’s references to Bacon are concentrated in *Syntagma philosophicum* I, “On logic.” Despite Gassendi refers to Bacon’s *History of the Wind* and *History of Life and Death* in Logic, I, he does not quote them again in the sections of *Syntagma philosophicum* part II, Physics, which deal with these topics (see OO2, pp. 63–11, pp. 582–619). Sarasohn has argued that Gassendi’s mention of a “*physica actuosa*” in *Syntagma philosophicum* part II (OO1, p. 124) recalls Bacon’s idea of “*scientia activa*,” which Gassendi quotes in *De origine et varietate* (OO1, p. 63–4; see Sarasohn 1996, pp. 38–9). This may well be the case; but the adjective “*actuusus*,” which is rarely used in

25. At the end of his assessment of Bacon’s logic, Gassendi appears to defend Bacon’s coinage of a new terminology in *Novum organum*: “I will not here pass judgment on those words that might be reputed to have a little affectation in them, since the founder of a new art seems to be in a position to use new words, or to use old words in a new way” (OO1, 90). Interesting, this was one of Mersenne’s main criticism against Bacon: Gassendi might refer to it here. See Mersenne 1625, p. 210.

26. Mersenne 1625, p. 216: “Vous pourrez voire à vôtre loisir que Baro ne reiette pas le syllogisme, mais qu’il en fait état dans le 5. livre de l’augmentation des sciences chapitre quatre.”

Latin, is also employed by Cicero in *De natura deorum* (I, XL), where he uses the expression “virtus actuosa.” Gassendi does not use this expression, but quotes an adjacent passage of *De natura deorum* (I, XXX) to explain what he means with “physica actuosa” (see Cicero 1967, pp. 106–7, 80–81 respectively). This may cast some doubts on Sarasohn’s claim. Therefore, we are to look for possible Baconian influences, it is to the Logic that we must turn. Are there elements in the *Institutio* that might display a reception of Bacon’s logic?

This answer can be provided only speculatively, because Gassendi does not quote Bacon in the *Institutio*. However, one element that might have well struck Gassendi’s attention was the theory of the *Idols*, that, he expounds in detail in his *Logica*, I, as I have recalled. My contention here is that a reception of Bacon’s theory of the idols, blended with traditional skeptical themes, can be found in the canons xii, xiii, and xiv of part I, which is overall devoted to the formation of ideas in the mind. Canon xi carries the self-explanatory title “One must however be careful that the experience of one’s own senses does not deceive,” and proposes classical examples of the necessity of empirical validation of prima facie evident sense data—such as that of a body that, being half covered by water, appears as bent – and of experimental testing of the same—such as that of the Lydian stone that would reveal whether a gold-looking material is indeed gold, or rather orichalcum (see OO1, p. 96). However, Gassendi continues,

... although the experience of the senses is the ultimate standard to which one should resort when something is doubtful in a given matter, nonetheless not every experience should be considered the same, but only the one that is purged of any urgency or doubt. An experience is evident when, all things considered, it can no longer be reasonably contradicted. (OO1, p. 96)

This statement sets the scene for the three following canons. Canon xii imposes that “... one must be careful that temper, affect of the mind, habit, and preconceived opinions do not deceive.” The presence of classic skeptical topics—such as that tastes and judgments vary according to age, health, bodily disposition, and are affected by passions, habits, and customs—are mixed with a language that recalls the discourse of “prejudices” that Gassendi had attributed to Bacon earlier on. “Lastly,” he writes, “[we have to guard ourselves from] ideas [that] are easily formed of things of which one has a preconceived opinion [‘praeiudicata opinione’]. Indeed, one who has prejudged [‘praeiudicavit’] that there are no Antipodeans will have the idea of Antipodeans as false, and will not admit that the sky can hang over their heads as it does for us” (OO1, p. 96). The end of the canon has also a

Baconian flavor, as it prescribes that, in the formation of ideas, “one must pay great attention [...] that nothing is established from these or similar principles,” and that “... efforts are to be made such that, once everything is stripped away either from temperateness or from any other cause by which prejudice is formed, the mind is impartial, and free to weigh up and choose whatever is to be held as truthful” (OO1, p. 96).

My contention is that this canon is inspired by Bacon’s idols, and in particular by the *idols of the cave* (Aphorism XLII)—that is, “illusions of the individual man” that affect him (or her) in virtue of his (or her) particular nature, upbringing, education, authority, “or because of the different impressions things make on different minds, preoccupied or prejudiced perhaps, or calm and detached, and so on” (XLII, Bacon 2000, p. 41). Gassendi’s own way of expounding this set of idols in *De origine et varietate* (“The ‘idols of the cave’, which derive from individual nature, obscure, almost as in a cave, impressions arising from elsewhere on account of anticipations resulting from familiarity, reading, authority, and similar things,” OO1, p. 63) recalls closely the title, as well as the text, of the canon xii. In particular, the invitation of cleaning up the mind from prejudices clearly adds something to the repertoire of skeptical arguments that Gassendi employs often and consistently.

A Baconian inspiration for canon XIII, “[o]ne must also be careful that the authority of the narrator does not impose anything,” appears as less clear, but possible. Its spirit may be referred to the *idols of the theater* (XLIV) or to the anti-authoritarian flavor that Gassendi attributes to that of the cave (see above). Surely, while the idols of the cave target dogmas, philosophical sects, and principles and axioms that sediment in the mind over time, Gassendi’s canon has, so to say, a lighter anti-authoritarian spirit. Moreover, it does not mention dogmas and sects, but rather focuses on second hand reports, of both ancients and moderns, which can mislead in reason of the narrator’s dishonesty or gullibility, as when “... they believe they have seen these things, or do not doubt of the word of others who claim to have seen them” (OO1, p. 97). The examples that Gassendi provides mostly focus on reports on fantastic creatures, such as the Enotokoites, the Monopods, or the Acephali, that the tradition had placed in putative locations around the globe and whose existence was then disconfirmed by modern travel reports. So, the content of canon xiii is indeed different from that of Bacon’s idols of the theater. If this set of canons is inspired by the idols, as I suggest, the fact that Gassendi does not follow Bacon here in insisting on dogmas and sects, but rather provides a lighter anti-authoritarian caveat to his methodology, is *per se* interesting and may have a twofold explanation. First, Gassendi’s understanding, as well as appreciation, of the history of philosophy is quite different from Bacon’s.

Bacon notoriously advocates the compilation of natural histories which also include instances of specific phenomena derived from the history of philosophy. But Bacon's conception of natural history is quite different from Gassendi's, for the former "... aims at reporting the "naked facts" of the three different states of nature distinguished by Bacon: the ordinary course of natural phenomena (history of creatures), nature under irregular conditions (history of wonders) and nature submitted to men's industry (history of arts)" (Manzo 2012, p. 37; see also Tinkler 1996). Gassendi does not share the systematic approach that Bacon proposed; further, his antiquarian sensibility brings him way beyond the idea of reporting "naked facts."²⁷ Moreover, despite he presented himself as an "eclectic" who did not espouse any particular sect or dogma apart from Christianity (see OO1, pp. 29–30), his philosophy is indeed mostly inspired by Epicureanism; hence, he could not follow Bacon in his polemic against ancient dogmas and sects.

By contrast, it would be hard to deny that canon XIV, "[o]ne must also guard against deception by ambiguous words or figurative speech," is not similar to Bacon's *idols of the marketplace* (XLIII). As Gassendi puts it, "... it is evident that if an ambiguous name is assigned to a thing, so that it can signify different things, it may happen that once the name is heard we form an idea under one of its meanings that represents to us another thing than the one that is described or under discussion" (XLIII); this recalls Bacon's statement that "... poor and unskillful code of words incredibly obstruct the understanding" (XLIII, Bacon 2000, pp. 41–2). Gassendi's statement that language, and the sophistries of the schools especially, create pointless disputes and disagreements also recalls very closely Bacon. As Gassendi puts it, "... the greatest part of the sophisms that deceive men always depend on a certain word being interpreted equivocally, it is easy to realize that it is rare that the opinions over which men quarrel derive from anything other than the fact that the word or phrase represented to his soul is one thing, while the idea is another" (OO1, p. 97). This is Bacon's version: "The definitions and explanations with which learned men have been accustomed to protect and in some way liberate themselves, do not restore the situation at all. Plainly words do violence to the understanding, and

27. Though Taussig refers Gassendi's understanding of history to Bacon, I believe that the main model that likely inspired Gassendi was rather Pliny's *Natural History*. There are two main reasons to believe this. First, as Taussig highlights, Gassendi connects the idea of experimental history especially to the observation of celestial phenomena: this is precisely the content of book II of Pliny's *Natural History*. Second, while we find no references to Bacon's theory (and practice) of natural history apart from the passages I expounded above, Pliny is one of the authors that Gassendi quotes more frequently throughout his works. See Taussig 2000. See also Pliny the Elder 1938, pp. 169–374.

confuse everything; and betray men into countless disputes and fictions” (XLIII, Bacon 2000, p. 41). The difference appears to be that while for Gassendi the quarrels are caused by an approximative choice of words—one such that the words do not reflect the mental content they aim at verbalizing—, Bacon holds the more radical claim that words, as such, carry the potential for misleading and quarrels, which paves the way to his proposal of a renewal of the language, and not only of the method, of inquiry.

6. Gassendi and Bacon: More Hypotheses, General Comments, and a Conclusion

At this point, a reader might probably ask: what about the *idols of the tribe*, that is, those that are “founded in human nature itself,” and that challenge the very possibility of human perception of sensibility of providing a picture of the external world, to the point that, Bacon writes, “[t]he human understanding is like an uneven mirror” (XLI, Bacon 2000, p. 41)? One cannot find a revised version of it in Gassendi’s *Institutio*: but this is not surprising, because Gassendi’s project is based precisely on the assumption of possibility that the mind, through sense perception primarily, can in principle hold ideas that are conformable with the external objects they represent, and that ideas can be ranked by degrees of perfection according to the extent to which they represents the features (“adjuncts”) of their objects (see for instance canon I, I and canon VII, I, at OO1, pp. 91, 95; on Gassendi’s position on the clarity and distinctness of perception see Lolordo, 2005; see also Rochot 1955). So despite Gassendi’s sympathy for Bacon’s empirical approach, his project lays on very different bases, for it aims at improving a faculty, that of knowing nature through sense perception, that is, *per se*, already there to be exploited, and does not have to be necessarily completely restructured and guided, as Bacon rather proposes.

A general question that can be addressed only hypothetically at this point is why Gassendi decided to expound Bacon’s logic in the *Syntagma*, and, likely, to insert elements of it in his own logic, whereas he did not appear to be concerned with Bacon earlier in his career—provided of course one disregards the possibility that he did not have access to the *New Organon* (a book that was generally hard to find before its reprint in Leiden in 1645) he started to work on *Syntagma* I after 1649. On this respect, Cassan has put Gassendi’s treatment of Baconianism in the *Syntagma* in relation with his polemic against Descartes. Moreover, though she did not point to the reception of Bacon in specific passages of Gassendi’s *Institutio*, she suggested that Bacon’s logic was functional to counter Descartes’ anti-empiricism, for “[t]o a certain extent, Bacon’s efforts to “clear the floor” of the mind make it conceptually possible for Gassendi to focus on ideas in the first part of his *Institutio logica*” (Cassan 2012,

p. 86). I believe that Cassan's reading is intriguing and that her thesis that Gassendi uses Bacon to criticize Descartes in *De origine et varietate* and *De logica fine* is fundamentally correct. There is however a caveat to add: Gassendi conceived of the treatment of Bacon's logic in these sections as not necessarily connected to that of Descartes'. Evidence of this can be found in the manuscript Tours 706 that provided the basis for the *Syntagma*. Here, the parts treating of Descartes' logic are entirely crossed-out, as if it was Gassendi's intention, at a certain point of time, to expunge them from the final draft that would have gone to the press. Subsequently, however, Gassendi added two marginalia (folios 50 and 89) that read "Il faut mettre tout cecy qui est rayé," "It should be added all that here was cancelled," thus communicating his intention of including a treatment of Cartesian logic in the final version of the *Syntagma*.²⁸ But the parts on Bacon do not show an analogous treatment: all point to the fact that they would have survived a cancellation of those on Descartes, and that therefore Gassendi did not see the former as exclusively functional to the latter.

On the contrary, I am doubtful about the extent to which Gassendi needed Bacon's logic to counter Descartes' anti-empirical stances. For in Gassendi's set of objections to the *Meditations* (1641), as well as in the *Disquisitio metaphysica* (1644), we already find the bulk of the arguments that Gassendi will use in *Institutio*. For instance, the fact that senses do not convey perceptive content that is *per se* wrong, but rather reflect the way the object presents itself to the senses, and the fact that empirical validation is needed to adjudicate of the trustworthiness of the impression, can already be found in the second *dubitatio* against Descartes' *Sixth Meditation* (see OO3, pp. 388–90). These ideas are profoundly rooted in Gassendi's theory of knowledge and are probably deriving from his early encounter with Epicureanism, for, though expressed in different terms, they can be found both in *Animadversiones* and in the Carpentras logic (Gassendi 1959, pp. 436–7; Carpentras, p. 302–303). Moreover, Gassendi's understanding of logic as an "art," which Cassan attributes to his encounter with Bacon and his use of Bacon's method in anti-Cartesian terms, predates the polemic with Descartes for it appears already in the Carpentras logic (Cassan 2012, pp. 81, 86, 87; Carpentras, pp. 36–7), and might have derived from other sources.²⁹

On a more hypothetical note, one can note that two of the strongest elements of criticism against Bacon's logic—the negation of the validity

28. Bibliothèque municipale de Tours, Ms. 706, fol. 50 and 89. I thank Margherita Palumbo and Enrico Pasini for helping me read these marginalia.

29. Michael for instance attributes it to Gassendi's reading of Kekermann (see Michael 1992, p. 22).

of the syllogism and the fact that Gassendi did not recognize that also induction is to be understood as a form of syllogism—find their systematization precisely in the *Institutio logica*, while they are not fully thematized in earlier writings. One can perhaps speculate that, in doing so, Gassendi was motivated by the comparison between Bacon's logic and his own logical system, which he was then drafting. It must be however noted that traces of Gassendi's interest for induction, as well as of his confidence in its persuasive and demonstrative power, can be found already in Gassendi's early works, and display clear Aristotelian tones (see for instance Gassendi 1959, pp. 177–8; for an analysis on Gassendi's understanding of Bacon's induction, see also Fisher 2005, pp. 155–6).

Overall, I believe this paper shows that there is no trace of a consistent reception of Bacon's empiricism by Gassendi before the 1650s; on the contrary, it shows that consistent traces of such a reception, are present in *Syntagma philosophicum*, and that Gassendi likely incorporated elements of Bacon's theory of idols in his *Institutio logica*. This implies that two apparently contradictory statements about the development of early modern empiricism are true.

The first is that the form of early, “continental” empiricism, such as that developed by Gassendi, can be understood as originating from a specific milieu. As for instance, that of the Peiresc circle and of his extended network of scientists and intellectuals that already looked favorably, and indeed enthusiastically, towards experiments, observations, and their report and collection, and were often unsympathetic towards scholastic Aristotelism. As this empirical attitude developed independently from, and parallel to, Baconianism, as also Gassendi's early empiricism did. It is worth reminding here how Gassendi's assessment of Peiresc's interest in Bacon's philosophy highlights how, at least in Gassendi's eyes, such an interest was not at the origin of Peiresc's attitude, but rather followed from it. It is also emblematic how Gassendi turns to Epicurus, rather than to Bacon, when he started drafting his first writings on logic.

Second, at the same time, the likely influence of Bacon's “logic” on Gassendi's *Institutio* shows that any narrative that aims to identify founding figures of early modern empiricism, or to circumscribe national or geographical versions of empiricism, is ultimately untenable, and “tends to produce hagiographies or to highlight national particularisms” instead of highlighting the “everlasting search for common ground” and the building of a shared discursive spaces between the actors (Bodenmann and Rey 2018, p. 4). Scholars have already pointed to Gassendi's influence on major figures of British empiricism, and especially on Locke (Puster 1991; Kroll 1984; Milton 2000; see also Corneanu's contribution to this collection). In turn, Gassendi was at least in part influenced by Bacon; both were likely informed

by a social and intellectual environment that increasingly valued observation and effectiveness over argumentative virtuosity and authority. This new, empiricist “logic of ideas” appears to have been, since from its outset, the product of such a wide circulation and exchange of reflections and concerns on the nature of knowledge, rather than a matter of regional sensitivity.

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