

Prospectus for the Aristotle Update

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In the Middle Ages, the authority of Aristotle (384-322 BC) was so great and pervasive that he was called simply “The Philosopher,” even by a thinker such as Thomas Aquinas, who might lay claim to as powerful a mind and who was aware that in his own era some elements of Aristotle’s thought—for example, his understanding or rather misunderstanding of motion—had been corrected. Dante calls Aristotle “the master of those who know,”¹ and in retrospect that signaled his vulnerability, for the modern age has been a series of revolts against masters. Still in the twentieth century, probably still today, the scientific revolution was characterized in textbooks as a rejection of the authority of Aristotle and the overthrow of his leading ideas based on systematic observation of nature and the use of mathematics to explain observed events. Nor was the rejection of Aristotle’s authority confined to the physical sciences. Wrote the Englishman Thomas Hobbes in the seventeenth century, when reading Aristotle was still central to a university education: “And I believe that scarce any thing can be more absurdly said in natural philosophy, than that which now is called *Aristotle’s Metaphysics*; nor more repugnant to government, than much that he hath said in his *Politics*; nor more ignorantly, than a great part of his *Ethics*” — though he confided to a friend his fondness for Aristotle’s *Art of Rhetoric* and in fact published an abbreviated English translation and used it as the basis of his own scientific method.²

¹ *Inferno* 4.131.

² *Leviathan*, ed. C.B. Macpherson (Harmondsworth: Penguin, 1968 [orig. 1651]), ch. 46, p. 687. Cf. John Aubrey, *Brief Lives*, ed. Richard Barber (London: The Folio Society, 1975 [orig. c. 1680]), p. 167; and Thomas Hobbes, *A Briefe of the Art of Rhetorique* (1637).

In the twentieth century, however, interest in Aristotle reawakened, not only in fields like politics and ethics, where the self-evidence of modern progress collapsed, or in philosophy, where the most profound minds turned to the origin of philosophy among the Greeks,³ but also in physics, where serious, quantum-trained physicists who have taken the time to study Aristotle argue that many of his concepts remain essential even to the modern understanding of nature and are sound on their own terms.⁴ All of this might be written off as coincidental or of interest only to scholars in the affected fields, except that Aristotle argues in favor of a complex unity in human knowledge, applying a common method to every field of learning he investigated or founded and drawing upon one field in his treatment of another. Hence this project: assessing where Aristotle has been received, where superseded, and where rejected in each of the fields of modern learning, as understood by experts in each of the fields but as explained by these experts to one another, that is, to those whose expertise is elsewhere and who are at best learned amateurs in fields besides their own. What can scholars glean about the role of Aristotelian thinking in their own field by understanding its influence in others? What can Aristotle still teach today—and are there fields where Aristotle has been decisively surpassed and where his continued influence would only impede further progress?⁵

In six ways, I think, Aristotle's way of thinking still accords with modern scholarship and modern science: His object of study, taken generally, is nature; he begins with observation; he proceeds methodically; he proceeds critically; he distinguishes the sciences

³ See, e.g., Theodore Kisiel, *The Genesis of Heidegger's Being and Time* (Berkeley: University of California Press, 1993), ch. 5-6.

⁴ See Anthony Rizzi, *The Science Before Science: A Guide to Thinking in the 21st Century* (Baton Rouge, LA: IAP Press, 2004). Thomas Kuhn argued something similar in a lecture at the Johns Hopkins University, c. 1987.

⁵ For purposes of this paper and the accompanying slides, I will rely on the edition of Richard McKeon, ed., *The Basic Works of Aristotle* (New York: Random House [Modern Library], 1941), unless otherwise indicated.

from one another and studies each in a way appropriate to its subject matter; and he nevertheless establishes a certain unity to knowledge or at the very least to the philosophic or scientific way of life. Let me discuss these points in turn.

Aristotle did not discover nature or invent the concept of nature; that is at least as old as philosophy, which arose among the Greeks with the distinction between *physis* (nature) and *nomos* (convention, law), where the latter includes stories about the gods. Natural living things have their principle of motion within themselves, and while the natures of things are knowable to human beings, they do not depend on human ordering: fire burns the same in Greece and in Persia, Aristotle notes, though forms of dress and of government are very different in the two lands. Even the human things can be understood as having a basis in nature and therefore being subject to scientific examination: By nature human beings wear clothes and live in cities, though fashion and forms of government vary, and though it takes the exercise of intelligence and art to avoid being naked and embattled. The basic facts about nature are also universal and universally known by men: that there are different substances in the world, that these assume various accidents, that change and motion have causes, and so forth, although, again, the philosopher distinguishes natural beings and causation from the beings imagined by poets and the changes attributed to gods. Perhaps it should be noted here that in this sense Aristotle is not a humanist, at least of the modern variety that would say with Nietzsche “that physics, too, is an interpretation and exegesis of the world, and not a world-explanation.”⁶

For Aristotle, nature is known in the first place by observation: We know the world first of all through our senses. This might seem obvious, but from the beginning philosophy

⁶ Friedrich Nietzsche, *Beyond Good and Evil*, tr. Walter Kaufmann (New York: Vintage, 1966), pt. 1, §14, p. 21.

or science has discovered or claimed to discover causes that are invisible to the naked eye, as we say, or even contrary to our naive observations, so it is significant that Aristotle does not jump to embrace abstract ideas but begins with ordinary experience, with what can be seen and heard and touched and tasted and smelt. Regarding the human things, Aristotle begins with common opinions, recognizing that these differ and collecting them in their variety. This is the attitude Raphael captured in his famous "[School of Athens](#)," where in contrast to Plato, who points a single finger upwards, Aristotle is depicted spreading his fingers apart, on a plane parallel to the ground.

The observation Aristotle recommends is not random, but proceeds according to a method. To know a thing is to inquire into its causes, and Aristotle identifies four of these: the formal, the material, the efficient, and the final. It is moreover to consider the categories into which things fall, identifying nine, which have recently been summarized as quantity, quality, relation, action, reception, place, orientation, environment, and time.⁷ What is essential to the object under study, what accidental? Aristotle asks these questions of everything he examines, not by rote or mechanically, but more or less consistently. He does not yet have the modern scientific method of experiment or the systematic use of measurement and mathematical analysis, but he refers to his method nonetheless.

Aristotle, of course, does not just observe and classify: He analyzes what he collects. Actually, he characteristically begins even his natural-scientific works discussing the opinions of others, sorting out what passes dialectical scrutiny and what does not. "Solet Aristoteles quaerere pugnam" ("Aristotle has a habit of seeking a fight"), goes the adage, and modern academic life bears this mark, for example in the commencement of most

⁷ Aristotle, "Categoriae," in *Basic Works*; see Rizzi, *Science Before Science*, ch. 3, p. 44.

scholarly writing with a “review of the literature.” However much he was once treated as an authority, Aristotle’s influence is in a sense more evident in those who argue with him than in those who agree. He has no use for sophistical twistings—one of his basic works is a catalogue of sophistries—but he subjects what he reads to critical reason. “Amicus Plato, sed magis amica veritas” is another adage attributed to him, perhaps paraphrased from his critique in the *Nicomachean Ethics* of his teacher Plato’s idea of the good.

We take for granted the division of the sciences, but much of that appears to be the work of Aristotle. I am not referring now to the professional sciences of law or medicine, much less engineering or education or agriculture or the other practical arts (or as we sometimes say, the applied sciences), which have probably been practiced in every civilization and may often have had their own schools. I mean the sciences that descend from philosophy, from the attempt to give a rational account of the nature of things. Plato, to be sure, wrote a variety of dialogues, and his subsequent editors in antiquity assigned them subtitles indicating their predominant theme, but he did not, to my knowledge, divide philosophy itself into branches, but quite the contrary tended to weave similar themes and questions throughout his dialogues. Aristotle treats his subjects separately, indicating the relations among them, and sometimes drawing on one in the context of another—but only so far as is necessary for the purpose at hand. While his method is general, he remains attuned to the differences in his subjects, drawing on the sort of evidence appropriate to the subject at hand and reaching conclusions of a sort appropriate to the evidence.

And yet, despite the articulation of the sciences into several forms—some theoretical and some practical, all divided into different treatises—one always has the sense that there is an underlying unity in knowledge, owing not only to the similarity of the method or in other

words to the mind of the knower, but to a coherence in reality itself. Whether Aristotle allows his intuition here to distort his judgment is a question that will emerge in the larger project; the theory of the spheres, for example, fits nicely with an account of a complete and perfect whole, but if that theory has been exploded by the evidence, is all coherence gone?

Let me return, then, from these general reflections on why Aristotle retains some purchase on the modern academic to the more specific project I mean to coordinate: a full-scale assessment of the status of Aristotelian thinking today, discipline by discipline. In the accompanying slide, I draw parallel lists of Aristotle's principal works and the liberal disciplines in the modern university—leaving aside the professional schools and the applied sciences—and suggest some possible connections, very roughly. Some modern disciplines seem to me to have no Aristotelian antecedent, for example, Chemistry or Anthropology. At least one of Aristotle's works, "On Generation and Corruption," seems impossible to place in the modern university, perhaps because it is about the matter that Chemistry studies, but has no influence on it, Aristotle having rejected the atomic hypothesis and modern Chemistry being built upon it. In some instances the modern disciplines study Aristotle's books, at least in courses on their history, without which they think an understanding of the discipline is impossible: Philosophy and Political Science, for example. In others, for example in Literary Criticism and Rhetoric, Aristotle's work remains foundational, at least in the sense that there are major scholars who openly profess to develop his analysis. In Physics, as I said, most modern physicists are considered perfectly competent without knowing more than the name of Aristotle, and none would be thought competent who treated his work as simply authoritative, but there remain open questions about his first principles. I readily admit that these are my first impressions: I would fully

expect, as the project unfolds, to have all of them corrected, even if I admit a secret hope that one or another might be confirmed

In the remainder of this brief essay, I want to sketch—I can do no more—an example of how an update might be conducted in my own field of Political Science. Let me say a little about Aristotle’s Political Science, a little about the discipline in America today, and then see if I can connect the two.

Aristotle describes two of his books as belonging to Political Science: the *Nicomachean Ethics* and of course the *Politics*. Curiously, he writes more about the science in the *Ethics* than in the *Politics* proper. Political Science, writes Aristotle, appears to be “the most authoritative and most architectonic” science, since it ordains what sciences may be studied (we would say, which will be funded) and concerns itself with the human good as a whole. It must be satisfied, however, with “demonstrat[ing] the truth roughly and in outline,” persuasively rather than with mathematical certainty. Nor should it be studied by the young, who are “inexperienced in the actions pertaining to life,” though Aristotle quickly makes clear that the “immature in character” will not be fit students of *Politics* either.⁸ Later he explains that knowledge of politics requires prudence, an intellectual virtue, and is divided into two parts: the legislative art and the ability to deliberate and act in the context of particulars. Whether Political Science has any standing apart from the virtue of prudence is not entirely clear.⁹

The *Ethics* explains the virtues, and since human happiness consists in the activity of the soul in accordance with virtue and since the city (*polis*) aims at happiness and so should

⁸ *Aristotle’s Nicomachean Ethics*, tr. Robert C. Bartlett and Susan D. Collins (Chicago: University of Chicago Press, 2011), book 1, pp. 2-4 [1094a27-1095a8].

⁹ *Ibid.*, book 6, p. 124 [1141b24 ff.].

foster virtue, the study of virtue is apparently critical to Political Science. Still, as Aristotle makes clear in the final chapters of the last book of the *Ethics*, no father can successfully instruct his sons in virtue without the aid of the city: The end of the *Ethics* seems to point to the beginning of the *Politics*. Actually, the *Politics* ends with a discussion of education of the young and thus seems to point to the beginning of the *Ethics*: It's as though the two works reflect a two-semester course sequence that can be taken in either order. (In fact, since Aristotle's treatises are thought by some scholars to be the equivalent of lecture notes, this is perhaps not so far-fetched.) The *Politics* begins—after explaining, as at the start of the *Ethics*, that man is by nature a political animal—with an examination of the household, and thus with slavery (practically ubiquitous in ancient civilization), acquisition, and the family. Book Two examines other authors (especially Plato) and admired cities (especially Sparta and Carthage). Book Three introduces the basic concepts that organize the remaining books: the *politēs* and the *politeia*, that is, the citizen and the regime (or constitution or form of government). The regime gives the city its form and its order; it defines who rules (one, few, or many) and to what end (the common good, or the rulers' advantage). Political Science, Aristotle explains at the beginning of Book Four, is concerned with four topics: what regime is best, which regime is fitting for which cities, the regime based on a presupposition, and the regime that is most fitting for all cities. That book and the books that follow elaborate these four concerns, including in Book Five a study of revolution or regime change.

Now modern Political Science, by contrast, is concerned principally not with the city but with the state; it supposes a distinction between state and society, perhaps originally a distinction between state and church, that was unknown to Aristotle and the ancient

Greeks. Hence the study of acquisition and the study of the household have migrated out of Political Science to disciplines of their own, respectively Economics and Sociology, and since the state usually leaves to society or churches the inculcation of virtue, Ethics has generally migrated to Philosophy departments. Not that Political Science does not sometimes still act with architectonic pride, nor does it eschew all claim to knowledge on the economy and society, but it contents itself to speak of these in relation to “public policy” and to treat this as an applied field where other disciplines can be tapped.

Political Science itself, at least in the United States, typically divides into four fields: Political Theory, American Government, Comparative Politics, and International Relations. In a rough way, three of these correspond to the four tasks of the discipline that Aristotle outlines, if Political Theory focuses on the question of the best regime¹⁰ and Comparative Politics on the question of which regime for which society. International Relations, interestingly, though a crucial part of the discipline (if occasionally split into a separate department, and possessing its own national association and conference, populated chiefly by political scientists), is not a topic that Aristotle accords more than passing mention in the *Politics*, and then chiefly in criticizing cities such as Sparta that are organized exclusively for war, as though that were the end of the city and not simply an occasional

¹⁰ Although the field of Political Theory includes many scholars who focus on liberalism—interestingly, many following the Philosophy professor John Rawls—there are several sects of Aristotelians: Thomists and quasi-Thomists (i.e., readers of Alasdair MacIntyre, *After Virtue* [Notre Dame, IN: University of Notre Dame Press, 1981]), historians and theorists who focus on republicanism (many associated in some way with Quentin Skinner), and scholars influenced by Leo Strauss, although he described his own work as an exercise in “Platonic political philosophy.” It might also be noted that there is a dispute rising among the Straussians about whether or not Aristotle needs to be corrected or amended in his understanding of kingship, as Montesquieu thought (*Spirit of the Laws* 11.9) and as Pierre Manent has argued (*Metamorphoses of the City* [Cambridge: Harvard University Press, 2013], p. 124 ff.), kingship being the characteristic form of governing a nation, the political unit that succeeded the polis as the locus of the political freedom Aristotle describes. Eric Voegelin similarly argued that classical Greek political science could give no adequate account of Caesarism, a judgment Strauss disputed. See Leo Strauss, *On Tyranny*, rev. and expanded ed. (Chicago: University of Chicago Press, 2000), p. 178 ff.

necessity. In recent years, political scientists who study International Relations have increasingly begun to speak of international regimes (for some while they had spoken of “systems”), stable patterns in the relations among states. Indeed, the Aristotelian concept of regime might be used in something like its original sense precisely here, though the members of these “regimes” are states rather than citizens.

What is one to make of the field of American Government? I think Aristotle’s guiding questions can be useful explaining that, too, for ours is either a regime based upon a presupposition—it is our own, or “exceptional” in some way—or it is thought by its students to be the regime that is “fitting for all,” that is, for most cases. In interpreting the *Politics*, it is usually thought that Aristotle thinks the best regime simply is kingship or aristocracy, rule by one or several virtuous men for the common good, the number depending on the actual presence of one or a class of men of outstanding virtue; the best regime for most cases would be the polity, rule by many for the common good, which is variously described by Aristotle as the regime in which the middle class predominates, the regime devoted to military virtue, and the mixed regime, where elements of democracy and oligarchy, two defective regimes, intermingle. With the questions of whether the United States counts as a polity in an Aristotelian analysis, and whether the Aristotelian question of the form of regime is central to political analysis (or whether statistical accounts of political processes are sufficient), I bring this sketch to its provisional end.