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Montesquieu's Popular Science

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Montesquieu would make most everyone's top-ten list of political philosophers, but he is not prominent in the ranks of natural philosophers. Following the lead of the American Founders, who referred to him as "the celebrated Montesquieu," we associate his name with new discoveries and improvements in the science of politics rather than science proper. However, as a young man in his late twenties, decades before the publication of his masterwork, *The Spirit of the Laws* (1748), Montesquieu seems to have been interested in a variety of scientific questions.

The young nobleman was elected to the Academy of Bordeaux in 1716. In keeping with that body's preference for scientific endeavors, Montesquieu shifted away from literary and political explorations. Although his first presentation to the Academy was a "Discourse on the politics of the Romans in religion," his subsequent offerings owed more to Descartes than Machiavelli. Surviving papers include:

"Discourse on the cause of the echo" (1718),
"Discourse on the function of the renal glands" (1718),
"Discourse on the cause of the weight of bodies" (1720),
"Discourse on the cause of the transparency of bodies" (1720), and
"Observations on natural history" (1721).

Montesquieu's counter-"Socratic turn" did not last long, however. He reverted to the human sciences in dramatic fashion with the publication of his epistolary novel, *The Persian Letters*, in 1721. That work of sociological and psychological brilliance catapulted him into the limelight and lifted him from Bordeaux to Paris and beyond. Despite abandoning his vivisectionist experiments on frogs and sheep's tongues, Montesquieu wrote one more piece for the science-minded provincial academy. In 1725, he delivered his "Discourse on the motives that ought to encourage us to the sciences." The fascination of the address, and what makes it still worthy of examination, lies in how it interweaves the political, the literary, and the scientific.

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Science and Empire

Montesquieu begins with the claim that a nation's very existence depends on "the knowledge that the arts and sciences provide." Without such knowledge, human beings remain at the level of "savage peoples," failing to attain "great nation" status. Montesquieu attributes the lack of political wherewithal among savage peoples to their neglect of the arts and sciences. One assumes that Montesquieu is alluding to the technological and military benefits of scientific advancement. Surprisingly though, what Montesquieu mentions is "mores" rather than know-how. He instances the Iroquois and their brutally successful campaign to conquer neighboring tribes. The example is odd, since the victory of the Iroquois is not attributed to their superior application to the arts and sciences. They are as savage as those they devour. It seems rather that savage mores leave savage peoples with only two foreign policy choices: eat or be eaten. Accordingly, Montesquieu predicts that "if Europeans had the mores of the American savages, two or three European nations would soon devour all the others" and then perhaps be devoured themselves by outsiders (as the dominant Iroquois were). Somehow, the knowledge provided by the arts and sciences makes possible more stable or self-sufficient forms of political life. The exact nature of the link between national sovereignty, civilized mores, and science remains sketchy, however.

Still elaborating on moral and political effects, Montesquieu shifts his example from the warring northern tribes of the New World to the vast Aztec and Incan empires further south. He also shifts from generic "arts and sciences" to the specific character of the modern scientific revolution, summed up by the talismanic name of Descartes. Montesquieu makes the striking claim that

> if a Descartes had come to Mexico or Peru one hundred years before Cortez and Pizarro,… then Cortez, with a handful of men, would never have destroyed the empire of Mexico, nor Pizarro that of Peru.

Once again, Montesquieu's point is only secondarily about technology. It isn't that "a Descartes" would have triggered the development of Mesoamerican firearms. Montesquieu is emphatic that the native empires actually had significant military advantages (in weapons, tactics, warrior ethos, and terrain). They were destroyed by faulty metaphysics. It was their own superstitions—their belief in "power invisible"—that sunk these empires, not the superiority of Western technology. Montesquieu's phrasing is reminiscent of the famous definition that Hobbes, in *Leviathan*,

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gives of religion: "Fear of power invisible, feigned by the mind, or imagined from tales publicly allowed." What a Descartes or a Hobbes would have done for them is disenchant their world. Montesquieu gives the following précis of the Cartesian teaching:

> that men, composed as they are, are not able to be immortal; that the springs of their machine, as those of all machines, wear out; that the effects of nature are only a consequence of the laws and communications of movement.

Had the Aztecs and Incans understood that the world, including man, is nothing but matter in motion, they would not have been overawed by the sight of a bearded, light-skinned man (Cortez manipulated ancient myths predicting such a supernatural visitation) or panicked by the use of horses and cannon in battle. There are clear self-defense benefits that follow upon the modern disenchantment of the world: "we [Europeans] have learned to see in all these effects only pure mechanism; and so, there is no technological improvement that we cannot counter by another improvement." An arms race is quite compatible with political stability; "a bad principle of philosophy" is not.

What Montesquieu doesn't mention is that these empires, built on belief in the supernatural, would not have fallen to Pizarro and Cortez because they already would have been toppled by the native peoples themselves once they no longer regarded their rulers as godlike. An enlightened people of Mexico could have preserved themselves against the European conquest, but Montezuma would have been gone under either scenario.

Although Montesquieu might be accused of "blaming the victims," he does not exonerate the European victors. Throughout his writings, Montesquieu is critical of the conduct of conquerors, whether they be soldiers of fortune or soldiers of Christ. He emphatically asserts that the discovery of the New World led to the greatest destruction in history, carried out by some of those "great nations" who applied themselves to the arts and sciences. The invention of the compass "opened the universe" and brought Europeans to Asia, Africa, and America. However, Spain and Portugal are not exactly exemplars of Enlightenment. *The Persian Letters* contains a scathing satire on the regressive imperialism of the Iberians:

> Never in the seraglio of the greatest prince has there been a sultana so proud of her beauty as the oldest and ugliest rascal among them is proud of his pale olive complexion, as he sits, arms crossed, in his

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> doorway in a Mexican town. A man of such consequence, a creature so perfect, would not work for all the wealth in the world, or persuade himself to compromise the honor and dignity of his skin by vile mechanical industry.
>
> For it must be appreciated that when a man gains a certain merit in Spain—as, for example, when he can add to the qualities already mentioned [along with being "white-skinned," the other quality is being an "Old Christian," which is to say, from a family whose faith pre-dates the forced conversions of the Inquisition] that of owning a long sword, or of having learned from his father the art of playing a discordant guitar—he no longer works. His honor consists in the repose of his limbs. He who sits down ten hours a day receives exactly twice the consideration given to another who rests only five, for nobility is acquired in chairs.…
>
> They say that the sun rises and sets within their lands, but it must also be said that, in making its course, the sun encounters only a wasted and deserted countryside. [#78, Healy translation]

The indigenous peoples of Mexico and Peru, lacking Cartesian principles, have haplessly exchanged home-grown despotism for foreign despotism. For Montesquieu, neither form of despotism is defensible. The alternative of which Montesquieu dreamt ("if a Descartes had come") would have been an intellectual conquest, beneficent in its results since the sciences "cure peoples of destructive prejudices." The native inhabitants of the New World could have protected themselves from European depredation only to the extent that they transformed their beliefs, practices, and government in the very same direction that Europe also was being progressively transformed (with industrious England, not Spain, as the model). Only by becoming at least as enlightened as the conquerors could they preserve themselves—that is to say, their lives, though not, of course, their way of life. Modernity relentlessly remakes the world in its own image. Nonetheless, there are clearly better and worse ways of being remade—better to be an Old Cartesian than one forcibly converted.

Montesquieu's oration shows how science, with its accompanying skeptical attitude, can encourage political resistance to oppression. One is reminded of Thomas Jefferson's final words on the linkage between the Declaration of Independence's assertion of human equality and the advance of the scientific spirit:

> The general spread of the light of science has already laid open to

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> every view the palpable truth that the mass of mankind has not been born with saddles on their backs, nor a favored few booted and spurred, ready to ride them legitimately, by the grace of God.

Perhaps not surprisingly, Montesquieu's argument reappears in the struggle over American slavery. In 1852, the African-American abolitionist leader Martin Delany contended (in his book *The Condition, Elevation, Emigration, and Destiny of the Colored People of the United States*) that the reason for worldwide white hegemony is faulty theology—"a misconception of the character and ways of Deity"—on the part of the world's colored races. According to Delany, his people trust too much in God's special providence and fail to understand that "God's means are laws—fixed laws of nature." It is fine to pray for spiritual salvation, but deliverance here on earth depends on "the medium of the physical law." When the goal is political liberty and individual elevation, God helps those who help themselves. Echoing Montesquieu, Delany recommends religious enlightenment—the renunciation of fatalist and quietist systems of belief—as the first step toward black liberation.

The Life of the Mind

Having opened his address with a political point that turns out to be a theological point, Montesquieu turns away from distant lands (where the need is for a scientific revolution) toward the lands where science is already cultivated. For them Montesquieu lays out five additional motives for applying oneself to science. The first (which Montesquieu states in one sentence) is that the development of our intelligence is fundamental to human excellence and yields an "inner satisfaction." It feels good and right to get smarter—good because it's your own being and right because it accords with the nature of man as "an intelligent being."*

The next two motives are described at somewhat greater length (three sentences each). The second is curiosity—not a surprising statement since science has always been thought to be driven by the urge to know just how the world works. However, Montesquieu puts an unusual spin on curiosity. He doesn't describe the consuming curiosity about the details of some specific realm that gives rise to empirical inquiry, like, say, a fascination with the life of bugs that leads a child to become an entomologist. The curiosity he describes is about the human future: how far

* For Montesquieu's deeper thoughts on what it means to be "an intelligent being," see the first chapter of *The Spirit of the Laws*, entitled "On laws in their relation with the various beings," and especially the final paragraph.

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can science take us? Can the bounds of human knowledge be infinitely extended? Perhaps this is the curiosity experienced by the spectators of the scientific revolution rather than the participants (who tend to keep nose to grindstone). Montesquieu appropriates religious language when he summons these spectators with the rhetorical question: "Should we take no part in this good news?" All men, even non-scientists, can receive the "good news" of the gospel of science. The motive that Montesquieu calls "curiosity" is not old-fashioned wonder about the cosmos and its construction but rather an interest in the expansion of human power. We are curious about the paths that have been and, especially, those that will be traveled by the human mind. Even observers who are opposed in principle to pursuing particular paths (the cloning of human beings, for instance) might admit to curiosity about such dramatic possibilities: could we really do it? It is the force of curiosity that leads many contemporary observers to assert that if we can do it, we will do it. The juggernaut of science continues even if the good news turns out to be bad news.

Montesquieu, however, does not hint at any cat-killing or Pandora-like downside to our curiosity. Quite the reverse, the third motive that encourages scientific aspiration is a "well-founded hope of succeeding." What makes the hope well-founded is not simply the record of recent discoveries, but what was responsible for that record, namely, the discovery of the *methods* of discovery. The edifice of science is built from the stones of truth, but it is the scientific method that reliably unearths and assembles the stones. Montesquieu heightens the metaphor further when he shifts from talk of stones to gold. He contrasts the individual who has gold with the one who knows how to make gold, declaring the latter "truly rich." This might just be a version of "give a man a fish, he has food for a day; teach a man to fish, he can feed himself for a lifetime." However, it might also hint at a more radical, alchemical vision of the manipulability of matter. The transmutation of common metals into gold was the standard aim of alchemists throughout the ages, and an aim not abandoned by the founders of modern science. As Francis Bacon puts it in his fable "New Atlantis":

> "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."

Once again, Montesquieu does not hint at any Croesus-like perils in being able to turn all one touches into all one wants. (In an economic

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context, though, Montesquieu was very aware of the phenomenon of death by riches. He explicitly compares gold-seeking Spain to Croesus and describes gold and silver as "a wealth of fiction or of sign." He argues that "there was an internal and physical vice in the nature of this wealth, which made it hollow," and which sent the Spanish monarchy "into an uninterrupted decline" as a result of its strip-mining of the Americas.)

The final two motives are discussed most extensively (eleven and eight sentences respectively). Whereas the first three are framed in progressive terms—sounding rather like the current ad campaign for public television: be more intelligent, be more curious, be more empowered—the fourth motive has a solemn side. Although he defines this fourth motive as "our own happiness," it turns out that happiness is hard to achieve because it depends on fleeting passions and correspondingly fleeting pleasures. There is a remedy, however:

> The love of study is almost the only eternal passion in us; all other passions leave us, as this pitiable machine that gives them to us approaches its ruin.

So Montesquieu speaks of a life of study—note, not necessarily scientific study—as the best occupation for us, given our bad bodily constitutions. The "soul" and its unique pleasures make their appearance as the remedy for the pangs of aging. Interestingly, Montesquieu was thirty-six when he wrote this and, for many years both before and after, a figure in metropolitan high society, in both Court and intellectual circles. He knew the types well:

> If in this time of life [i.e., middle age] we do not give our soul suitable occupations, the soul—which is made to be occupied but is not—will fall into a terrible ennui that leads us toward annihilation; or if, revolting against nature, we stubbornly seek pleasures not made for us, they seem to retreat with our approach. Gay youth glories in its happiness, and insults us without ceasing. As youth feels all its advantages, it makes us feel them too; in the liveliest company all joy is theirs, the regrets are ours. Study cures us of these difficulties, and the pleasures it yields do not remind us that we are getting older.

The alternative to study is either boredom or a ridiculous and aggravatingly fruitless quest for the pleasures of youth. Montesquieu might be right that study offers a respite from regrets felt most keenly when in society, but it's a rather grim argument, particularly since he doesn't actually describe the joys of study. Compare Montesquieu's *faute de mieux*

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justification with Machiavelli's wonderful description, in his famous letter to Francesco Vettori, of his far-from-solitary pleasures:

> When evening has come, I return to my house and go into my study. At the door I take off my clothes of the day, covered with mud and mire, and I put on my regal and courtly garments; and decently reclothed, I enter the ancient courts of ancient men, where, received by them lovingly, I feed on the food that alone is mine and that I was born for. There I am not ashamed to speak with them and to ask them the reason for their actions; and they in their humanity reply to me. And for the space of four hours I feel no boredom, I forget every pain, I do not fear poverty, death does not frighten me. [Mansfield translation]

Whereas Montesquieu clearly expects great things from science, he does not entertain the most radical possibilities of age-retardation and the conquest of death. He does not suggest that science could fix our "pitiable machine." Descartes, by contrast, in speaking of our destiny as the "masters and possessors of nature" looked forward to this knowledge being used not only for "the invention of an infinity of devices that would enable one to enjoy trouble-free the fruits of the earth" but also to rid us of "the frailty of old age." Bacon likewise speaks repeatedly of the "prolongation of life" and even "immortality or continuance." Montesquieu instead acknowledges the limits of our nature, finding consolations within. On Montesquieu's reasoning, one would have to wonder whether men would still discover the love of study, if science succeeded in finding the elixir of youth. It seems that Montesquieu is not ready to abandon the traditional conception of philosophy as learning to die.

Montesquieu's final motive for pursuing science is its utility to society. Because the future does not belong to us, we should be interested in gifts to posterity. As Montesquieu says, "is it not a splendid aim to work to leave behind us men more fortunate than we have been?" The point of the somewhat baffling passage about the rich merchant and the proud warrior is, I think, a plea for recognition and gratitude toward society's benefactors, as well as an explanation of the obstacles to such recognition. Shipping magnates don't always want to admit their dependence on the technical skill of their pilots, just as military men don't want to admit their dependence on the eggheads (from Archimedes on) who engineer the weapons of war. Montesquieu seems to be predicting a rivalry between the more traditional benefactors (who value risk and courage) and the new scientific elite (whose aim of rational control obviates the need for such virtues). All of them, of course, "want very much to be treated as if they were in charge."

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The Humanist's Apology

In the closing section of the address, Montesquieu considers one final candidate for benefactor status: *belles-lettres*. His apology for poetry arises out of a concern for the fate of "books of pure spirit" in a scientific age. He asserts the "general utility" of such works, contrasting them with the more particular benefits associated with the sciences. From liberal learning we acquire "the art of writing, the art of formulating our ideas, of expressing them nobly, in a lively manner, with force, grace, order, and a variety that refreshes the spirit." Being of universal value, these skills turn out to be indispensable to the sciences and mechanical arts. Montesquieu describes talented and assiduous individuals who fail to advance their line of work because they are ill-educated. His pitch for a liberal arts curriculum is remarkably reminiscent of what we hear today about the need for both "critical thinking" and "communication" skills in the workplace and the claim of the humanities to hone such skills.

Montesquieu next argues that "the body of the sciences in its entirety" is bound up with *belles-lettres*. The project of enlightenment depends on putting science "within reach of all minds," a task that depends crucially on language. As Thomas Jefferson phrased it in his *Notes on the State of Virginia*, when advocating the study of Greek and Latin: "I do not pretend that language is science. It is only an instrument for the attainment of science." Either scientists must become men of letters or they must depend on literary popularizers. Montesquieu's examples are the French Cartesian, Nicolas Malebranche, whose philosophy was aided by being "an enchanting writer," and Bernard de Fontenelle, the Carl Sagan of the eighteenth century, renowned as a popularizer of Descartes. The work Montesquieu singles out is Fontenelle's huge bestseller *Conversations on the Plurality of Worlds* (1686), in which a beautiful Marquise and a scholar have flirtatious evening discussions about the nature of the universe. Montesquieu admits the loss of rigor involved in such presentations, but insists that "this work is more useful than a stronger work because it is the most serious that most are able to read."

Montesquieu follows Fontenelle in experimenting with literary genres for the transmission of ideas. One suspects that Montesquieu has his own immensely popular epistolary novel, *The Persian Letters*, in mind when he admonishes: "one must not judge the utility of a work by the style the author has chosen: often puerile things are said gravely, while very serious truths are said with bantering wit." Montesquieu put his mastery of French style on display also when he penned a series of erotic-philosophic

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tales, usually with an Oriental setting, for the delight (and surreptitious instruction) of salon society. Tocqueville, by the way, goes further and shows how an entire population could become Cartesians without cracking a book, whether the original or the knock-offs:

> America is therefore the one country in the world where the precepts of Descartes are least studied and best followed. That should not be surprising.…
>
> Americans do not read Descartes's works because their social state turns them away from speculative studies, and they follow his maxims because this same social state naturally disposes their minds to adopt them. [*Democracy in America*, Mansfield/Winthrop translation]

So far, Montesquieu's apology for poetry has been framed in terms of utility to the scientific endeavor. His final claim, though, is independent of science. "Books that refresh the spirit" are better for "men of the world" than the amusements they would otherwise pursue: "entertainments, debauchery, slanderous conversations, and the projects and maneuverings of ambition." Basically, the liberal arts offer relatively harmless entertainment. Montesquieu recommends that we preserve the humanities in their purest state in order to forestall the corruption of high society. This is rather like Rousseau's argument for the value of the theater in Paris—it keeps people off the streets and out of worse trouble.

There is no claim here for the superior truth of the humanities. Why is Montesquieu's apology so lame? Was his message painfully tailored to this particular audience? We have become all too familiar with the phenomenon—witness the devoted classicists who argue for learning Latin as a vocabulary-builder to help students perform well on the SATs and who breathe not a word about the wisdom contained in classical authors. Witness the colleges and universities that routinely justify a liberal education in terms of future career opportunities and income potential, rather than the disciplined formation of a truly free soul. Defenders of the humanities have been rhetorically hobbled for a long time.

Fortunately, the constricted voice heard in the final paragraphs of this address does not do justice to Montesquieu's own subsequent writing (or, indeed, to his writing here), which is rich not only with style and artfulness and wit, but with insight. Montesquieu's insights about science are not themselves the product of science (not even social science). Montesquieu gave us his self-conception in these lines from the Preface to *The Spirit of the Laws*: "'And I too am a painter,' have I said with Correggio."

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