

Francis Bacon's Natural History and Civil History: A Comparative Survey

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Abstract

The aim of this paper is to offer a comparative survey of Bacon's theory and practice of natural history and of civil history, particularly centered on their relationship to natural philosophy and human philosophy. I will try to show that the obvious differences concerning their subject matter encompass a number of less obvious methodological and philosophical assumptions which reveal a significant practical and conceptual convergence of the two fields. Causes or axioms are prescribed as the theoretical end-products of natural history, whereas precepts are envisaged as the speculative outcomes derived from perfect civil history. In spite of this difference, causes and precepts are thought to enable effective action in order to change the state of nature and of man, respectively. For that reason a number of common patterns are to be found in Bacon's theory and practice of natural and civil history.

Keywords

causes, civil history, civil philosophy, Francis Bacon, historiography, moral philosophy, natural history, natural philosophy, precepts

1. Introduction

In his programme for the reformation of learning, Bacon introduced history alongside philosophy and poetry as one of the three major parts of learning. He founded this classification on the faculties of the human soul, associating history with memory, poetry with imagination and

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philosophy with reason. Bacon offered his most systematic account of history mainly in the *Advancement of Learning* (1605) and in its Latin and considerably extended version, *De dignitate et augmentis scientiarum* (1623). In the meantime, he composed *Descriptio globi intellectualis* (1612), an unfinished and posthumously published writing, where he took up again the division of human learning announced in the *Advancement*, but introduced modifications concerning history which would reappear later on in *De augmentis scientiarum*.¹

The classification of history in the *Advancement of Learning* introduced a quadripartite division: natural history, civil history, ecclesiastic history and literary history (also known as history of learning). The new scheme presented in *Descriptio globi intellectualis* and retained in *De augmentis* abandoned the four genres and reduced them to two principal branches; namely, natural history and civil history. According to this bipartite division, ecclesiastic history and literary history, formerly independent branches, became sections of civil history along with civil history proper. As for natural history, its three main parts were history of creatures, history of wonders and history of arts.

Scholars have drawn attention to the parallelism and contrasts between natural and civil history in the Baconian project.² Notwithstanding that, a thorough study of the extent to which the multiple aspects of natural and civil history converge and diverge is still lacking. The aim of this paper is to offer a comparative survey of Bacon's theory and practice of natural history and civil history, particularly centred on their relationship to natural philosophy and human philosophy. I will try to show that the obvious differences concerning their subject matter encompass a number of less obvious methodological and philosophical assumptions which reveal significant practical and conceptual

¹ See Francis Bacon, "Distributio operis," *Novum organum* (OFB XI 36-43); *Cogitationes de scientia humana* (SEH III 187-92); *Phaenomena universi* (OFB VI 2-10).

² John F. Tinkler, "Bacon and History," in *The Cambridge Companion to Bacon*, ed. Markku Peltonen (Cambridge, 1996), 232-59; Barbara J. Shapiro, *Probability and Certainty in Seventeenth-Century England: A Study of the Relationships between Natural Science, Religion, History, Law and Literature* (Princeton, 1983), chapter 4; Stuart Clark, "Bacon's Henry VII: A Case Study in the Science of Man," *History and Theory*, 13 (1974), 97-118; George H. Nadel, "History as Psychology in Francis Bacon's Theory of History," *History and Theory*, 5 (1966), 275-87.

convergences between the two fields. Assuming that most of Bacon's general points relative to natural history and natural philosophy alluded to in this article are well known, my exposition shall focus on those aspects of civil history which display significant connections with natural history.

2. History as a Mirror

As a basic definition, Bacon held that history was devoted to "individuals circumscribed by space and time." Natural history deals with "the deeds and works of nature," while civil history treats of "the deeds and works of men."³ Past events are the subject matter of civil history, whereas in natural history facts are approached from a perspective where the distinction between past and present is irrelevant.⁴ His ideal of history consisted of an account of deeds and works of nature and men which faithfully reproduced the "things themselves," avoiding any kind of adulteration by an improper intervention of the human mind.⁵ In other words, Bacon's model of history stresses the impartiality of history as a record of things. In order to achieve this ideal, both memory and sense play a fundamental role. The material accumulated in memory comes from the senses, which are said to be the "doors of the intellect." The senses have the task of bringing to the intellect the images produced

³ *Advancement of Learning* (OFB IV 62-5); *De augmentis scientiarum* (SEH I 495); *Descriptio globi intellectualis* (OFB VI 98).

⁴ Daniel R. Woolf, "Erudition and the Idea of History in Renaissance England," *Renaissance Quarterly*, 40 (1987), 11-48 (17-18).

⁵ A discussion of the extent to which theory actually intervenes in the account of facts both in the actual writing of history and in theorizations about the nature of history lies outside the scope of this article. Time and again, Bacon explicitly allots history the task of recording facts as an impartial mirror of human and natural events. However, this claim becomes a controversial point particularly if we bear in mind the theoretical commitments of his natural and civil histories. I deal with some of these questions in "Probability, Certainty and Facts in Francis Bacon's Natural Histories," in *Skepticism in the Modern Age: Building on the Work of Richard Popkin*, ed. José R. Maia Neto, Gianni Paganini and John Christian Laursen (Leiden, 2009), 123-38, and in "Introduzione generale" to *Francis Bacon: Scritti Scientifici*, ed. Benedino Gemelli (Turin, 2010), 9-44. See also Ian Stewart's and Dana Jalobeanu's contributions to this volume.

by the external world, providing the primary matter of knowledge. In gathering the sense perceptions, memory reproduces them in the same way as they were originally received by the senses. Later on, the human mind operates on the repository of memory and recombines its individual items in different ways. When the imagination intervenes, the material is transformed freely, without abiding by the original arrangement. When reason performs its work, the data stored in memory are classified, analyzed and reproduced as they are found in nature, or at least as human reason believes that they happened in the real world.

The association of history with memory displays its direct relationship with sense, to the point that history could be defined as memory of experiences.⁶ As Bacon affirmed: "I consider history and experience to be the same thing, as also philosophy and the sciences."⁷ As a repository of original experiences, Bacon held that history needed to be less controlled and censured than philosophy and poetry, since history "holdeth least of the author, and most of the things themselves."⁸ This approach identifies history with a picture of reality, a faithful representation of things. For that reason Bacon compared the three categories of civil history (memorials, perfect history and antiquities) with different sorts of paintings. Memorials are said to be like drafts and unfinished pictures, since they are preparatory and imperfect histories; antiquities are considered to be similar to ruined and mutilated images, being relics and fragments of histories rescued from the shipwreck of time. Both antiquities and memorials are "imperfect histories" because they are unfinished and incomplete by their own nature. Between antiquarians and historians Bacon made a clear distinction:⁹ while antiquarians provide the documentary basis, the historian interprets this

⁶ It is worth noting that Bacon's methodological use of sense experience means a controlled sense helped by instruments and inductive method.

⁷ *De augmentis scientiarum* (SEH I 495; IV 293).

⁸ *The History of the Reign of King Henry the Eighth* (SEH VI 18).

⁹ See, for instance, *Advancement of Learning* (OFB IV 14): "For in the time of the two first *Caesars*, which had the art of government in greatest perfection, there lived the best Poet *Virgilius Maro*; the best Historiographer *Titus Livius*, the best Antiquarie *Marcus Varro*; and the best or second Orator *Marcus Cicero*, that to the memorie of man are knowne."

material and offers a rational and causal narrative of them.¹⁰ Imperfect history might be considered, in this regard, inferior to the category of history preferred by Bacon and by most of his contemporaries; i.e., perfect history. Bacon's praise of Caesar's *Commentarium de bello Gallico* attests to the importance that he allotted to this hierarchy of historical disciplines. He claimed that, although Caesar entitled his work "only a Commentarie" (on the Baconian scheme "commentaries" are a sub-genre of antiquities), Caesar's work was, however, an "excellent Historie."¹¹

The task of perfect history is to provide a complete narrative of human events. Bacon subdivided perfect history into three branches: chronicles (narrations of long periods of time), lives (narrations of a single person's life) and reports (narrations of specific actions). It is interesting to remark that Bacon ascribed different levels of veracity to each of them, depending on the availability of the facts to be narrated. To the extent that chronicles embrace great periods of time, the historian has no access to all their aspects and elements. Lives or biographies occupy an intermediary place in so far as they are a "more true, native, and lively" representation of things than the histories of times, but are less embracing and certain than the histories of actions.¹²

Bacon insisted on the issue of historical impartiality in his comments on the drawbacks of reports, and argued that their "sinceritie" was by no means warranted. In fact, the histories of prominent historical events have to be considered the most suspicious of historical writings, particularly when they deal with near or contemporary episodes. In such cases, historical narrations are usually biased for or against the involved parties. In order to reach historical truth, therefore, one needs a temporal distance that, once the passions have been dissipated, allows the prudent historian to open a path between the partial versions.¹³ In

¹⁰ Leonard Dean, "Sir Francis Bacon's Theory of Civil History-Writing," *English Literary History*, 8 (1941), 161-83, 169-70, refers to the material compiled by antiquarians as "evidence" from which the historian constructs a narrative.

¹¹ *Advancement of Learning* (OFB IV 46); *De augmentis scientiarum* (SEH I 476).

¹² *Advancement of Learning*, (OFB IV 66); *De augmentis scientiarum* (SEH I 513-14; IV 310-11).

¹³ *Advancement of Learning* (OFB IV 66); *De augmentis scientiarum* (SEH I 508). On truthfulness as historical value in Bacon's historiography, see Dean, "Sir Francis Bacon's Theory of Civil History-Writing," 166.

consonance with this quest for impartiality, Bacon criticized the “partialitie, and obliquitie” of the history of Scotland.¹⁴ Accordingly, the imperative of neutrality was rehearsed in the dedicatory letter to Prince Charles prefacing the *History of the Reign of King Henry VII*: “I have not flattered him [Henry VII], but took him to life as well as I could, sitting so far off, and having no better light.”¹⁵ Bacon echoed Renaissance historiographic trends in his attempt to portray the king in such a way as to avoid both eulogy and insult. Machiavelli “and others that write what men doe and not what they ought to do” are straightforwardly recognized as meritorious antecedents of such historiographic practice.¹⁶ Underlying this laudatory mention of Machiavelli is Bacon’s emphasis on the practical commitments of civil history. As we shall see below, he envisaged that civil history must provide the material basis for ethical and political precepts. In this regard, Bacon claimed that in order to fulfil his duties accurately, the historian should be acquainted not only with the virtues but also with the vices of men, for “it is not possible to ioyn serpentine wisdom with Columbine Innocency, except men know exactly all the conditions of the *Serpent*.”¹⁷ That kind of knowledge is achieved via complete, detailed and realistic historical narrations of men’s actions.

As for natural history, it 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).¹⁸ In consonance with the ideal of mirroring pure facts, Bacon laid down that the historian’s account of facts and causes should not add observations or judgments, since the task of history is to narrate the “things themselves” in a simple, historical way (*plane historice res ipsae narrentur*).¹⁹ In the same way, civil historians

¹⁴ *Advancement of Learning* (OFB IV 67); *De augmentis scientiarum* (SEH I 508).

¹⁵ *History of Henry VII* (SEH VI 25).

¹⁶ *Advancement of Learning* (OFB IV 144).

¹⁷ *Ibid.*, 144-5; *De augmentis scientiarum* (SEH I 729-30).

¹⁸ *Advancement of Learning* (OFB IV 63); *De augmentis scientiarum* (SEH I 197); *Descriptio globi intellectualis* (OFB VI 104); *Parasceve* (OFB XI 454); *Phaenomena universi* (OFB VI 10); *Cogitationes de scientia humana* (SEH III 189).

¹⁹ *De augmentis scientiarum* (SEH I 503).

are not allowed to interrupt the historical narratives by adding their own political observations and conclusions. Bacon admitted that though good civil histories were as if “pregnant” with “political precepts and warnings,” the historian should not play the role of the midwife. Political observations from historical facts should be left to “the liberty and facultie of euery mans iudgement.”²⁰ Probably alluding to Machiavelli’s *Discorsi*, Bacon introduced a special category named “ruminated history” to encompass those writings that actually constituted an indefinite “irregular mixture,” a “mixed history” which blended history and political theory, narrations of facts and theoretical observations and conclusions.²¹ Thus, history, both natural and civil, addresses the capacities of the human mind, which, if methodically controlled, reflect the human and natural world *ex analogia universi* and not *ex analogia hominis*:²² “For the world is not to be tailored to the slenderness of the intellect (which is what has been done hitherto) but the intellect should be stretched and opened up to take in the image of the world as we really find it.”²³

3. The Methods of History

With regard to natural history, Bacon’s directives were precisely delineated in *Parasceve ad historiam naturalem* and *Historia naturalis et experimentalis*.²⁴ He established that the reports of facts compiled in natural histories should be divided into three kinds with respect to their credibility (*fides*): 1) reports of certain credit (*fidei certae*); 2) reports of dubious credit (*fidei dubiae*); and 3) reports of condemned credit (*fidei damnatae*).²⁵ As a general rule Bacon set down that historians had “to examine things to the bottom; and not to receive upon credit, or reject

²⁰ *Advancement of Learning* (OFB IV 70); *De augmentis scientiarum* (SEH I 513-14; IV 310-11).

²¹ B.H.G Wormald, *Francis Bacon: History, Politics and Science: 1561–1626* (Cambridge, 1993), 221-24.

²² *Novum organum* (OFB XI 80); *Distributio operis* (OFB XI 32).

²³ *Parasceve* (OFB XI 459).

²⁴ I have dealt with these topics in “Probability, Certainty and Facts in Francis Bacon’s Natural Histories” and “Introduzione generale.”

²⁵ *Parasceve* (OFB XI 466-69); *De augmentis scientiarum* (SEH I 456).

upon improbabilities, until there hath passed a due examination.”²⁶ He complained that the facts recorded in natural histories available in his time, collected either from books, from testimony or from personal examination, were not properly verified.²⁷ However, reported facts cannot always be verified by direct experience. This has as a consequence the necessity of a criterion for their evaluation. Bacon did not mention what kind of examination had to be made of reports of facts that could not be tested by direct experience. I have argued elsewhere that the implicit methodological criterion he used is the probability of facts, understanding probability in its rhetorical meaning (opinion, possibility and approvability). In Bacon’s natural histories, facts were considered certain in two ways: 1) when they had been tried and examined by direct experience; 2) when they were considered certain because they were probable on account of their conformity with a presupposed opinion.

In addition, Bacon’s proposal for the compilation of natural histories laid down guiding precepts for the “literary technology” by which matters of fact were made known to those who were not direct witnesses. His first advice regarding specific directives for the writing of natural histories reads: “In the first place then, no more of antiquities, citations and differing opinions of authorities, or of squabbles and controversies, and, in short, everything philological.”²⁸ Bacon’s literary rules establish that facts considered certain should be reported simply, without notes informing of their sources. On the contrary, facts judged doubtful should be exhibited with sources and circumstances. They should be admitted with a note, such as “it is reported,” “I have heard from a person of credit” and the like. Bacon added that authors of reports should be named if the facts have “more nobility.” But the name of the author is not enough. It should be reported whether the author knows the fact from his own experience, from hearsay or from his readings. Regarding the nature of evidence, Bacon advised reporting whether it was a thing of the writer’s own time or of a more ancient one. Concerning the reliability of the author, it should be reported whether he is

²⁶) *Sylva sylvarum* (SEH II 645).

²⁷) *Novum organum* (OFB XI 176-77).

²⁸) *Parasceve* (OFB XI 457).

known to be frivolous and idle or serious and sober. Controversies should be introduced “in matters of great moment.” However, Bacon recommended that the arguments for belief on both sides should not be included in the narrative of the history, since the writing would be laborious and exceedingly slow. As for the “oratorical embellishment, similitudes, the treasure-house of words,” all of these should be entirely avoided. Everything should be set down briefly and concisely. Further, *Historia naturalis et experimentalis* provides a list of theoretical and theoretical-practical components which are required for the compilation of a natural history, such as explanations of the manner of performing the experiments; warnings against falsities and fantasies; observations to prepare the interpretation; “comments” which are like the beginnings of interpretations of causes; and “provisional canons,” the first axioms or general propositions which are presented during the investigation.²⁹

The detailed care for the methodological setting of a natural history is in stark contrast with the dispersed and brief methodological remarks concerning civil history. In book II of *De augmentis*, Bacon included a chapter entirely devoted to remarks on the preeminence of civil history among the writings on human matters and to explanations of the correlative difficulties attached to it. Again Bacon set out impartiality as a fundamental requisite of the civil historian and criticized those histories that distorted events in accordance with the historian’s passions and political sympathies, being hardly faithful witnesses of facts (*rerum parum fideles testes*).³⁰ In order to achieve good civil histories it is necessary for the historian to jointly perform a number of laborious and difficult operations:

to carry the mind back into the past, bring it into sympathy with antiquity; diligently to examine, freely and faithfully to report, and by the light of the words to place as it were before the eyes, the revolutions of times, the characters of persons, the fluctuations of counsels, the courses and currents of actions, the bottoms of pretences, and the secret of governments.³¹

²⁹ *Historia naturalis et experimentalis* (OFB XII 12-17); *Parasceve* (OFB XI 468-71).

³⁰ *De augmentis scientiarum* (SEH I 505).

³¹ *De augmentis scientiarum* (SEH I 504-05; IV 302).

The production of civil histories, therefore, requires an uncommon talent. That is the reason why it is very rare to find good civil histories.³² Bacon believed that the rules (*leges*) for composing perfect histories should be very strict and he held that a good universal history of ages was hardly achievable. The many difficulties faced in narrating a perfect history of ages force the historian to neglect the high standards of authenticity and trustfulness of sources, the exhaustive gathering of information, the use of first-hand sources, etc. The historian of ages, Bacon observed,

has such a variety of things on all sides to attend to [that he] will become gradually less scrupulous on the point of information; his diligence, grasping at so many subjects, will slacken in each; he will take up with rumours and popular reports, and thus construct his history from relations which are not authentic, or other frivolous materials of the kind. He will be obliged moreover (lest the work increase beyond measure) purposely to omit a number of things worthy of record, and often to sink into abridgments.³³

The preface to the *History of Henry VII* provides further clues about Bacon's historiographic guidelines. He announced that his history would be based on some "tolerable chronicle as a simple narration of the actions themselves" to which "the counsels and the speeches might be added for depth and interest." In this account, civil history was a matter of interpretation rather than of research.³⁴ To some extent the historiographic reflections of the preface to the *History of Henry VII* seem to collide with the critical perspective displayed in *De augmentis* and the *Advancement*. They also reveal a contrast to the careful examination of received facts and the search for new facts insistently recommended for natural history.

³² *Advancement of Learning* (OFB IV 69); *De augmentis scientiarum* (SEH I 511).

³³ *De augmentis scientiarum* (SEH I 512; IV 309).

³⁴ Judith H. Anderson, *Biographical Truth: The Representation of Historical Persons in Tudor-Stuart Writing* (New Haven, 1984), 174 and chapter 10 *passim*; Dean, "Sir Francis Bacon's Theory of Civil History-Writing," 170-72; Clark, "Bacon's Henry VII," 199; Arthur B. Ferguson, "The Non-Political Past in Bacon's Theory of History," *Journal of British Studies*, 14 (1974), 4-20, 17; F. Smith Fussner, *The Historical Revolution: English Historical Writing and Thought 1580-1640* (London, 1962), 268.

Apart from these ambiguities and discrepancies, and although Bacon devotes considerably less care to the method of civil history, it is nevertheless evident that both kinds of histories share a number of methodological prescriptions: critical examination of facts and sources, detail and accuracy. All of them are thought to be necessary in order to achieve natural and civil histories that properly reflect the natural and human world.

4. History, Causes and Precepts

A contrast that at first glance appears to distinguish natural history from civil history has to do with the causal explanations of historical events. The narration of the causes of human events were, Bacon claimed, the “ornament and life” of civil history.³⁵ His classification of history stated that the causal explanation was a binding ingredient of perfect history and of the history of learning. He accentuated that, first of all, the events narrated in the history of learning should “be coupled with their causes.” The list of typical causes of learning embraces a number of psychological, cultural, geographical, institutional, social and political circumstances, which testifies to the extent to which Bacon was aware of the complex phenomenon of human learning:³⁶

the characters of the several regions and peoples; their natural disposition, whether apt and suited for the study of learning, or unfitted and indifferent to it; the accidents of times, whether adverse or propitious to science; the emulations and infusions of different religions; the enmity or partiality of laws; the eminent virtues and services of individuals persons in the promotion of learning, and the like.³⁷

In addition, perfect history excels imperfect histories because it gives a narrative which links the events with their causes. The complete history adds causes to the “naked events and actions” collected in antiquities such as commentaries, which, by their own nature, lack “the motives or designs, the counsells, the speeches, the pretexts, the occasions, and

³⁵ *De augmentis scientiarum* (SEH I 503).

³⁶ On the history of learning, see Ferguson, “The Non-Political Past in Bacon’s Theory of History.”

³⁷ *De augmentis scientiarum* (SEH I 503; IV 301).

other passages of action.”³⁸ This insistence on the importance of the causal explanation of the civil historical events relies on Tacitus’ histories, a model widely adopted by Elizabethan historiography.³⁹

As we have seen, the inclusion of causal explanations of facts is by no means forbidden in a Baconian natural history. The methodological structure of the natural history allows so-called “comments,” which are the first interpretations of the causes of the individual phenomena collected in the history.⁴⁰ We learn from Rawley that Bacon added preliminary versions of causal explanations to the facts reported in *Sylva sylvarum* thinking that they would make easier the achievement of the first axioms.⁴¹ Comments or provisional causes, however, do not constitute the core of the Baconian natural history, but a complement of it.⁴² Although it is not easy to reconcile with the theoretical commitments evident throughout Bacon’s histories, both natural and civil, the report of theory-free matters of fact is held to be the primary task of the natural historian. Furthermore, the inquisition of causes is thought to belong strictly to natural philosophy (efficient and material causes to physics; formal and final causes to metaphysics). In this division of labor, the account of causes in natural history plays, as it were, a preparative or transitional role towards the theoretical realm of natural philosophy associated with the fourth part of the *Instauratio Magna*.⁴³

³⁸ *Advancement of Learning* (OFB IV 65); *De augmentis scientiarum* (SEH I 506; IV 303).

³⁹ Brian Vickers, “Introduction” to Francis Bacon, *The History of the Reign of King Henry VII and Selected Works*, ed. Brian Vickers (Cambridge, 1998), xiv-xviii; Perez Zagorin, *Francis Bacon* (Princeton, 1998), 215. On Bacon and Tacitus, see Edward B. Berry, “History and Rhetoric in Bacon’s *Henry VII*,” in *Seventeenth-Century Prose: Modern Essays in Criticism*, ed. Stanley E. Fish (New York, 1971), 281-308, 302-03; Edwin B. Benjamin, “Bacon and Tacitus,” *Classical Philology*, 60 (1965), 102-10.

⁴⁰ *Historia naturalis et experimentalis* (OFB XII 14-15).

⁴¹ William Rawley, “Preface to the Reader” (SEH II 335-37).

⁴² Brian Ogilvie outlines the difference of approach concerning the narration of causes in the natural historical writings of Bacon and Juan Luis Vives, the latter being an exponent of humanist natural history. See Brian Ogilvie, *The Science of Describing. Natural History in Renaissance Europe* (Chicago, 2006), 3-7.

⁴³ Letter to Micanzio Fulgenzio (1625) (SEH XIV 532). See *Descriptio globi intellectualis* (OFB VI 106).

Things are different in perfect civil history, whose main goal is precisely to add causes to the naked human facts. It would appear, therefore, that the causes of civil events are thought to be matters of fact themselves and not theoretical speculations.⁴⁴ Sometimes Bacon claimed that causes and intentions of human actions were conjectured by the historian. However, those conjectures, when historically well founded, still have the right to be considered images of the human world. Surely Bacon did not ignore the fact that the identification of causes and intentions of human actions were the foremost matter of historical controversies. It may be that he thought that most causes and intentions of historical events were not necessarily evident and had to be inferred from more evident matters of fact. To “couple” those events with their “causes and intentions,” he drew on the model of Renaissance historians such as Guicciardini, with whom he was very well acquainted, assuming a solid tradition of historical life-writing.⁴⁵ As practitioner of civil history Bacon mostly availed himself of a psychological perspective to represent the thoughts of King Henry VII as an interior process in terms of which he explained the manifest decisions and actions of the king. For instance, when narrating Henry’s decision to crown the Queen, Elizabeth of York—established as a “naked event” exposed in his sources—Bacon added his own interpretation of the reasons for that decision by representing the thoughts of the king, bearing in mind at the same time the features of Henry’s character and the external circumstances relevant to the decision. In so doing, Bacon in fact conjectured the causes of the event, drawing on the sources available to him and re-interpreting them in accordance with his own assumptions:⁴⁶

But for the extirpating of the roots and causes of the like commotions in time to come, the King began to find where his shoe did wring him; and that it was his depressing of the House of York that did rankle and fester the affections of his people. And therefore, being now too wise to disdain perils any longer, and willing to give some contentment in that kind (at least in ceremony), he resolved at

⁴⁴ For a different approach, see Shapiro, *Probability and Certainty*, 137-38.

⁴⁵ Berry, “History and Rhetoric in Bacon’s *Henry VII*,” 284; Anderson, *Biographical Truth*, 173.

⁴⁶ For an excellent survey of Bacon’s practices as civil historian and his use of the sources in composing the *History of Henry VII*, see Anderson, *Biographical Truth*, chapter 10.

last to proceed to the coronation of his Queen. And therefore at his coming to London... the Queen was with great solemnity crowned ... in the third year of his reign, which was about two years after the marriage (like an old christening that had stayed long for godfathers); which strange and unusual distance of time made it subject to every man's note that it was an act against his stomach, and put upon him by necessity and reason of state.⁴⁷

To some extent this seems to be a certain echo of Bacon's practices for the establishment of facts in natural history. Many imperceptible natural phenomena are inferred from facts directly observed in experimental trials. Thus, for instance, Bacon sometimes assumed the existence of material corpuscles and empty spaces from the perceptible solution of saffron in water. Though they were not visible, their existence was assumed from certain perceptible facts.⁴⁸ Similarly, the intentions of Henry VII were gleaned and reconstructed from the observation of the actions, behaviours and external circumstances reported by the sources.⁴⁹ As we shall see below, Bacon advised the composition of a treatise grounded on good civil histories which would provide the simplest traces from whose combination and arrangement men's characters are originated. That skilful knowledge of the components of the human mind is achieved by a kind of "artificial and accurate dissection" of individual dispositions and would allow for the discovery of the secret dispositions of individuals.⁵⁰ This dissection recommended for civil matters resembles the methodological patterns of the investigation of nature. On Bacon's account, bodies are composed of a collection of simple natures. For that reason the inquisition of nature must operate in its first phase an anatomy of natural bodies in their simple natures (colour, weight, figure, etc.).⁵¹

⁴⁷ *History of Henry VII* (SEH VI 60-61). Anderson claims that "[i]n light of Bacon's sources, Henry's hostility to Queen Elizabeth is without any basis in fact" (*Biographical Truth*, 185).

⁴⁸ *Cogitationes de natura rerum* (SEH III 15, 17). I discuss this and similar examples in "The Argumentation on Void in the Seventeenth Century: The Case of Francis Bacon," *The British Journal for the History of Science*, 36 (2003), 26-43.

⁴⁹ Anderson argues that Bacon had a preconception of Henry VII's character (*Biographical Truth*, 190-1).

⁵⁰ *De augmentis scientiarum* (SEH I 734).

⁵¹ See, for instance, *Novum organum* (OFB XI 186-87; 210-11; 290-91); *De principiis atque originibus* (OFB VI 508); *De interpretatione naturae proemium* (SEH III

The analysis of the inclusion of causes in history brings us to the question of the relation of natural history to natural philosophy, and correlatively, of the relation of civil history to human philosophy. Apart from attributing to natural history a less relevant “narrative use” in so far as it provides knowledge of the individuals of the physical world, Bacon was adamant that the main use of natural history should consist in its serving as the foundation of natural philosophy. It is precisely on this characteristic that the alleged novelty of his proposal rests. Bacon envisaged a natural history of “a new kind and construction” (*noui cuiusdam generis et apparatus*) which “differs from the current one in many ways.”⁵²

As is well known, forms (or formal causes) are the subject matter of Baconian metaphysics and the final goal of the inductive process in the realm of nature. According to this epistemic division of labour, natural history provides the individual data selected in accordance with the topics prescribed to each history and the prerogative instances. Axioms of natural philosophy, or general propositions, are to be induced through propositions ascending from the data in order of increasing generality. Thus, inductive generalizations are allowed once the necessary historical basis is available. The logical machinery of this ascent and descent from facts to theory and from theory to facts received a painstaking, though incomplete, depiction in the second part of *Novum organum*.⁵³

518); *De viis mortis* (OFB VI 354). For the different kinds of anatomy in Bacon’s approach, see Graham Rees, “Atomism and ‘Subtlety’ in Francis Bacon’s Philosophy,” *Annals of Science*, 37 (1980), 549-71.

⁵² *Distributio operis* (OFB XI 36-37). Bacon expressed his opinions on the works of Aristotle, Pliny, Dioscorides, Theophrastus, Albertus Magnus, Cardano, Agricola, Gesner, Fracastoro, the “Arabs” and the “Moderns.” In addition, he planned to comment on the writings of Vincent of Beauvais, Laurent Joubert and Guido Panciroli. His evaluations of precedent “natural histories” are not uniform and display interesting nuances which deserve further research. See my “Introduzione generale.” For evaluations of the extent to which Bacon’s theory and practice of natural history are actually innovative, see other papers in this volume (particularly those of Jalobeanu, Stewart and Lancaster) and my “Introduzione generale.”

⁵³ For an excellent study of the phases involved in this machinery, see Sophie Weeks, “The Role of Mechanics in Francis Bacon’s *Great Instauration*,” in *Philosophies of Tech-*

By contrast, Bacon's treatment of the connection of civil history with human philosophy was strikingly imprecise and sketchy.⁵⁴ Bacon adopted the Ciceronian conception of history as *magistra vitae*, a *topos* of Elizabethan historiography.⁵⁵ However, his opinions about the concrete use of civil history were scattered and roundabout. Bacon observed that to the "fidelity" of civil history are entrusted "the examples of our ancestors, the vicissitudes of things, the foundations of civil policy, and the name and reputation of men."⁵⁶ His idea of history seems to distinguish between two uses of history: an inductive use as foundation of human philosophy and an informative (narrative) use in the knowledge of things. Both uses parallel the inductive and narrative uses of natural history respectively.⁵⁷

More important for our understanding of the role of causes in perfect civil history is the meaning of its inductive use. We learn from *Novum organum* that the inductive method applies not only to natural philosophy but also to the other sciences, logic, ethics and politics.⁵⁸ Bacon remarked on the necessity to develop

histories and tables of discovery concerning anger, fear, shame and so on, and also ones to do with examples of civil business; no less than to do with the mental motions of memory, composition and division, judgment and the rest, just as much as I would of hot and cold.⁵⁹

nology. Francis Bacon and his Contemporaries, ed. Claus Zittel, Gisela Engel, Romano Nanni and Nicole C. Karafyllis, 2 vols. (Leiden, 2008), I: 137-95.

⁵⁴ Tinkler, "Bacon and History," 239.

⁵⁵ Clark, "Bacon's Henry VII," 103-04; Woolf, "Erudition and the Idea of History," 19-20. For a different approach see Berry, "History and Rhetoric in Bacon's *Henry VII*," 304-5.

⁵⁶ *De augmentis scientiarum* (SEH I 504; IV 302).

⁵⁷ Tinkler adds a third use of civil history, namely, civil history as a storehouse of argumentative examples to be applied as models of imitation or avoidance ("Bacon and History," 236-40). In my opinion, this application of civil history is embraced in the inductive use as foundation of human philosophy. In this regard I tend to agree with James C. Morrison, "Philosophy and History in Bacon," *Journal of the History of Ideas*, 38 (1977), 585-606 (595-97), and Nadel, "History as Psychology in Francis Bacon's Theory of History," 281-87.

⁵⁸ *Novum organum* (OFB XI 191).

⁵⁹ *Ibid.*

However, Bacon did not leave instructions about the application of induction to these.⁶⁰ That notwithstanding, Bacon did maintain that the historical compilation of data is a requisite for human philosophy (*philosophia de homine*), subdivided into philosophy of humanity (*philosophia humana*) and civil philosophy (*philosophia civilis*). Further, the task of discovering the causes of human nature was not allotted to the subcategories of philosophy of humanity (at least, to those related to the mental faculties; that is, ethics and logic⁶¹) and civil philosophy (conversation, negotiation and government). The final result of the inductive generalizations operated in the realm of human philosophy must instead be precepts which are to be useful for making decisions concerning particular actions.⁶² Thus the account of causes was thought to be a constitutive part of perfect civil history and not an outcome derived from it.⁶³ Induction from the data cumulated in natural history and civil history arrives to causes in natural philosophy and precepts in human philosophy.⁶⁴ Causes and precepts have in common not only

⁶⁰ Nadel, "History as Psychology in Francis Bacon's Theory of History," 275-77; Clark, "Bacon's Henry VII," 103-06.

⁶¹ Bacon divided the philosophy of humanity, which studies man as species, into the doctrine of the state and nature of man, the doctrine of the body (which includes medicine and other arts regarding the human body), and the doctrine of the soul (including ethics and logic). On Bacon's classification of the sciences and its background, see Sachiko Kusakawa, "Bacon's Classification of Knowledge," in *The Cambridge Companion to Bacon*, 47-74, and Lisa Jardine, *Francis Bacon: Discovery and the Art of Discourse* (Cambridge, 1974), 96-108.

⁶² Tinkler, "Bacon and History," 238.

⁶³ For an alternative view, see Berry, "History and Rhetoric in Bacon's *Henry VII*," 286, 290.

⁶⁴ It should be noted that the case of civil law, embraced in civil philosophy as part of the science of government, might be regarded as an exception to this claim. Paul Kocher, "Francis Bacon and the Science of Jurisprudence," *Journal of the History of Ideas*, 18 (1957), 3-26, and Julian Martin, *Francis Bacon: The State and the Reform of Natural Philosophy* (Cambridge, 1992), 164-71, hold that in Bacon's jurisprudence natural laws and legal maxims are obtained by induction. In particular, Martin argues that there is a parallel between natural history and axioms, on the one side, and law reports and *regulae juris*, on the other. However, if Martin's point is correct, it does not concern the point I am dealing with here, since the historical basis for the alleged induction by which *regulae juris* would be achieved would not be provided by civil history but by a compilation of law reports. Bacon's ideas about the origins of legal

their being grounded in history but also, as we shall see below, their operative aims lying at the heart of Bacon's program.

5. A Comparative Sample

As practitioner of natural history, Bacon was in a broad sense faithful to his guiding precepts, particularly in *Historia densi et rari*, *Historia vitae et mortis* and *Historia ventorum*. He maintained that the facts reported in *Historia vitae et mortis* had been proved by direct examination to the extent that "it would be scarce believed with how much care and choice they have been examined."⁶⁵ Bacon asserted that he had selected the "narratives and experiments" for his histories with more caution than was the customary practice of natural historians: "For I accept only what I have seen myself or at least examined with the utmost severity."⁶⁶ The first evident contrast to the practice of civil history lies in his search for new facts and in his questioning of the facts reported by his sources. No doubt, he compiled and accepted as certain a vast amount of facts reported in books and oral traditions; but at the same time, he criticized many received facts, replicated experiments, varied their initial conditions and recommended the trial of further experiments.

To evaluate Bacon's coherence regarding civil history is troublesome since, as we have seen, he left brief, scattered and somehow contradictory guiding precepts. Scholars agree in claiming that Bacon's *History of Henry VII* is not the outcome of scholarly research and critical erudition. Although we have evidence that Bacon tried to obtain research assistance from Borough and John Selden in order to acquire manuscript materials,⁶⁷ it is no less certain that, in the end, the *History of*

norms deserve a discussion in their own right, which lies outside the purpose of this article. For a critical approach to Kocher's thesis, see Jardine, *Francis Bacon: Discovery and the Art of Discourse*, 105n1. For an alternative view on the origin of juridic norms in Bacon, see Enrico de Mas, "L'origine della norma e della sanzione giuridica nel pensiero di Francesco Bacone," *Rivista Internazionale di Filosofia del Diritto*, 37 (1960), 143-9.

⁶⁵ *Historia vitae et mortis* (OFB XII 203).

⁶⁶ *Distributio operis* (OFB XI 36).

⁶⁷ Woolf, "John Seldon [sic], John Borough and Francis Bacon's 'History of Henry VII', 1621," *The Huntington Library Quarterly*, 47 (1984), 47-53. To some extent,

Henry VII did not provide new documentary evidence, nor did Bacon undertake a critical examination of the sources available to him.⁶⁸

The end-product offered by the *History of Henry VII* was faithful to the norms that Bacon had formulated in the preface to the work (but perhaps against the rules somehow suggested in *De augmentis scientiarum*). The *History of Henry VII* does not search for new facts nor does it revise the accepted facts, but interprets the already established facts and throws new light on them from what Bacon thought to be his privileged perspective as a man experienced in politics and matters of state.⁶⁹ Far from blindly repeating the narratives of his printed sources (Polydore, Vergil, Hall, Fabyan and André, among others),⁷⁰ Bacon reassessed their interpretations of facts and, when he thought it necessary, reinterpreted them mostly on the basis of a psychological understanding of Henry's character.⁷¹

There is an interesting case that might help us visualize the differences in subject, goal and methodology between natural history and civil history. The case is Bacon's treatment of the motives that inspired Columbus's crusade to the West Indies. Bacon admired Columbus and to some extent identified with him, feeling that he was himself a herald of the discovery of "new lands of learning." Some traces of his interest in Columbus's transatlantic voyages are to be found in his writings on natural and civil history. For our purposes, a brief comparison of the occurrences of this topic in the *Historia ventorum* and in the *History of Henry VII*, both published in 1622, will suffice.⁷²

Woolf's contribution relativizes the claims of Wilhem Busch, *England under the Tudors*, trans. A.M. Todd (London, 1895), 416-23. Busch denies any important originality to Bacon's *History of Henry VII* and holds that Bacon did not make use of the archive materials in Cotton's library that were available to him.

⁶⁸ Zagorin, *Francis Bacon*, 214-15; Tinkler, "Bacon and History," 40-1; Clark, "Bacon's Henry VII," 105. Notwithstanding that, the *History of Henry VII* was praised in his time as being a work based on reports. See Dean, "Sir Francis Bacon's Theory of Civil History-Writing," 171; Woolf, "John Seldon," 50.

⁶⁹ Dean, "Sir Francis Bacon's Theory of Civil History-Writing," 183.

⁷⁰ See Busch, *England under the Tudors*, 416-23, and Anderson, *Biographical Truth*, chapter 10.

⁷¹ Clark, "Bacon's Henry VII," 102-05; 109-15.

⁷² On Bacon and Columbus, see my "Utopian Science and Empire: Notes on the Iberian Background of Francis Bacon's Project," *Studii de știință și cultură*, 23 (2010), 111-29.

The mention of Columbus in the *Historia ventorum* to which I will draw attention appears in the section devoted to “recurrent winds” (*venti statii*), which in the topics of inquiry are defined as periodical winds which blow in certain places.⁷³ The body of the history proper describes different instances of recurrent winds. Instance number four reports a tradition that links Columbus’s “opinion of the West Indies” with the alleged existence of recurrent winds on the Portuguese coast:

Those who deny that Columbus conceived so firm and fixed opinion of the West Indies from the report of a Spanish captain, and think it improbable that he got the idea from obscure hints and rumors of antiquity, fall back on the notion that from the recurrent winds blowing to the Portuguese coast he guessed that there was a continent out in the west. But this is doubtful and lacks plausibility since the winds could scarcely cover such vast distances. Meanwhile it lends great prestige to this inquiry if the discovery of the New World can be credited to one axiom or observation of the many the inquiry comprises.⁷⁴

This instance, first of all, reports simply the “naked fact,” without mentioning the sources and without adding “philological ornament.” Since Bacon judged it doubtful that there were recurrent winds on the Portuguese coast (and that, consequently, it was doubtful that recurrent winds inspired Columbus’s opinion), he exposed the fact introducing it as an unverified tradition: “Those who deny...” According to the literary norms of *Parasceve*, in this way Bacon let the reader know that the fact was uncertain. Secondly, Bacon added the reasons why the fact was held to be doubtful and implausible: “since the winds could scarcely cover such vast distances.” That reason expressed Bacon’s assumptions concerning the nature of winds. Finally, provided that at the moment the natural historian did not have enough evidence to confirm or reject the reported fact, he envisaged that an accurate further inquiry might unravel the true motives of Columbus’s crusade. New facts needed to be acquired.

The context of the exposition of Columbus’s motives changed notably in the *History of Henry VII*. Here Bacon was outlining Henry’s commitment to the overseas expansion of England and, henceforth, his

⁷³) *Historia ventorum* (OFB XII 37-39).

⁷⁴) *Historia ventorum* (OFB, XII 37-39). See also *ibid.*, 31; 56.

support of Sebastian Cabot's expeditions to North America. Bacon argued that Henry became particularly involved in granting campaigns of discovery, because he was fully aware of having lost the opportunity to benefit England from the discovery of the West Indies. The story says that after being refused by the King of Portugal, Columbus sent his brother Bartholomeus to arrange with Henry VII the support of the crusade. However, "an accident of fortune" impeded Bartholomeus from reaching the King, since on his way to England his navy was assaulted by pirates. As a result, Bacon said, the West Indies "by providence were then reserved for the Crown of Castilia." In Bacon's narrative, the success of Columbus's voyages inspired and stimulated Cabot to try a north-westerly route to find out unknown lands. In this context, Bacon accounted for the circumstances of the discovery of West Indies as follows:

And there had been before that time a discovery of some lands, which they took to be islands, and were indeed the continent of America, towards the north-west. And it may be, that some relation of this nature coming afterwards to the knowledge of Columbus, and by him suppressed (desirous rather to make his enterprise the child of his science and fortune than the follower of a former discovery), did give him better assurance that all was not sea from the west of Europe and Africke unto Asia, than either Seneca's prophecy, or Plato's antiquities, or the nature of the tides and land-winds and the like, which were the conjectures given out whereupon he should have relied: though I am not ignorant that it was likewise laid unto the casual and wind-beaten discovery a little before of a Spanish pilot who died in the house of Columbus.⁷⁵

In contrast to the exposition of the facts in the natural history of winds, this civil narrative "couples the naked events with causes and intentions." In this case Bacon listed three alternative motivations for Columbus's "conjectures" about the West Indies: 1) that Columbus learnt from a Spanish pilot about the existence of the New World; 2) that Columbus was inspired by ancient testimonies (Plato, Seneca) about distant lands; 3) that Columbus conjectured the existence of unknown lands from observing certain winds and tides along the Portuguese coasts. To these alternatives he added the "causes and inten-

⁷⁵ *History of Henry VII* (SEH VI 196-97).

tions” of Columbus’s attitude, which Bacon was forced to conjecture given the lack of further historical information. Notably, Bacon’s own conjecture was inferred from a psychological perspective. Columbus was said to have been “desirous rather to make his enterprise the child of his science and fortune than the follower of a former discovery.” For that reason Bacon thought probable that Columbus intentionally hid the true motive that inspired his voyage to the Indies, namely the news of the discovery of unknown lands that he learned from a pilot. Bacon does not search in nature for additional facts to check the cause conjectured by him, nor does he examine the quality of his sources. He pondered the different alternatives and tried a psychological interpretation in order to decide which of them was the most plausible.

6. The Operative Commitments of History

As is well known, in the realm of natural philosophy causes are expressly associated with rules of action. It suffices to recall the famous lines in the *Novum organum*: “For nature is not conquered save by obeying it; and that which in thought is equivalent to a cause, is in operation equivalent to a rule.”⁷⁶ The knowledge of causes entails the production of effects. Thus natural history turns out to be committed to action, as the foundation of the knowledge of natural causes. Civil history is also operatively engaged in so far as precepts are envisaged as rules for human actions.⁷⁷ The operative commitments of civil history are more expressly maintained in Bacon’s account of ethics. He attributed to civil history a fundamental role in the “regiment or culture of the mind,” a substantial part of ethics devoted to prescribing “rules how to subdue, apply, and accommodate the will of man”⁷⁸ to the good. Without the active complement offered by the culture of mind, Bacon held, the theoretic-

⁷⁶ *Novum organum* (OFB XI 64-65).

⁷⁷ Morrison, “Philosophy and History in Bacon,” 597.

⁷⁸ *Advancement of Learning* (OFB IV 135); *De augmentis scientiarum*, book 7, chapter 3 is devoted to the culture of the mind (SEH I 715). The “culture of the mind” is also called “georgics of the mind.” Thus it is plain, I suggest, that in Bacon’s architectonic of learning, the ethical commitment of the “culture of the mind” is directly linked with civil history and not with natural history.

cal doctrine of good and evil would be like a statue, which, though beautiful, is deprived of life and motion.⁷⁹

In explicit parallel to medicine and husbandry, Bacon maintained that the culture of the mind embraces three “articles”: the knowledge of the “characters & tempers of mens Natures and dispositions”;⁸⁰ the knowledge of the “perturbations and distempers of the affections” (that is, the illnesses of the mind);⁸¹ and the prescription of remedies for them.⁸² A full knowledge of men’s characters is said to be required in order to discover the accurate medicines to cure specific diseases of the human mind. The wiser histories are judged to be the best suppliers of this knowledge, since their contributions excel by far the traditions of astrology and the depictions of poetry (the latter tending to exaggerate the real facts and to go away from truth). Particularly informative are those histories which place men’s dispositions in their wider context, paying attention not only to the “natural conditions” but also to gender, age, country, bodily condition, and also to the circumstances imposed by fortune. As notable examples of such useful histories Bacon outlined the works of Livius, Tacitus, Herodianus, and among the contemporaries, those of Comines and Guicciardini.⁸³

As for the study of the affections,⁸⁴ Bacon thought that “the poets and writers of histories are the best doctors of this knowledge.” They are said to furnish a lively and variegated image of how the affections operate and interact in different circumstances and with diverse intensities. He proposed a list of questions attempting to find out the hierarchy, balance, dynamics, powers and patterns for relationship among

⁷⁹ *De augmentis scientiarum* (SEH I 731). This image of the statue reappears in other critical contexts such as *Redargutio philosophiarum* (SEH III 579). See *Distributio operis* (OFB XI 12-13).

⁸⁰ *Advancement of Learning* (OFB IV 147); *De augmentis scientiarum* (SEH I 733).

⁸¹ *Advancement of Learning* (OFB IV 149-50); *De augmentis scientiarum* (SEH I 735).

⁸² *Advancement of Learning* (OFB IV 150); *De augmentis scientiarum* (SEH I 737). Each article is said to be equivalent to the study of the complexions, diseases and cures in medicine, respectively (OFB IV 149).

⁸³ *De augmentis scientiarum* (SEH I 733-34). This passage changes considerably the original exposition in the *Advancement of Learning* (OFB IV 146-48), where Bacon showed a less positive diagnosis of the contributions made by civil historians.

⁸⁴ As examples of “affections,” Bacon included pain, pleasure, anger, fear and hope. Broadly speaking, they could also be called “passions.”

the different affections.⁸⁵ Particular attention is given to the highly significant political implications of knowing and controlling the affections. In the writings of the poets and historians, lively descriptions of how the affections “do fighte and encounter one with another”⁸⁶ are to be found. This information is

of special use in Morall and Ciuile matters: howe I say to sett affection againste affection, and to Master one by another, even as wee use to hunt beast with beaste, and flye birde with birde, which otherwise percase wee coulde not so easily recover: upon which foundation is erected that excellent use of *Praemium* and *poena*. whereby Ciuile states Consist, imploring the predominante affections of *feare* and *hope*, for the suppressing and brideling the rest. For as in the gouernemente of states, it is sometimes necessarye to bridle one faction with another, so it is in the gouernemente within.⁸⁷

This account of the government of the affections displays striking similarities to Bacon’s approach of the “government” of motions in natural bodies. Simple motions of bodies are recorded by the Instances of Wrestling, which are concerned with

the ascendancy of virtues over each other or their submission to each other, and which of them is the stronger and gets the upper hand and which the weaker and goes under. For the motions and exertions of bodies are no less composed, decomposed and intermixed than the bodies themselves.⁸⁸

In order to investigate natures, man, being the “master of violent motions,”⁸⁹ is enabled to control the simple motions by an experimental “government” of bodies: “I call the government of motion when one body meeting another checks, repels, releases or directs the other’s spontaneous motion.”⁹⁰ While the affections of the human mind are a matter of self-government (although under surveillance of the political power), the simple motions of bodies are submitted to the external government of the scientist.

⁸⁵ *De augmentis scientiarum* (SEH I 736-37).

⁸⁶ *Advancement of Learning* (OFB IV 150); *De augmentis scientiarum* (SEH I 733).

⁸⁷ *Advancement of Learning* (OFB IV 150); *De augmentis scientiarum* (SEH I 733).

⁸⁸ *Novum organum* (OFB XI 383).

⁸⁹ *Ibid.*, 425.

⁹⁰ *Ibid.*, 435. Cf. the account of simple motions in *ibid.*, 382-417.

The parallels between ethics and natural philosophy are particularly striking in Bacon's approach to the mastery of the human passions. He accepted, albeit critically, the Aristotelian conception of virtues and vices as habits and assimilated the process of acquiring or removing mental habits to the introduction or elimination of properties in natural bodies. One of the instances which are said to reveal the consequences of "habits" on natural bodies presents an experimental case that Bacon analysed on several occasions in his writings on nature: if a stick is bent contrary to its "natural" direction, by custom and after a certain time, it will continue in the same position.⁹¹

Bacon exhorted to set precepts "for the wise ordering of the exercises of the mind, as well as of the body" and posited a sample list of them. Throughout the exposition of precepts, significant affinities with natural philosophy and natural history emerge once again. Some of their operative settings are traceable in the ways of experimentation prescribed in the *experientia literata*, a stage of the inquiry into nature which proceeds by eight ways of "extending or transferring or putting together former inventions."⁹²

⁹¹ *Advancement of Learning* (OFB IV 150-51); *De augmentis scientiarum* (SEH I 737). The instance of the bent stick appears in *Novum organum* (OFB XI 248-9; comparative table on heat, instance 36, *ibid.*, 424-25); and *Cogitationes de natura rerum* (SEH III 30). In *De augmentis scientiarum*, Bacon referred to the bent stick again, though in the contrary sense (SEH I 738). This time he relies on a comparison made by Aristotle in *Nicomachean Ethics* 2.9, 1109b 4-6: "We must drag ourselves away to the contrary extreme; for we shall get into the intermediate state by drawing well away from error, as people do in straightening sticks that are bent." I quote from Aristotle, *The Nicomachean Ethics*, trans. David Ross, rev. ed. with introduction and notes by Lesley Brown (Oxford, 2009), 36.

⁹² *De augmentis scientiarum* (SEH I 572; IV, 366). On the *experientia literata*, see *De augmentis scientiarum* (SEH I 622-33). The first mode appears at 624-6. For an account of the roles of *experientia literata*, see Weeks, "The Role of Mechanics in Bacon's Great Instauration," 162-73 and *passim*. I do not claim here that the reaching of ethical precepts is exactly in keeping with the phases prescribed for achieving axioms in the realm of natural philosophy. As we have seen, Bacon said almost nothing about the use of induction in human philosophy. Hence, I do not imply that *experientia literata* is envisaged as a phase leading to the achievement of ethical precepts. My point is just to note some bare coincidences between the sample precepts exhibited by Bacon and some modes of the *experientia literata*.

The first ethical precept refers to the diverse effects obtained from certain trials on different dispositions of the mind. The suggested procedure echoes the first way of experimentation established in the *experientia literata*, namely the “variation of experiments”:⁹³

The first [precept] shall be, that we beware we take not at first either a greater or a smaller task than the case requires. For if too great a burden be imposed, in a diffident nature you discourage; in a confident nature you breed an opinion, whereby a man promises himself more than he is able to perform, which produces sloth; and in these natures the trial [*experimentum*] will fail to satisfy the expectation.⁹⁴

The second precept, instead, seems to merge the variation of the experimental circumstances with the repetition of the experiment, echoing this time one member of the second way of experimentation of the *experientia literata*, namely the “production” of experiments, which is twofold, by repetition and by extension:⁹⁵ “The second precept shall be, that to practise any faculty by which a habit may be acquired, two several times should be observed; the one when the mind is best disposed, the other when it is worst disposed.”⁹⁶ The fourth precept invokes the possibility to change nature by an accurate regulation of custom. If custom is wisely and skilfully “induced,” it will produce “another nature” (*ut dicuntur, altera natura*), while if the custom is unskillfully commanded it will engender an *ape* of nature (*simia naturae*).⁹⁷ A similar idea is to be found in Bacon’s conception of art which envisages that the reformed natural philosophy will transform bodies and bring into being an alternative nature.⁹⁸

⁹³ *De augmentis scientiarum* (SEH I 624-26).

⁹⁴ *De augmentis scientiarum* (SEH I 738; V 25). Cf. *Advancement of Learning* (OFB IV 151).

⁹⁵ *De augmentis scientiarum* (SEH I 626-27).

⁹⁶ *Ibid.* (SEH I 738; V 25). See *Advancement of Learning* (OFB IV 152).

⁹⁷ *Advancement of Learning* (OFB IV 152); *De augmentis scientiarum* (SEH I 738).

⁹⁸ For this interpretation of Bacon’s conception of art, I rely on Sophie Weeks, “Francis Bacon and the Art-Nature Distinction,” *Ambix*, 54 (2007) 101-29. See, for instance, the following passage from Bacon’s *De interpretatione naturae sententiae xii* (SEH III 787): “Then at last as it were a second nature [*veluti altera Natura*] will establish its

The program of the culture of the mind establishes that a theoretical treatise which describes human characters grounded in the data provided by civil histories must be developed. Such a treatise is said to be as much indispensable for ethics as a treatise of complexions and constitutions is necessary for medicine, and a treatise of the diversity of grounds and moulds is required in agriculture.⁹⁹ Thus civil histories, such as, for instance, the *History of Henry VII*, must provide examples for developing a treatise of men's disposition on which ethical precepts are based. It is worth noting that medicine represents an exceptional case in the correlation natural history/natural philosophy and civil history/human philosophy. The particular place of medicine in the Baconian classification of science explains that exception. Medicine is introduced as a central part of the doctrine of body belonging to the philosophy of humanity. However, in stressing his ideal of the unity of the sciences, Bacon made it clear that if medicine is not founded on natural philosophy, it is a weak thing and "not much better than an Empeirical practize."¹⁰⁰ For that reason the historical basis of medicine is not provided by civil history but by natural history, as is expressly maintained throughout the preface of *Historia vitae et mortis*.¹⁰¹ Hence, a natural history, such as for instance *Historia vitae et mortis*, is enabled to furnish the material required for composing a treatise on bodily complexions from which medicine derives the cures for specific diseases. However, it seems that in this case Bacon did not intend that the natural historical basis should serve to reach natural causes, as is prescribed for the realm of natural philosophy. Since it deals with an inconstant and sundry subject matter, Bacon characterized medicine as a "conjectural art." As a result, medicine is impeded from achieving the higher generalizations envisaged as the inductive outcomes of physics and metaphysics, supported by the compilations supplied by natural

manifoldnesses whose wanderings are to be as marvels." I quote Weeks's translation ("Francis Bacon and the Art-Nature Distinction," 128). See *Parasceve* (OFB XI 455).

⁹⁹ *Advancement of Learning* (OFB IV 149); *De augmentis scientiarum* (SEH I 735).

¹⁰⁰ *Advancement of Learning* (OFB IV 93); *De augmentis scientiarum* (SEH I 580; 590; 598).

¹⁰¹ *Historia vitae et mortis* (OFB XII 144-49). On the epistemological status of medicine in Bacon, see Stephen Penders, "Examples and experience: On the uncertainty of medicine," *British Journal for the History of Science*, 39 (2006), 1-28 (20-23).

histories. What medicine, like ethics, is allowed to achieve are precepts which should suit patients of diverse conditions. The wide variability of human nature, concerning body as well as soul, obliterates the possibility to even attempt higher generalizations. It seems that Bacon thought of medical, ethical and civil precepts as less general than natural causes.¹⁰²

The same goes for the practical derivations of histories of lives in the field of “negotiation,” a subsection of civil philosophy where, as in the other subsections, particular examples from civil histories are scattered again and again throughout Bacon’s exposition. This is apparent, for instance, in Bacon’s suggestions on the best way to derive precepts for actions regarding civil negotiation. They are said to be found in the epistolary genre exemplified by the masterpieces of Cicero. Epistles, Bacon added, are more able to lively represent human negotiations and, therefore, more effective for transplanting them into future actions.¹⁰³ A good application of civil history demands that one bear in mind the particularities of the cases to which the precepts (observations, discourses) are directed. It would be a mistake to allot precepts without paying attention to the particularities of each event. That would imitate the bad practices of the “empirics,” who give the same medicines to all patients of every constitution.¹⁰⁴

For that reason Bacon praised, once again, Machiavelli’s histories as a model. The value of the Machiavellian narrative lies, Bacon implied, in the “form of writing” consisting in the construction of “discourse upon histories or examples.”¹⁰⁵ Bacon outlined two aspects which make this strategy fitter for the practical uses of civil history. On the one hand, it provides knowledge out of particulars and, consequently, it knows better how to apply it to particular real cases. On the other hand, the historical discourse is grounded on examples inserted in histories which offer an account of their circumstances. As a result, the discourse becomes mended or even supplemented by specific circumstances and

¹⁰²⁾ Bacon seems to be resistant to holding practical generalizations in matters of ethics and civil philosophy. See Ian Box, “Bacon’s Moral Philosophy,” in *The Cambridge Companion to Bacon*, 260-83 (274).

¹⁰³⁾ *Advancement of Learning* (OFB IV 162-3); *De augmentis scientiarum* (SEH I 769).

¹⁰⁴⁾ *Ibid.*, 437; 735.

¹⁰⁵⁾ *Ibid.*, 453; 769.

turns to be “a very pattern for action.”¹⁰⁶ In sum, Bacon’s approach to civil history and its resemblances with natural history reveal the commitment of histories to the operative aims of the different branches of human philosophy and of natural philosophy.

7. Conclusion

Bacon defined the goals, subject matters and methods of natural history and civil history and offered a diagnosis of the state of the different categories of history. Consistently, natural history received far more straightforward and detailed treatment. Civil history, by contrast, lacks a fully developed methodology and its logical relation to human philosophy remains obscure and undefined. It may be that Bacon thought his ideas about civil history were too conventional and, consequently, that it was not necessary to articulate them meticulously. In fact, his historiographic approach is scarcely original and agrees with the main strands of the Renaissance English theory of history. Literary history represents the exception to this rule. Not only is it placed among Bacon’s *desiderata* but its subject matter, method and use are thoroughly declared.¹⁰⁷ As for the other categories of civil history, it seems that Bacon primarily focused his efforts on writing better histories rather than on suggesting substantial theoretical changes.

In light of this, the contrast to the natural history programme becomes plain. Bacon seems to have been fully convinced that he was renovating a very ancient practice and was advocating a transformation again and again. In order to achieve this transformation of natural history he lavished his efforts on a painstaking description of its guiding precepts, in order to produce for posterity specimens of accurate natural histories and to delineate the machinery of its logical relation to natural philosophy.

Notwithstanding those contrasts, natural history and civil history rest on a similar programme which unifies them as serving an active common purpose. As is well known, Bacon’s idea of knowledge puts

¹⁰⁶ Ibid.

¹⁰⁷ *De augmentis scientiarum* (SEH I 502-04). Tinkler, “Bacon and History,” 233; Zagorin, *Francis Bacon*, 208-11.

together the theoretical and practical sides of science, in an attempt to lead knowledge to effective action.¹⁰⁸ The operative aims of knowledge lying at the heart of Bacon's programme impregnate civil history and natural history with common patterns. Causes (axioms) and precepts as speculative outcomes derived from inductive generalizations are consequently used to enable effective action in order to alter the state of nature and man respectively. Precepts, apparently, are thought to be less general propositions than causes. Operative rules are the ultimate goals of both civil and natural history, in which human and natural philosophy are grounded.

¹⁰⁸) Jardine, *Francis Bacon: Discovery and the Art of Discourse*, 98.