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SCIENTIA POTESTAS EST – KNOWLEDGE IS POWER:
FRANCIS BACON TO MICHEL FOUCAULT

The now-famous equation, “knowledge is power” (“scientia potestas est”), was coined by Francis Bacon in 1597. Since then it has been rephrased in a wide variety of contexts from Thomas Hobbes to Michel Foucault. In recent years, this elusive topos has in fact proved essential to the poststructuralist critique of the humanist subject. Acknowledging the impossibility of doing justice, in this essay, to the complexities of Bacon’s and the poststructuralists’ respective articulations of knowledge and power, I will focus primarily on a selection of significant aphorisms that encapsulate Bacon’s main ideas on science and the state. In the second half of the essay I also assess Michel Foucault’s immensely influential “knowledge/power” (“pouvoir/savoir”) binomial. Both Bacon’s and Foucault’s ideas will be filtered through Pierre Bourdieu’s restatement of hierarchically organized structures of knowledge and power. In the last few pages I bring into my discussion Foucault’s later writings on ethics and disciplinarity – the so-called “final Foucault” or “1980s Foucault” – which allow the self both a greater degree of freedom and larger room for maneuver in organizing its resistance to the coercion of dominant powers. Whereas Foucault moves from his earlier suspicion of public forms of learning and their attending institutions (e.g., existing hierarchies, discursive conventions) to an instrumental appropriation by the self of that learning for the purposes of self-cultivation, both Bacon and Bourdieu seem to agree that power and knowledge are most clearly seen in the creation and self-reproduction of a professional class of experts in science and communication whose main interest is to keep control over official institutions of learning.

Anyone who approaches Bacon from the standpoint of cultural studies must confront the following distinction: Bacon’s unrealized reform projects consisted in institutionalizing the new experimental learning, in endowing the emergent class of experimental scientists with the means and the authority requisite to become the ruling state power. In contrast with Bacon’s position, poststructuralist thinkers as diverse as Louis Althusser, Michel Foucault, and Pierre Bourdieu have struggled to dissociate the production of new knowledge from the apparatuses of the modern state, to release the subversive dimension inherent in any new cultural formation. The poststructuralists

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have cast doubt on the Baconian notion that the most charitable society would be the one ruled by a well-organized community of technocrats who tested their knowledge empirically and acted on the utilitarian principle of procuring the greatest good for the greatest number of people. According to the poststructuralists, for the modern state to survive as a central, self-reproducing power, it has to develop a series of mechanisms of control that prevent individual subjects from exercising their freedom of choice, or even their intellectual freedom. Unlike the proponents of this modern critique, Bacon was not suspicious of the machinery of the state; on the contrary, he was interested precisely in having a new class of scientists promoted to high executive positions within established institutions.

To proceed, then, with my main quotation: “[K]nowledge itself is power” [Lat. *ipsa scientia potestas est*] (*Meditationes Sacrae* [1597; *Works* 14.95; 79]).¹ Throughout Bacon’s works, this aphorism can take on any of the following three meanings:

1. “Knowledge” designates first of all the experimentally based study and manipulation of the causes and effects of natural phenomena. According to Bacon, the successful development of these manipulative techniques should eventually enable humanity to free itself from the tyranny of physical affliction and necessity. This notion can be studied in three *loci classici* (1.1, 1.2, 1.3).

1.1. In the four-page Preface for an unwritten treatise to be entitled *Of the Interpretation of Nature* (*De Interpretatione Naturae Proœmium* [1603; pub. 1734]), Bacon claims that the “dignity [of knowledge] is maintained by works of utility and power” [Lat. *dignitas scientiae utilitatibus et operibus munitur*] (*Letters and Life* 3.86; *Works* 6.448).

1.2. In the *New Atlantis* (c. 1623; pub. 1627), which deals with the utopian kingdom of Bensalem, one of the Bensalemite scientists initiates the European narrator on the principles of the new science with these words:

The End of our Foundation is the knowledge of Causes, and secret motions of things; and the enlarging of the bounds of Human Empire, to the effecting of all things possible (*Works* 5.398).

Here the word “empire” denotes the emancipation of humankind from the constraints of material necessity rather than a long-term situation of colonial exploitation.

1.3. In the English-language *Valerius Terminus of the Interpretation of Nature* (1603; pub. 1734), written concurrently with the Latin Preface discussed in 1.1,

¹ Citations from Bacon’s major treatises are taken from *The Works of Francis Bacon*, ed. James Spedding et al., 15 vols. (Boston: Brown, 1860–1864), and are indicated parenthetically by volume and page number at the end of each quotation or paraphrase. References to Bacon’s letters and miscellaneous papers will be to *The Letters and the Life of Francis Bacon Including All His Occasional Works*, ed. James Spedding, 7 vols. (London: Longmans, 1861–1874). Unless otherwise indicated, references to the English translation of Bacon’s posthumously published Latin opuscles will be to Benjamin Farrington, *The Philosophy of Francis Bacon: An Essay on Its Development from 1603 to 1609 with New Translations of Fundamental Texts* (Chicago: Univ. of Chicago Press, 1966).

Bacon claims that humankind has always enjoyed the “sovereignty of all inferior creatures”, and therefore any kind of knowledge that contributes to increasing the human “power and dominion” over nature is legitimate so long as it is immediately “referred to use and action” rather than “contemplation” (*Works* 6.28–29). As Hans Blumenberg writes, in Bacon

a concept of human happiness appeared that separated theory from existential fulfillment by reducing the necessary knowledge to the amount fixed by the requirements of domination over natural reality.²

For his part, Marxist historian Christopher Hill considers Bacon the single most important catalyst in the appearance, in seventeenth-century Protestant England, of an intellectual climate that favored individual interpretation over tradition, experimentation over abstract thought, and meritocratic principles over aristocratic ones.³

2. The second implication of claiming that “knowledge is power” is that those whose main skill is their expertise in practical matters are better fitted for, and also more deserving of, holding executive offices than is the aristocracy of blood. The possession of this intellectual capital justifies the social promotion and political empowerment of a new class of experimental scientists – it authorizes the creation of what sociologists of science like Blumenberg call an *epistemocracy*. I also furnish three quotations illustrating this point (2.1, 2.2, 2.3).

2.1. In *Thoughts and Conclusions (Cogitata et Visa* [1607; pub. 1653]) Bacon writes that the ancients “accord[ed] divine honors [*divinos honores*] to inventors”, while on exemplary rulers, founders of cities, and liberators “the style of Heroes only [*heroum modum intra honores*] was conferred” (Farrington 91; *Works* 7.127).

2.2. In his most popular English treatise, *The Advancement of Learning* (1605), he asks King James I to support the “persons of the learned” by establishing a system of “reward and designation of writers and inquirers concerning any parts of learning not sufficiently laboured and prosecuted” (*Works* 6.174). While Bacon does not eliminate social hierarchies, he does propose a government and reward system based on merit (which takes into account the individual’s ability to carry out socially meaningful actions) rather than one based on tradition and precedent (which takes into account the individual’s family history). This innovative plan of reform had been adumbrated in the times of Henry VIII, who promoted several gentlemen-lawyers to some of the highest government posts, including Bacon’s own father (Sir Nicholas) and uncle (William Cecil).

2.3. But Bacon goes one step further than his kinsmen in arguing, as he does in the *New Atlantis*, for transferring the prerogatives of legislation and administration from

² Blumenberg, *The Legitimacy of the Modern Age*, trans. Robert M. Wallace (Cambridge: MIT Press, 1982; German ed. 1966) 239. See also Stephen Collins, *From Divine Cosmos to Sovereign State: An Intellectual History of Consciousness and the Idea of Order in Renaissance England* (New York: Oxford Univ. Press, 1989) 143–148.

³ Hill, *Intellectual Origins of the English Revolution*, rev. ed. (Oxford: Clarendon Press, 1980; 1st ed. 1965) 69–74, 85–130, 266–291.

the monarch and Parliament to a college-educated elite whose members have been selected on the sole basis of their intellectual promise. In the utopian island of Bensalem, a shift takes place from a brand of enlightened despotism based on a king's personal rule to another equally despotic regime represented by the scientific order of the Fathers of Salomon's House. Yet Bacon does not question the intrinsic advantages of absolutist regimes, as when, in *Valerius Terminus*, he advocates a centralized and strongly hierarchized administration of learning modelled on the network of imperial councils implemented by Philip II of Spain:

an administration of knowledge in some such order and policy as the king of Spain of his great dominions useth in state; who though he hath particular councils for several countries and affairs, yet hath one council of State or last resort, that receives the advertisements and certificates of all the rest (*Works* 6.46).

3. "Knowledge is power" has a third important implication: the selective inculcation of knowledge can be used as a set of disciplinary technologies. Among poststructuralist thinkers, the idea that knowledge tames the minds of the dominated classes in much the same way as carceral and in general punitive power tame their bodies has been most strongly advocated by Louis Althusser, Michel Foucault, and Pierre Bourdieu.⁴ Power is here understood as a set of technologies and strategies of day-to-day practice and speech that operate by means other than inflicting physical violence on the bodies of the dominated or imposing interdictions on their thoughts and utterances. This repressive hypothesis is substantiated, for example, in passages 3.1 and 3.2.

3.1. Bacon refers to the new nonpunitive disciplinary process as "the human medicine of the Mind". His most extended statement on philosophical "doctoring" – as he alternately calls it – occurs in the Second Book of *The Advancement of Learning*, in the context of an exposition of "the part of moral philosophy, concerning the Culture or Regiment of the Mind". After complaining that Aristotle said very little about psychology in his writings on ethics, Bacon undertakes to present a brief "inquiry touching the affections". Specifically, he offers a taxonomy of "receipts and regiments" that anyone can use "to recover or preserve the health and good estate of the mind". These "receipts", Bacon goes on, are "within our command", and include all the progressive ways of exercising "force and operation upon the mind to affect the will and appetite and to alter manners", such as "*custom, exercise, habit, education, example, imitation, emulation, company, friends, praise, reproof, exhortation, fame, laws, books, studies*" (*Works* 6.238; emphasis in the original). In other words, Bacon's disciplinary ethics spans all fields of learning and training.

3.2. In fact, the disciplinary process to which Bacon would like to subject all prospective scientists in *The Advancement of Learning*, in 1605, is patterned after the series of self-constraints he recommended to Lord Essex in the letter of advice of

⁴ Althusser, "Ideology and Ideological State Apparatuses (Notes towards an Investigation)", in *Lenin and Philosophy*, trans. Ben Brewster (New York: Monthly Review, 1971) 127–186. For Foucault and Bourdieu, see relevant texts and references below.

1599, urging him to call off his projected expedition to Ireland. In the letter, Bacon explains to his disciple and patron that “being no man of war, and ignorant in the particulars of State”, he nevertheless has “had the honour of knowing [his] Lordship inwardly”, enough to understand Essex’s need of “a waking censor ... a blessed physician” (*Letters and Life* 2.132). The “waking censor” and the “blessed physician” of that private document resurface in the *Advancement* as the just mentioned “human medicine of the Mind”. If the scientist is not to suffer the same fate as the warlike aristocrat (who, like Essex, turns successively into an erratic explorer, a failed conqueror, and a rebel), he must continually seek counsel and subject himself to disciplinary technologies.⁵

Now for Pierre Bourdieu the technologies of education thus far described are emphatically symbolic and for the most part discursive. They are also consciously exercised through a hierarchically descending communicative system, while for Foucault they are primarily day-to-day private interactions (e.g., familial, sexual, occupational) that involve the mechanical use of bodies and minds. The two authors agree on the omnipresence of power in the domain of human experience. However, only for the earlier Foucault are power relations *prior* and *exterior* to all other relationships (economic, cultural, and so on), even if they too have only a discursive existence through those other relationships, which for him constitute our very reality.⁶

Perhaps the most articulate formulation of the “power/knowledge” relation in the early Foucault appears in *Discipline and Punish* (1975), where he writes:

power produces knowledge (and not simply by encouraging it because it serves power or by applying it because it is useful) ... power and knowledge directly imply one another ... there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations.⁷

Because this is a two-way relationship that is constantly in flux (power producing knowledge and vice versa), it is at this point difficult for Foucault to decide which comes first, the chicken or the egg. On the same page, Foucault goes on to add that the ever-changing degree of freedom of the “subject of knowledge” should be considered less important, in analyzing “power/knowledge relations”, than “the objects to be known and the modalities of knowledge” available to the subject (Foucault

⁵ For a thorough discussion of Bacon’s argument for disciplining both the new political subject and the new scientist, see José María Rodríguez García, “Bacon, Essex, and Discipline”, *Miscelánea: A Journal of English and American Studies* 17 (1996): 227–239.

⁶ One of the most serious attempts to date to interpret the social and political dimensions of modern experimental science from a Foucauldian perspective appears in Joseph Rouse, *Knowledge and Power: Toward a Political Philosophy of Science* (Ithaca: Cornell Univ. Press, 1987) 209–226. Despite its suggestive title, Rouse’s study does not engage the work of Bacon or any other seventeenth-century philosopher of science, but rather takes as its starting point the institutionalization of laboratory science in the late eighteenth century.

⁷ Foucault, *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan (New York: Pantheon, 1978; French ed. 1975) 27.

1978, 27–28). The implicit corollary of this statement is that one must be free to know, but this very knowing also defines one's freedom.

Foucault claims that historical investigations of the “system of Law-and-Sovereign” do not further our understanding of the dynamics of power. In the first volume of *The History of Sexuality* (1976), he goes so far as to encourage students of power dynamics to “do without the persona of the Prince” altogether.⁸ This could be construed as saying, literally, that one should not take too seriously James I's or Elizabeth I's self-representations in trying to ascertain where power originates and in what direction it circulates. By contrast to Foucault's writings of the 1970s, Bourdieu contends that power exercised symbolically from above is the most significant and the most difficult to oppose, because through its ritual display in such institutional sites as the royal court, the military, or the university it brings into existence the realities that it represents. Interestingly, although Bourdieu does not make reference to any Elizabethan or Jacobean personage in his major writings, the American edition of *Language and Symbolic Power* features on its front cover an engraving of James I engaging in the ritual act of opening parliament in the year 1625. The first Stuart king of England appears sitting on his throne, elevated on a podium, around which are gathered the main officials of the realm: the High Anglican bishops, the Lord Chancellor, and the Lord Keeper, among others. The Members of Parliament and several other government official are depicted through a series of concentric semicircles, the center itself being occupied by James's throne, as if to signify successive stages of political and spiritual subordination. The artist has manipulated the viewer's perspective, focusing on James from a high point, so as to allow the king to appear, physically speaking, in a higher position than he actually is according to English law. As a piece of propaganda, the engraving seeks to remove James from the sphere of contingent affairs, causing him to appear in an unreachable loftier plane.⁹

How can this pictorial manipulation be brought to bear on the articulation of symbolic power? Legitimate symbolic power in the early modern period was eminently performative. Contrary to the observer's discourse, symbolic power does not simply record a preexisting reality (James on his podium), but rather produces a socially recognizable image that presents the same reality as it *should* be perceived (James in an even higher position than that allowed by custom and law). Bourdieu considers symbolic power a characteristic form of subjection in disguise, so to speak, that corresponds roughly to what Louis Montrose has called, with reference to the vogue of pastoral entertainments at Elizabeth's court, a “pastoral of power”¹⁰:

⁸ Foucault, *The History of Sexuality*, vol. 1: *An Introduction*, trans. Robert Hurley (New York: Pantheon, 1978; French ed. 1976) 97.

⁹ Contrast Foucault, “Two Lectures [1976]”, trans. Colin Gordon, in *Power/Knowledge: Selected Interviews and Other Writings, 1972–1977*, ed. Colin Gordon (New York: Pantheon, 1981): “rather than ask ourselves how the sovereign appears to us in his lofty isolation, we should try to discover how is it that subjects are gradually, progressively, really and materially constituted through a multiplicity of organisms, forces, energies, materials, desires, thoughts etc.” (97).

¹⁰ See Montrose, “‘Eliza, Queene of Shepheardes’ and the Pastoral of Power”, *English Literary*

in a state of the field in which power is visible everywhere, while in previous ages people refused to recognize it even where it was staring them in the face, it is perhaps useful to remember that, without turning power into ‘a circle whose center is everywhere and nowhere’ ... we have to be able to discover it in places where it is least visible, where it is most completely misrecognized, [for example, in the] body of specialists competing for the monopoly of legitimate cultural production.¹¹

Bourdieu gives prominence to the chain of command originating in the centers of power and reaching down to the lowest strata of society. Although he concedes that power relations may be transformed and even successfully opposed along the way, the poststructuralist concept of a decentered political field seems to him untenable for a number of reasons: first, power is primarily exercised from above, in a hierarchically descending order which is nowhere more apparent than in public displays of power; second, in this public space rites of institution and domination are reproduced through day-to-day practices and utterances, thus producing in turn a history of submission among the dominated classes, which in its internalized form Bourdieu calls their “*habitus*” (the equivalent of Foucault’s “disciplined bodies”)¹²; third, in all societies there is a space where “critical” or “heretical discourse” exists in hibernation, waiting for a “situation of crisis” in which it can be articulated performatively and quickly acquire legitimation in ever expanding spaces; and fourth, since “heretical discourse” in its pure form lacks consensual legitimacy, when transferred to the public domain for communicative purposes it tends to take on features of the dominant discourses. The following quotation from the programmatic “On Symbolic Power” (the cornerstone of *Language and Symbolic Power*) summarizes Bourdieu’s position regarding symbolic and agentive practices:

Renaissance 10 (1980): 153–182; “Of Gentlemen and Shepherds: The Politics of Elizabethan Pastoral Form”, *ELH* 50 (1983): 415–459.

¹¹ Bourdieu, *Language and Symbolic Power*, trans. Gino Raymond and Matthew Adamson, ed. John B. Thompson (Cambridge: Harvard Univ. Press, 1991) 163, 165. This turn of phrase, “a circle whose center is everywhere and nowhere”, suggests that Bourdieu may well be addressing explicitly a recurrent argument in Foucault, namely, that power is never precisely localized. Indeed a characteristic feature of Bourdieu’s analysis of the social space is his reliance on the vocabulary of “agency”, “militancy”, and “delegation”, three broad categories of modern social and political theory that Foucault has marginalized from his discourse.

¹² Bourdieu defines “*habitus*” as “a system of dispositions common to all products of the same conditionings” in *The Logic of Practice*, trans. Richard Nice (Stanford: Stanford Univ. Press, 1990) 59. In his pathbreaking *Legitimation Crisis*, trans. Thomas McCarthy (Boston: Beacon, 1973), Jürgen Habermas explained how, in late capitalist societies, the inculcation of “normative expectations” (Bourdieu’s *habitus*) prevented the individual subject from grounding his understanding of larger social realities in his own subjective reason: “cognitions [are transformed] into statements, needs and feelings into normative expectations (precepts and values). This transformation produces the distinction, rich in consequences, between the subjectivity of opinion, wanting, pleasure and pain, on the one hand, and the utterances and thoughts that appear with a claim to generality [*Allgemeinheitsanspruch*] on the other. Both insure the community of shared meaning [*Gemeinsamkeit*] that is constitutive for the socio-cultural life-world” (10; emphasis in the original).

It is as structured and structuring instruments of communication and knowledge that symbolic systems fulfil their political function, as instruments which help to ensure that one class dominates another (symbolic violence) by bringing their own distinctive power to bear on the relations of power which underlie them and thus by contributing ... to the domestication of the dominated.¹³

Like Foucault, Bourdieu argues for the correlative constitution of power and knowledge, which always stand in a relation of mutual presupposition, structuring and being structured by one another. Unlike Foucault, however, Bourdieu has consistently connected this dialectics to specific class frictions and to specific histories of domination and emancipation. Power, then, is not the same thing for the two authors. The implicit moral denunciation of power in Bourdieu, given its eminently repressive character, is downplayed in Foucault by the latter's recognition of power's unpredictable directionality.

This summary comparison is meant, therefore, as a warning against the indiscriminate use of Foucault's power/knowledge relation to explain the negotiations of power between the dominant groups and the dominated ones in early modern political systems. What makes Foucault's early theorizations difficult to apply to the nonparticipatory regimes of Elizabeth Tudor and especially James I is precisely Foucault's unwillingness to cast his dialectics in the form of class and group conflicts. This is his main difference with Bourdieu, whose thinking on what he calls "heretical discourses" at times converges with the findings of historians like Christopher Hill and Ivan Roots, who have long argued for the key role played by alienated intellectuals in precipitating the outbreak of the English Revolution. Hill and Roots have paid special attention to the hydra-headed identity both of Puritan saints and of disaffected scholars and government officials who, because of their liminal yet cultured status, could claim simultaneous membership in two or more conflicting intellectual and political groups.¹⁴

By no means an orthodox Marxist, Bourdieu has nevertheless focused, as a political sociologist, on the negotiations and frictions between the classes, and, as a field-work anthropologist, on the circulation of power in traditional societies. Accordingly, he has maintained that the dominated classes' intense exposure to symbols of power predisposes them to see a semantic and logical correspondence that really does not

¹³ Bourdieu, *Language and Symbolic Power* 129–130, 168. The longer quotation is from page 167. Foucault's *The History of Sexuality*, vol. 1: *An Introduction* challenges the public/private and dominant/dominated oppositions favored by Bourdieu, who presents them dialectically.

¹⁴ Roots, "Interest – Public, Private and Communal," in *The English Civil War and After, 1642–1658*, ed. R. H. Parry (Berkeley: Univ. of California Press, 1970) 111–122. Hill exemplifies this multiple membership with the shifting careers of Walter Raleigh, Edward Coke, and Francis Bacon (287–291). Also pertinent to this argument are Michael Walzer's discussion of the discontented intellectual elites at the turn of the sixteenth-century (*The Revolution of the Saints: A Study in the Origins of Radical Politics* [Cambridge: Harvard Univ. Press, 1965] 12–21) and Stephen Greenblatt's remarks on dissimulation a propos of Thomas More (*Renaissance Self-Fashioning: From More to Shakespeare* [Chicago: Univ. of Chicago Press, 1980] 11–15, 30–34).

exist between “the oppositions constitutive of a specialized field and the field of social classes”. Besides studying how power is legitimated and reproduced by concrete actions carried out by the “dominant class fractions”, Bourdieu has investigated how the “legitimacy” of this domination may be challenged and eventually altered by an opposing class (the “dominated fraction,” often construed as “heretical” by the dominant one) and its corresponding ideological program. The heretical class fractions, like the dominant class fractions, rely for the advancement of their respective agendas on a mercenary group of experts who have mastered the discourses congenial to the mutually opposing fractions immersed in the class struggle. The protean expert can decide which class he is going to serve and what rewards he expects to get in return.

For Bourdieu the discourses and practices of the intellectual minority of experts exploit the possibility of changing the social world by changing first the representation of that world: they oppose “a paradoxical pre-vision, a utopia, a project or programme, to the ordinary vision which apprehends the social world as a natural world”.¹⁵ To be sure, Bacon conceived his well-known utopian fiction, the *New Atlantis*, as a vehicle for representing two different versions of his own Elizabethan–Jacobean world. These versions include, on the one hand, the picture of an ideal community of scientists, represented by Bensalem’s Fathers of Salomon’s House, who have integrated an experimental method with a Christian eschatology, and, on the other hand, a community of Aristotelian scientists represented in the text by the crew of stranded mariners whose learning proves ineffective in their dealings with natural disasters such as the storm that causes their landing at Bensalem. By means of a pattern of conversion, that is, by means of select ritual technologies displayed in a public context, the European mariners embrace the new experimental science of Bensalem while still preserving their Christian faith.

The *New Atlantis* illustrates, like no other early modern English work, one of Bourdieu’s main points in *Language and Symbolic Power*: the notion that scientific utopias and millennial prophecies are performative utterances that announce and rehearse in a narrative sequence every step of a projected reform, “making [this reform] conceivable and above all credible, and thus creating the collective representation and will which will contribute to the production of the reality that [they] announce” (see footnote 15). What sets prophecies and serious utopian fiction apart from other types of early modern narrative is their employment of a preexisting pattern of conversion and the adoption of a perspective and a voice that allow the narrator to speak in the name of an unmovable and ineffable authority. The two contending authorities represented in the *New Atlantis* are specifically designated as the Christian God of Protestant theology (the religious authority) and the world of nature, considered as a series of cataclysmic phenomena which can be studied only empirically (the scientific authority).

For Bacon, those who have a good command of both the religious and the scientific discourses of their time and place are in an enviable position to act as intermedi-

¹⁵ Bourdieu, *Language and Symbolic Power* 128.

aries between the advocates and the critics of science. They are in a position, moreover, to transform the expectations of each fraction and to encourage their respective members to reach a common ground, to have them desire a new *consensus fidelium* that posits the existence of a materialist view of nature within the epistemological paradigm of Christianity. It is this epistemic versatility that makes the class of intermediaries an indispensable vehicle for maintaining a constant communication between scientists and nonscientists. It is also this versatility that enables the displacement of the practical exercise of power from the principal offices of the state (the monarch, the government officials, and so on) to the class of experts and intermediaries working within institutions of learning whose functioning is never fully understood by the nonexperts.

In his longer treatises, written between 1605 and 1620, Bacon is especially concerned with the expert who has sided with the dominant class fractions, identifying this expert with himself and the dominant group with the court of James I, to whom the treatises are addressed. This a major departure from the earlier, posthumously published opuscles, cast in the form of pseudo-autobiographical essays, in which Bacon variously represents himself as an agitator, a heresiarch, and a teacher.¹⁶ In the opuscles, the teacher of the new experimental science imparts his wisdom privately, resorting to the language of homosocial relations and even homoerotic desire to situate his proposed educational reforms and the transmission of the new science outside the very institutions he aims to dislodge. An important image used to promote this argument is that of the love of a fatherly philosopher for his adopted son – his disciple.¹⁷

In his essays and interviews of the 1980s, Foucault characterizes the “pedagogical institutions” in terms that correct his earlier categorization of those institutions as mere instruments of domination. This is the case with the interview conducted by H. Becker, R. Fornet-Betancour, and A. Gomez-Miller in 1984:

I see nothing wrong in the practice of a person who, knowing more than others in a specific game of truth, tells those others what to do, teaches them, and transmits knowledge and techniques to them. The problem in such practices where power – which is not in itself a bad thing – must inevitably come into play is knowing how to avoid the kind of domination effects where a kid is subjected to the arbitrary and unnecessary authority of a teacher, or a student put under the thumb of a professor who abuses his authority. I believe that this problem must be framed in terms of rules of law, rational techniques and *ethos*, practices of the self and of freedom.¹⁸

¹⁶ For a comparison of the respective rhetorics employed in the two groups of works, see José María Rodríguez García, “Francis Bacon and Jacobean Legitimation”, *Revista Alicantina de Estudios Ingleses* 10 (1997): 163–181.

¹⁷ See José María Rodríguez García, “Solitude and Procreation in Francis Bacon’s Scientific Writings – The Spanish Connection”, *Comparative Literature Studies* 35 (1998): 278–300.

¹⁸ Foucault, “The Ethics of the Concern for Self as a Practice of Freedom”, in *Ethics: Subjectivity and Truth*, vol. 1 of *Essential Works of Foucault, 1954–1984*, ed. Paul Rabinow (New York: New Press, 1997) 298–299.

In the final Foucault, the earlier emphasis on the ubiquity and ineffability of power relations gives way to a more nuanced approach in which positions of power are localized in concrete individuals and places while remaining “mobile, reversible, and unstable,” and in which the relationship between the “self” [*soi*] and the objects of its knowledge is “not related to any social – or at least to any legal – institutional system.”¹⁹ In this new paradigm, the principal object of knowledge is no longer nature, society or the polity, but the interiority of the self, with its desires and renunciations. Foucault thus effects a shift in emphasis from a genealogy of power based on the individual’s relation to oppressive social sciences and practices to an ethics of the self based on the individual’s search for his own “mode of subjection” [*mode d’assujettissement*], that is, for “the way in which people are invited or incited to recognize their moral obligations.”²⁰ It is generally accepted that this shift is fully articulated in “The Subject and Power” (1982), where for the first time the “knowledge/power” equation is phrased in the language of subjecthood, personhood, and the affects at the same time as it is qualified by the will to “resistance” that the exercise of power often incites in the dominated. Power is defined in this late essay as “a way of acting upon an acting subject or acting subjects by virtue of their acting or their being capable of action”. The subjecting entity becomes an agent of power while the subjected entity becomes an agent of resistance, and each is “recognized and maintained to the very end as a person who acts”.²¹

The key obstacle preventing the subject’s greater mobility and responsibility is “disciplinarity”, which the final Foucault understands, as he sees it already in Bacon and the French Enlightenment, as the compartmentalization of knowledge into separate fields, each with its own method and institutional organization.²² Power and knowledge become conflated in the self-enclosed worlds of disciplinary institutions. By working within certain discursive and institutional constraints, the subject internalizes divisions and hierarchies that may lead him to confuse what happens in phenomenal reality with how this event is presented in discourse. I will illustrate this point with the example I used earlier of Bacon asking Essex to renounce one side of his identity (his feudal claims to absolute autonomy) in favor of another (his legal

¹⁹ Foucault, “On the Genealogy of Ethics: An Overview of Work in Progress (Interview with Paul Rabinow and Hubert Dreyfus [1983])”, in *Ethics: Subjectivity and Truth* 255.

²⁰ The quotation is from Foucault, “On the Genealogy of Ethics: An Overview of Work in Progress” 264. For three brief accounts of the shift from power relations to the ethics of the self, see Paul Bové, *In the Wake of Theory* (Hanover: Univ. Press of New England, 1992) 141–157; Paul Veyne, “The Final Foucault and His Ethics”, trans. Catherine Porter and Arnold I. Davidson, *Critical Inquiry* 29 (1993): 1–9; Paul Rabinow, Introduction to *Ethics: Subjectivity and Truth* xi–xlii. For an incisive comparison of Foucault’s ethics of the self and Emmanuel Levinas’s ethics of alterity, see Angel G. Loureiro, *The Ethics of Autobiography: Replacing the Subject in Modern Spain* (Nashville: Vanderbilt Univ. Press, 2000) 5–15.

²¹ Foucault, “The Subject and Power [1982]”, in *Art after Modernism: Rethinking Representation*, ed. Brian Wallis (New York: New Museum of Contemporary Art, 1984) 427.

²² Foucault, “The Subject and Power” 425–426.

status as Queen Elizabeth's subject). The compartmentalization of Essex's political self is commensurate with Bacon's own exhortation to the scientist to regiment and compartmentalize his mind by means of methods and books. Yet because both political counseling and schoolteaching are nonviolent forms of coercion, they also allow for the possibility of resistance.

Foucault may have been aware that Bacon advocated the use of torture for the purposes of state security, and that his writings on legal and scientific matters show a correlation between the development of evidentiary methods of judicial inquiry and the development of inductive methods to interrogate and study nature empirically. Bacon seems to have participated in religious inquisitions as early as the end of 1596, when he was only a distinguished bencher of Gray's Inn and a minor yet learned advisor to Queen Elizabeth in cases of treason. For example, he took part in the interrogation under torture of the noted Jesuit priest John Gerard in 1597. This involvement became more regular under James I, who appointed Bacon Solicitor-General (1607), Clerk of the Star Chamber (1608), Attorney-General (1613), and Privy Councillor (1616), all four positions placing Bacon in direct contact with the inquisitorial procedures of the judiciary. This helps explain his continual resort to the language of physical violence in his personifications of nature as an uncooperative prisoner who has to be coerced into disclosing some long-kept secrets.²³ In *Discipline and Punish* (1975) Foucault makes his most significant mention of Bacon in connection with the Attorney-General's acquaintance with the inquisitorial means of coercion:

Another power, another knowledge. On the threshold of the classical age, Bacon, lawyer and statesman, tried to develop a methodology of investigation [*l'enquête*] for the empirical sciences. What Great Observer will produce the methodology of examination [*l'examen*] for the human sciences? For, although it is true that, in becoming a technique for the empirical sciences, the investigation has detached itself from the inquisitorial procedure, in which it was historically rooted, the examination has remained extremely close to the disciplinary power [*pouvoir disciplinaire*] that shaped it. It has always been and still is an intrinsic element of the disciplines.²⁴

²³ Three early and very significant instances of this imagery occur in the English-language *The Advancement of Learning* (1605), in the "Proteus" fable included in *Of the Wisdom of the Ancients* (*De Sapientia Veterum* [1609]), and in *The Refutation of Philosophies* (*Redargutio Philosophiarum* [1608]). The texts of these passages can be found, respectively, in *Works* 8.188; 13.17–19, 116–118; Farrington 130; *Letters and Life* 7.91–92. For three brief accounts of Bacon's writings on the judicial procedures to extort confessions and of his active participation in interrogations of prisoners under torture, see Kenneth William Cardwell, "Francis Bacon, Inquisitor", in *Francis Bacon's Legacy of Texts*, ed. William A. Sessions (New York: AMS, 1990) 275–280; Daniel R. Coquillette, *Francis Bacon* (Stanford: Stanford Univ. Press, 1992) 279, 325; Julian Martin, *Francis Bacon, the State, and the Reform of Natural Philosophy* (Cambridge: Cambridge Univ. Press, 1992) 80–83, 103–104. For a stimulating though at times erratic discussion of the tropes of "inquisition" in Foucault, and of the applicability of such constructs to the study of the Spanish Holy Office, see Geoffrey Galt Harpham, "So ... What Is Enlightenment? An Inquisition into Modernity?", in *Shadows of Ethics: Criticism and the Just Society* (Durham: Duke Univ. Press, 1999): 67–98.

²⁴ Foucault, *Discipline and Punish* 226. An earlier mention takes place in the course summary submitted to the Collège de France in 1972: "Penal Theories and Institutions", in *Ethics: Subjectiv-*

The triumph of disciplinary policies over punishments, like the triumph of experimental methods over syllogistic and philological methods, entails a reorganization of knowledge and the ensuing normalization of the expectations and the habits of conduct and thought of the student, who is never allowed to move beyond his allotted field of vision or to step outside the institution in which he works in order to adopt an external point of view, what Bourdieu variously calls a “sovereign viewpoint” and a “totalizing” picture of reality. Adopting an external and detached perspective on the ambit of day-to-day practice laid out around oneself constitutes, for Bourdieu as for Timothy J. Reiss and Charles Taylor, a first step in the project of breaking out of established disciplines and exploring the possibility that all new discourses have of bringing about social change.²⁵ This exploration is also a form of self-empowerment, both intellectual and political. For this reason, Foucault has repeatedly argued that the study of the academic disciplines is inextricably bound up with the study of power relations. Generally speaking, political issues (sovereignty vs. freedom, domination vs. oppression) bear strongly upon epistemological issues (how knowledge is produced by means of a method) and vice versa. As early as 1976 Foucault arrived at the conclusion that the dismantling of institutionalized disciplinarity, if it could ever be accomplished, would bring into being a new world of social relations:

If one wants to look for a non-disciplinary form of power, or rather, to struggle against disciplines and disciplinary power, it is not towards the ancient right of sovereignty that one should turn but towards the possibility of a new form of right, one which must indeed be anti-disciplinary.²⁶

To conclude: Bacon wished for the emergence of a class of experts in pedagogy and communication in seventeenth-century England that would act as power brokers in a society where hardly anyone would be capable of mastering all available discourses and epistemologies, much less of controlling them. The existence of one

ity and Truth 19. Foucault’s comment on Bacon can be read in conjunction with Max Horkheimer and Theodor W. Adorno’s even more hostile treatment of the Elizabethan philosopher as the distant precursor of the modern totalitarian state, which, by presenting scientific and technological research in the form of popular myths of human emancipation and self-empowering, places science in the service of the peaceful domination of one social class by another. See *Dialectic of Enlightenment*, trans. John Cumming (New York: Herder, 1972; German ed. 1944, 1947), esp. 3–7, 38–42. Perez Zagorin has eloquently defended Bacon against the demonization to which Foucauldians, feminists, and conservationists have subjected him in *Francis Bacon* (Princeton: Princeton Univ. Press, 1998) 120–123. One of the most satisfactory Foucauldian readings of Bacon, informed as well by Michel de Certeau’s work on historiography and alterity, appears in Denise Albanese’s pioneering work in early modern cultural studies, *New Science, New World* (Durham: Duke Univ. Press, 1996) 6–12, 92–120.

²⁵ Bourdieu, *The Logic of Practice* 27, 86; Reiss, “Campanella and Bacon: Concerning Structures of Mind”, in *The Discourse of Modernism* (Ithaca: Cornell Univ. Press, 1982) 181–190; Taylor, “Descartes’s Disengaged Reason”, in *Sources of the Self: The Making of the Modern Identity* (Cambridge: Harvard Univ. Press, 1989) 143–158.

²⁶ Foucault, “Two Lectures” 108.

such pre-Enlightenment class of experts, which has been amply documented, in their respective studies, by Christopher Hill (who calls its members “articulate spokesmen”) and Michael Walzer (who calls them “professional intellectuals”) lends credence to Bacon’s optimistic plans to create an epistemocracy supported by both monarch and Parliament, and charged with administering the capital yielded by the power/knowledge dialectics.²⁷ In the *New Atlantis* he represents this new class, the Fathers of Salomon’s House, as a social order created by King Solamona so that he can immediately transfer to them all his prerogatives and retire with his aristocratic court to the countryside. To be sure, there are sinister aspects to the change advocated by Bacon (the principal one being its absolute reliance on the controlling effects of disciplinarity), which the work of Foucault, Bourdieu, and several other theorists of discourse and institutions have helped us understand. But Bacon, who died in 1626, did not live to see the use that later generations would make of his doctrines, whether it was in advancing the cause of Puritanism or the cause of science with the establishment of the Royal Society at the Restoration, in 1662. Perhaps this is the main reason why Bacon lived his prophetic mission with undissimulated fervor, as do all heretical or contesting leaders before their programs succeed in dislodging older ones and become themselves institutionalized. Indeed, the unstable nature of emergent discourses ensures the circulation of new knowledge through many different institutional sites until it is appropriated and contained by a cohesive group of experts and the state power that the experts choose, or are forced, to serve. It is no surprise, I think, that the modern English philosopher who theorized for the first time on the work and purpose of the government of the learned should be someone like Bacon, who in fact knew very little about current research in the natural and mechanical sciences but a great deal about language and symbolic power.

²⁷ Hill, *Intellectual Origins* 87; Walzer, *The Revolution of the Saints* 20.