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Thumos and Psychophysics in Descartes's Passions of the Soul

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INTRODUCTION

The Passions of the Soul, of 1649, is Descartes's last published and, compared to his other writings, least studied work (Descartes 1996, 11:301–497; 1989). It consists of a preface and 212 articles grouped into three major parts. Part I, containing 50 articles, is titled, “About the Passions in General, and incidentally about the whole nature of man (*DES PASSIONS EN GENERAL: Et par occasion, de toute la nature de l’homme*).” My intention in the following is to elucidate what Descartes means by “the whole nature of man”—hardly an incidental item.

Although brief compared to Descartes's other published writings (the *Discourse on the Method and Essays*, the *Meditations, Objections and Replies*, the *Principles of Philosophy*), *The Passions of the Soul* is laden with moral-psychological and, as I argue here, political-philosophical content. It purports to offer a new science of human being based on Descartes's new science of nature; as he famously says, “my purpose has not been to explain the Passions as an Orator, or even as a moral Philosopher, but only as a Physicist” (11:326; 1989, 17). The resulting account is supposed to be more adequate to the irrationalities of human life and more therapeutically effective than the traditional Scholastic-Aristotelian teaching. For Descartes, it is only on

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grounds of scientifically enlightened self-knowledge that we have any realistic hope of ameliorating the emotional disorders and dangerous propensities of our uncorrected nature.

Article 5, early on in Part I, states “[t]hat it is an error to believe that the soul imparts motion and heat to the body.” Rather, from the preceding article 4, “all the heat and all the movements which are in us, insofar as they do not depend on thought, belong to the body alone,” that is, to the Cartesian body-machine. Descartes says that this error, that the soul is the principle of vital heat and organic function, as Aristotle taught, is “a very serious one—so much so that I consider it the main reason why no one has yet been able to explain the Passions correctly, and the other things belonging to the soul” (a. 5). That is a large claim.

For the points I wish to make, it is essential to take account of the historical context, namely, the Thirty Years’ War, 1618–1648, which Descartes mentions in the opening sentence of Part 2 of the *Discourse on Method*, and which spanned his intellectual career (6:11; 1985, 1:116).¹ Accordingly, the examples Descartes uses to illustrate the effects of the passions (aa. 36–40) and the soul’s power over its passions (aa. 45–50) are military: We will to overcome the fear in our soul with courage, and turn our fleeing body back into the oncoming enemy. Descartes writes in a time and place before *embourgeoisement* or the attenuation of *thumos*.

Any decent course on the history of political philosophy will show that the eventual achievement of free government in the West involved the promotion and protection of what we could call the erotic and acquisitive desires and satisfactions, and the weakening or attenuation of the angry or *thumetic* passions, from the Greek *thumos*, found in Aristotle but especially in Plato, and often translated as spiritedness. It is the preeminent political passion, necessary for the preservation of the *polis* but also a serious problem. In Plato, spiritedness constitutes the combative, potentially warlike part of the soul, the ambiguous middle between the higher reasoning part and the lower desiring part (*Republic* 439e–441c, 547e).² According to Aristotle,

¹ By the end of the war, “Germany lay desolate. The population had fallen from 21 million to perhaps 13 million. Between a third and a half of the people were dead. Whole cities...stood in ruins. Whole districts lay stripped of their inhabitants...Trade had virtually ceased. A whole generation of pillage, famine, disease, and social disruption had wreaked such havoc that in the end the princes were forced to reinstate serfdom, to curtail municipal liberties, and to nullify the progress of a century.” (Davies 1996, 568)

² “[Spiritedness] is essentially obedient, while looking more masterful than anything else. But as such it does not know what it should obey, the higher or the lower. It bows to it knows not what...The

“spiritedness undoes even the best of men when they rule” (*Politics* 1287a30).³ The problem is that,

on account of the heat and haste of its nature, when it has heard something, but has not heard the [whole] order, [spiritedness] rushes toward revenge. For reason or imagination (*logos ê phantasia*) showed that there was an insult or a belittling, and spiritedness, as though reasoning that it is necessary to go to war against any such thing, boils up straightaway. (*Nic. Ethics* 1149a30–35; 2002, 129)

The relation of reason to imagination, and the need for the direction of the latter by the former, is a major theme of the Cartesian philosophy (Sepper 1996), from the *Rules for the Direction of the Mind*, of 1628, to *The Passions of the Soul*.

By the erotic, I do not mean sexual licentiousness, but the love of husband and wife that generates children. The traditional American dream—a family in a home of their own on property that they own—is an emblem of what I am getting at. And some of us may remember being told by our parents that, in polite company, one shouldn't discuss two things: religion and politics—because opinions about these things often prompt angry, divisive, that is, *thumetic* passions. Let me coin a clumsy word and refer to the modern attenuation of *thumos* in our psyches as *athumetization*. The possibility of athumetization, and its reality in a particular civilizational orbit (the West today, and not the rest or, as noted, the West in the past) are testimony to the variability of human dispositions or character types over time and place. *Thumos* makes man (*anthrôpos*), more than any other species, a historical being.⁴ This is reflected in Descartes's account of “the whole nature of man”—immutable and mutable. How it is reflected, how Descartes articu-

spirited man is, as it were, always on the lookout, or on the search, for something for which he can sacrifice himself. He is prepared to sacrifice himself and everything else for anything.... Since spiritedness is undetermined as to the primary end, the goods of the body or the good of the mind, it is in a way independent of, or oblivious to, those goods.... It is therefore radically ambiguous, and therefore it can be the root of the most radical confusion.” Strauss 1989, 166–67; see also Bloom 1968, 351–58. On the theme of spiritedness in the history of political philosophy see Zuckert (1988).

³ “*Ho thumos archontas diastrephei kai tous aristous andras.*” The context is an argument for rule of law rather than men, for even the best of men (who as such can be moderate with respect to the ordinary desires) are vulnerable to excesses of spiritedness.

⁴ *Thumos* rises and falls in peoples and places, like the tides, but, unlike the tides, its ebb and flow is irregular, unpredictable, as are its objects when it rises. Thus we have religious fanaticism in Descartes's time, extreme nationalism in the nineteenth century, totalitarian ideological fanaticism (fascism, Communism, Nazism) in the twentieth century, and, again, religious fanaticism in the twenty-first century. Removed or suppressed in one form, spiritedness returns in another. The project of athumetization is less than a complete success. Needless to say, those for whom it has succeeded are particularly vulnerable to those for whom it has not.

lates nature and history in terms of his phenomenology of human experience, on the one hand, and his new hypothetico-deductive science of body and soul (“as a Physicist”), on the other, forms the substance of this essay.

The *Passions of the Soul* is not much concerned with the erotic and acquisitive passions—it clearly was not written for people who have to work for a living, and there is only one article (a. 90) on sexual desire. But I think it does have things to say about *thumos*, and is intended by Descartes to contribute to the project of athumetization, or the weakening of the spirited, potentially warlike passions. Specifically, *The Passions of the Soul* contains an analysis and critique of the things that affect human imagination and volition such that we get ourselves and others killed without reason. Of especial concern to Descartes are overweening pride, love of military glory, superstition and fanaticism. The human faculty of imagination (as noted above), and the power of images, in pictures but especially in speech, to dispose or shape our souls, form a fundamental theme of Descartes’s *Passions*.

Rising up out of ambition for one’s own glory, out of jealousy of one’s own or family honor, out of zeal for one’s own friends, party, people, nation, leader, or religion, are acts of the power of *thumos*. The objects of *thumos* typically involve both *one’s own* (reputation, ideology, ethnicity, nationality, loyalty, faith, etc.), and larger reasons, beliefs, principles that we think justify its spirited, often violent defense, often culminating in the loss of one’s own life. Now generosity (*generosité*, aa. 152–59), the supreme Cartesian virtue (also a passion), entails the specification by Descartes of what is truly one’s own, namely, one’s own, individual free will, and nothing else: “there is nothing which truly belongs to [a man] but this free control of his volitions, and no reason why he ought to be praised or blamed except that he uses it well or badly” (a. 153). Generosity thus weakens the force of our attachments to the larger wholes in whose defense we would rise in anger. In contemporary parlance, generosity is incompatible with identity politics, for one cannot claim value by virtue of membership in a group but only by the right use of one’s own will as an individual.⁵ Descartes’s distinctive

⁵ “Right use” means autonomously: not in deference to the guidance (reasons, opinions) of others, but only as “he judges to be best” (a. 153). From our post-Nietzschean perspective, it is an unnerving question, what are the standards of judgment? The problem is well presented by Rethy (2000, 682–83). We can be assured that generosity does not make for a Nietzschean superman by the title of a. 49: “That strength of soul does not suffice without knowledge of the truth.” It remains obscure, however, if that truth is supposed to be certified by Cartesian method (so that it counts as science; this is very unlikely since the method does not yield knowledge of good and evil; see n. 12, below), or in some other way, perhaps by the study of history “with discretion” and without “the charm of fables” (6:6–7; 1985, 1:114). Section 8, below, provides an example of the latter: Livy on the Decii.

individualism conduces to the attenuation of *thumos*. But this is an unusual claim from the perspective of the current scholarship, and it behooves me to anticipate significant objections. First, there is no word for *thumos* in *The Passions of the Soul* nor is there a thematic (clearly identifiable) discussion of it. Second, Descartes's single reference to historical events that exhibit a relevant phenomenon—the devoted self-sacrifice of the Roman Decii (a. 173)—appears to endorse the voluntary loss of one's own life in the service of a larger cause. Third, in private letters to his friends Princess Elizabeth of Bohemia and Pierre Chanut, Descartes explicitly describes the subordination of the individual to larger wholes (communities) for the defense of which one ought to be willing to face death. I address the first of these directly and the remaining two in Section 8, below.

In *The Passions of the Soul* there is no single word for *thumos*. The likely candidate, *fougue*, does not appear (Voss 1995). Anger (*colere*) is the most visible form of *thumos* and the signature member of what in the Scholastic tradition came to be called the irascible, in contrast to the concupiscible passions (Aquinas, *ST I*, q. 81, a. 2; 1981, 1:410–11).⁶ Descartes indeed singles out anger: “the desire to repel harmful things and avenge oneself is the most urgent of all” (a. 199). In fact, there is no passion “whose excesses should be more assiduously avoided...[and] as nothing renders it more excessive than pride...Generosity is the best remedy for its excesses” (a. 203). Here, excessive anger stems from pride, something deeper than anger. Pride is an illegitimate form of self-esteem (a. 158). For Descartes, the desire to esteem oneself highly is perhaps the most fundamental trait of our humanity (Kennington 2004, 186). This desire, however, does not seem to fit within the Scholastic classification of the passions into concupiscible and irascible. Accordingly, Descartes rejects the associated distinction between concupiscible and irascible appetites as parts of the soul (a. 68). My point is twofold: First, *thumos* should not be identified with the traditional irascible passions,⁷ which are

⁶ From the division of the sensitive appetite, Aquinas derives six concupiscible passions (love, hate, desire, aversion, joy, sorrow) and five irascible passions (anger, fear, confidence, hope, despair); *ST I-II*, q. 23, a. 4 (1981, 2:696–97).

⁷ “[T]he Platonic distinction [between desire and spiritedness] is not identical with the traditional distinction” (Strauss 1989, 166). Strauss indicates why (note 2, above): Spiritedness is “radically ambiguous, and therefore it can be the root of the most radical confusion.” According to the tradition, “the irascible is, as it were, the champion and defender of the concupiscible, when it rises up against what hinders the acquisition of the suitable things which the concupiscible desires” (Aquinas, *ST I*, q. 81, a. 2, resp.; 1981, 1:411). Consider a suicide bomber. The traditional distinction as Aquinas describes it is *formally* correct. But it seems inadequate to the irrationality, the “radical confusion” of the phenomenon. I suggest that Descartes, in view of the religious extremism of his time—see the examples in Section 7—was thinking along similar lines.

treated by Descartes but, aside from his remarks on anger (cited above), are not given overriding importance. Second, Descartes's teaching in relation to *thumos* is not explicit but must be inferred from his account of "the whole nature of man."

In Section 1, below, I delineate Descartes's distinction between universal biological nature and what human beings esteem or scorn, which are particular and variable, and, to a great extent, provide the contents of human history. In Sections 2–5, I present the scientific modeling of the human soul-body composite that undergirds Descartes's account of biological nature and human history. The relation of imagination and volition, specifically, how they are incorporated in the psychophysical model, is the subject of Sections 4 and 5. In Section 6, I argue for an important distinction between voluntary (autonomous) and partially voluntary (heteronomous) imaginations in articles 17–20, wherein the active functions of the soul are introduced. Significantly, these articles are based not on Descartes's psychophysics but on his prescientific reading of human experience. Sections 7 and 8 continue my account of volition and imagination, which are strongly affected by *thumos* such that we, unlike any other species, voluntarily face death. Examples are provided in Section 7 and, in Section 8, I reply to significant objections to my thesis concerning Cartesian individualism and the attenuation of *thumos*. In Section 9, I examine Descartes's bold claim for the scientific mastery of the passions, and, finally, draw conclusions on the Cartesian component of early modern philosophy in light of *The Passions of the Soul*.

1. BIOLOGICAL NATURE AND THE HUMANLY ESTIMABLE (DESCARTES'S FINAL DUALISM)

According to Descartes, most of our passions are originally "instituted by nature" (aa. 36, 50, 89, 90, 94, 137) for the sake of the health and conservation of the body.⁸ As such they have a natural use (a. 52), a *purpose*, namely, the acquisition or preservation of what is suitable, and the avoidance or removal of what is harmful to the soul's body. But this baseline, beneficent teleology of our living, animate nature can be, and, for Descartes, as I

⁸ The "institution of nature" always refers to properties of the union or composite of mind and body, as discussed in Section 2, below. Descartes's use of the term 'nature' in this context (the union of mind and body), not nature as matter (the subject of mathematical physics), means that we are dealing with something that is a starting point of his account of the experience of the human composite, which is not subject to further analysis into more primitive terms, thus not reducible to either unextended thought (*res cogitans*) or thoughtless extension (*res extensa*) or any combination of the two. Physical pain is a paradigm of nature in this sense, that is, for what arises from the union of mind and body (Kennington 2004, 161–86; Brown 2006, 13–14).

interpret him, too often has been, overridden by our pursuit of goods that we esteem more highly than bodily life:

[P]ain always comes from some action so vigorous that it injures the nerves, so that, being instituted by nature to signify to the soul the damage the body receives by this action and its weakness in not having been able to withstand it, [pain] represents both of them to [the soul] as evils which are always unpleasant to it, except when they bring about goods it esteems more than them. (Article 94)

Now esteem, according to Descartes (a. 149), is a particular passion arising from the *opinion* one has of a thing's worth or greatness—including ourselves (aa. 54, 151). Its opposite is contempt or scorn, a passion arising from the opinion one has of the smallness or meanness of a thing.⁹ Descartes makes clear that esteem and scorn “may be excited in us without our perceiving in any way whether the object causing them is good or bad... [i.e.,] suitable to us...or harmful” (a. 56). Esteem and scorn, therefore, are not instituted by nature and have no natural use. As such, they do not subserve the preservation of the body and are, moreover, subject to great variation among individuals and especially groups.¹⁰ Somehow, the words and pictures that frame our opinions about the magnitude of a thing—its greatness or smallness—come, not from nature, but from elsewhere.¹¹ Human history—past, present, and future—is the arena of their manifestation. Regarding the sources of such opinions in the past, Descartes says little beyond his references to Greek myth (the chimera, a. 20) and Roman history (the Decii, a. 173), discussed in Parts 6 and 8, below. As to the present (Descartes's present) and the subsequent (more enlightened) future, Descartes himself is the

⁹ As Voss rightly notes, “every passion is normally aroused by an opinion that its object somehow matters to us” (Descartes 1989, 123, n. 29). What is distinctive about esteem and scorn is that in these passions our own good or bad need not matter. Descartes makes clear that esteem and scorn become connected to other, naturally instituted passions, e.g., love: it is not possible to love something without esteeming it (a. 83). We can, however, esteem something without loving or hating it, thus without judging whether it is suitable or, more importantly, harmful (and should be avoided). The limitations of an article-length essay preclude discussion of wonder (*admiration*), the first Cartesian passion (a. 53), which is “as it were” the genus of which esteem and contempt are species (a. 149) and which is an admixture in “almost all” of the passions (a. 72). Basic points about wonder are succinctly made by Rethy (2000).

¹⁰ “I thought, too, how the same man, with the same mind, if brought up from infancy among the French or Germans, develops otherwise than he would if he had always lived among the Chinese or cannibals” (6:16; 1985, 1:119). “Things that are painful and hateful to some are pleasant and lovable to others” (Aristotle, *Nic. Ethics* 1176a8–12; 2002, 189).

¹¹ “What is notable...is the absence of any bodily or natural ground for esteem or contempt—indeed the absence of any ground at all. As ‘principles of evaluation’, they seem to ground without themselves being grounded” (Rethy 2000, 679).

source(!) through the revelation of his own opinion about that for which individuals can legitimately and most highly esteem themselves (a. 152): the right use of their own free will, or generosity. We thus end up in *The Passions of the Soul* with what I call Descartes's final and ultimate dualism. It is not his notorious metaphysical dualism of two independent substances, thinking thing and extended thing.¹² It is the anthropological dualism of (1) our fixed and universal, biological nature (instituted in us by nature), and (2) our variable and particular, historical being transcending biology, the latter being articulated especially by the goods that are esteemed more highly than life. *This* dualism constitutes "the whole nature of man." I have introduced it by consideration of the unique status of esteem and contempt in relation to the passions that are instituted by nature for the preservation of the body. There is a further, more characteristic basis for this dualism in the text of *The Passions of the Soul*.

Descartes's account of the emotions is very much entangled with his rather elaborate psychophysics—an awkward, if ingenious, theoretical apparatus that appears in his earlier *Treatise on Man* and *Sixth Meditation*, and is supposed to be based on his new, true physics as applied to the human body, specifically, to fluid flows (of blood and animal spirits), nerves (from the organs of sense and the limbs to the brain), and, famously, to the pineal gland, the only place where our souls directly (without mediation of nerves and animal spirits) meet our bodies (*Passions*, a. 31).¹³ There (in the pineal

¹² For Descartes's metaphysical or "substance" dualism, see *Disc.* 4 (4:31–33; 1985, 1:126–27), and, most authoritatively, *Med.* 6 (7:78; 1985, 2:54). A second, epistemological dualism is identified by Kennington (2004, 161–86). It is the dualism of the certain ("clear and distinct") but value-neutral knowledge of means known by "the light of nature," or science, and the knowledge of ends known by "the teaching of nature," for example, pain, which does not meet the ("clear and distinct") criterion of scientific certainty (pain is clear but confused; 7:81; 1985, 2:56). This dualism develops into a characteristic feature of modern technological societies: we have certain knowledge of powerful means but no comparable certainty about the ends for the sake of which the means ought, or ought not to be applied. The anthropological dualism contained, as I argue here, in *The Passions of the Soul* would thus be Descartes's third dualism. Note that the word 'substance' (*substance*) appears three times in the *Passions*, at 11:335, line 11, 11:337, line 13, 11:352, line 13, in each case referring to the material of the brain or the nerves. *The Passions of the Soul* is premised on the experientially obvious reality of mind-body union. Accordingly, substance in the Cartesian metaphysical sense is not mentioned in the book.

¹³ The preceding article, a. 30, provides Descartes's testimony for the traditional hylomorphism ("the soul is truly joined to the whole body...it is [not] in any one of its parts to the exclusion of others"). This thesis is never used in the subsequent account, whereas the restriction of the soul to the pineal gland, thereby enabling the mechanistic modeling of the brain, is crucial to Descartes's entire theory of the soul-body composite and its relation to the world. "[I]t is the soul that sees, and not the eye; and it does not see directly, but only by means of the brain" (*Optics* 6, 6:141; 1985, 1:172). "[T]he brain alone can act directly on the mind" (To Regius, May 1641, 3:373; 1991, 183). "[T]he soul's sensory awareness, via the nerves, of what happens to the individual limbs of the body does not come about in virtue of the soul's presence in the individual limbs, but simply in virtue of its presence in the brain"

gland), Descartes hypothesizes an association between motions of the gland and “thoughts”—which includes passions—in the soul. This *thought-motion association* has a fixed (innate) component and a variable (acquired) component (aa. 44, 50). The distinction between the two components provides the scientific framework undergirding Descartes’s final dualism—the fixed component is instituted by nature, the time-variable component models human history. To see how this works, we must descend into the details of Descartes’s psychophysics, beginning with the baseline teleology of nature in the *Sixth Meditation*.

2. BIOLOGICAL NATURE: SENSATION AND THE TEACHING OF NATURE IN *MEDITATION 6*

Meditations 1 through *5* and the first half of *Meditation 6* concern speculative truths known “solely by the natural light,” thus clearly and distinctly (i.e., with certainty). Principal among them, as announced by the title of the book, are the existence of God and the distinction between the soul and the body (7:15–17; 1985, 2:11–12). The subject matter is epistemological and metaphysical. In contrast, the second half of *Meditation 6* treats in considerable detail the union or composite of mind and body, from which arise sensations that are less than clear and distinct (they are “confused modes of thinking”), but which are useful for practical life. Physical pain is the paradigm. Descartes refers to this class of cognitions as “the teaching of nature” (7:80–81, 87; 1985, 2:55–56, 60).¹⁴ It differs from the light of nature by virtue of its reduced precision and certainty. According to Descartes, “the sensory perceptions [of pain, hunger, thirst and so on] given to me by nature are, properly, simply to inform the mind of what is beneficial or harmful to the composite of which the mind is a part” (7:83 and 81; 1985, 2:57 and 56).¹⁵

(*Prin.* 4.196, 8A:319; 1985, 1:283). Des Chene (2000, 5–6, 192) comments aptly on aa. 30 and 31.

¹⁴ In the *Passions*, Descartes uses the term “institution of nature” (aa. 36, 50, 89, 90, 94, 137) rather than “teaching of nature.” Although both refer to the experience of the composite, they do not mean the same thing (the institution of nature usually refers to the original “settings” of the sensation-motion association internal to the brain, while the teaching of nature refers to objects external to the body as beneficial or harmful). Rethy (2000) discusses the differences between the institution and the teaching of nature. For my present purpose, these distinctions are not important.

¹⁵ The sensations are internal (pain, pleasure), external (perceptions of the five senses), and natural appetites (hunger, thirst); emotions and imaginations are not mentioned. The external sensations are good for registering differences in the bodies outside of us, but they are not trustworthy guides to the knowledge of the essential natures of those bodies. Kennington (2004, 171–72) sets out Descartes’s distinction between the practical and reliable teaching of nature and the theoretical (apparent) and unreliable teaching of nature. Rodis-Lewis (1998, 205) makes the same point.

Unlike the light of nature, or science, the teaching of nature is purposive or teleological—it aims at an end: the health and preservation of the body.

There are, however, obvious cases in which nature instructs us mistakenly. The disease of dropsy causes one to be thirsty when drink would be harmful, and the amputee feels a pain that he mistakenly judges to be in his foot. In his explanation of these “true error[s] of nature” (7:85; 1985, 2:59), Descartes deploys basic elements of his psychophysics:

The mind is not immediately affected by all parts of the body, but only by the brain, or perhaps just by one small part of the brain [the pineal gland]. Every time this part of the brain is in a given state [of size, shape, motion], it presents the same signals to the mind, even though the other parts of the body may be in a different condition at the time....[W]hen I feel a pain in my foot, physiology tells me that this happens by means of nerves...which go from the foot right up to the brain to which they are attached, and produce a certain motion in them; and nature has instituted that this motion should produce in the mind a sensation of pain as occurring in the foot....[Thus] it can happen that, even if it is not the part in the foot but one of the intermediate parts [of the nerve] which is being pulled, the same motion will occur in the brain as occurs when the foot is hurt, and so it will necessarily come about that the mind feels the same sensation of pain. And we must suppose the same thing happens with regard to any other sensation. (7:86–87; 1985, 2:59–60)

Descartes concludes:

[A]ny given movement occurring in the part of the brain that immediately affects the mind produces just one corresponding sensation; and hence the best system that could be devised is that it should produce the one sensation which, of all possible sensations, is most especially and most frequently conducive to the preservation of the healthy man....there is nothing else that would have been so conducive to the continued well-being of the body. (7:87–88; 1985, 2:60–61)

And this, again, is because of the optimal way in which “a given motion in the brain must always produce the same sensation in the mind” (7:88; 1985, 2:61).¹⁶

¹⁶ The one-to-one determinacy of the relation between a sensation in the soul and a motion of the pineal gland is simply asserted by Descartes (it’s a hypothesis) without justification. Shapiro (2003, 39) provides sharp criticism of Descartes’s hypothesis.

Although Descartes mentions “the command of the will” (7:84; 1985, 2:58) over the body, nothing is said about it.¹⁷ In the psychophysical theory of *Meditation* 6, then, there is no account of volition, or the power of the soul over its body and its passions. That account first appears in *The Passions of the Soul*. Here in *Meditation* 6, Descartes’s model has three basic elements that remain essential for the future development of his theory: (1) the soul is retracted to the pineal gland; (2) the rest of the body outside of the ensouled pineal gland is modeled as a mechanism of nerves, muscles, animal spirits, other organs; (3) most importantly, the soul–pineal gland relation is specified as a one-to-one association between motions of the gland and the events (here sensations) thereby caused in the soul.

3. MODELING MAN AS HISTORICAL: INERTIAL PERSISTENCE OF BRAIN IMPRESSIONS

Descartes’s retraction of the soul to the pineal gland extends the principles of his physics to the rest of the human body, in particular, it extends his first law of nature, a principle of inertial persistence of motions and impressions made in matter, to the material of the brain cavity in which the ensouled pineal gland is seated.¹⁸ This idea first appears in his early (1630–1633), unpublished *Treatise on Man*:

Assume...that the chief characteristics of these filaments [that make up the walls of the brain cavity containing the pineal gland] are that they can be flexed rather easily in all sorts of ways merely by the force of the spirits that strike them, and that they can retain, as if made of lead or wax, the flexure last received until something exerts a contrary pressure upon them. (11:170; 2003, 79)

The animal spirits are hot, fast, subtle fluids, thus purely material. They interact with the pineal gland, as described in article 31 of the *Passions*:

the part of the body in which the soul immediately exercises its functions is...a certain extremely small gland, situated in the middle of [the brain], and so suspended above the duct by which the spirits of its

¹⁷ Also in *Man*, “the force of the soul of which I shall speak later on” (11:179; 2003, 91) but that discussion does not appear in the extant text of *Man*.

¹⁸ The first law of nature is given in *The World*, chap. 7 (11:38; 1985, 1:93), and again at *Prin.* 2.37 (8A:62; 1985, 1:240–41). As formulated in *Prin.* 2.37, it reads “each [material] thing, in so far as it is simple and undivided, always remains in the same state, as far as it can, and never changes except as a result of external causes.” For an analysis of Descartes’s first law of nature see Hassing (1984, 1992). In the present essay, I use the term “inertial” loosely, to refer to persistence of states of size, shape, and motion that are not goal-directed or teleological, that can be changed only by some external agency, and that (unlike a wound that heals) do not thereafter return to the previous state.

anterior cavities are in communication with those of the posterior that its slightest movements can greatly alter the course of these spirits, and conversely the slightest changes taking place in the course of the spirits can greatly alter the movements of this gland.

Descartes's mechanical brain model is nicely pictured in the *Treatise on Man* (11:759; 2003, 77):

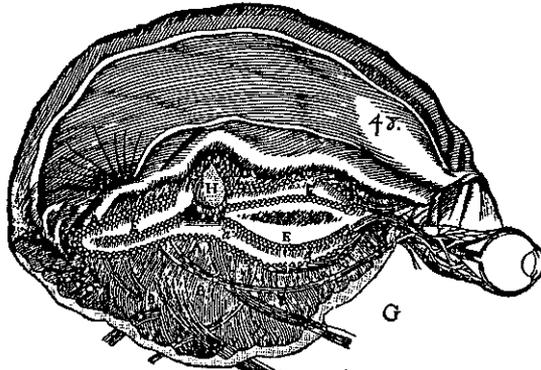


Figure 24

Fig. 24 shows the pineal gland, H, the cavity that contains it in its enviroing flow-field of (invisible) animal spirits; it shows eyes, and nerves (hollow fibers that transmit animal spirits) from the eye to the brain cavity.¹⁹

Most importantly (model element 3, above), movements of the gland are hypothesized to cause the soul to have various sensations. Let us call it for now the *sensation-motion association*. As he first states it in *Man*,

I assert that when God will later join a rational soul to this machine... He will place its chief seat in the brain and will make its nature such that, according to the different ways in which the entrances of the pores in the internal surface of this brain [housing the pineal gland] are opened through the intervention of the nerves, the soul will have different feelings (*sentimens*). (11:143; 2003, 36–37)

The class of sensations treated by Descartes in *Man* consists of internal sensations (e.g., pain, pleasure), external sensations (perceptions of the five senses), natural appetites (e.g., hunger, thirst), and sixteen emotions. The list of emotions bears little resemblance to Descartes's final presentation in the

¹⁹ The three figures from *Man* shown in the present essay (Figs. 24, 29, and 30) were drawn by Gerard van Gutschoven for Claude Clerselier's 1664 edition of the work (Descartes 1996, 11:119; 2003, xxiv, xxxv).

Passions, in particular, the passions of wonder, esteem and contempt do not appear in *Man*, or in any work prior to the *Passions*.²⁰ We thus have evidence that, while the psychophysical undergirding is in place from the beginning of Descartes's intellectual career, his enumeration of the passions changes, i.e., his account "as a Physicist" is necessary for the fulfillment of his anti-Scholastic intention, but not sufficient or determinative for his positive teaching. The non-use of physics in Descartes's account of the soul would then be just as significant as its use.

In the *Passions*, the sensation-motion association is introduced in article 34:

And let us add here that the little gland which is the principal seat of the soul is suspended among the cavities containing these spirits in such a way that it can be moved by them in as many different ways as there are differences capable of being sensed in objects, but that it can also be moved diversely by the soul, which is of such a nature that it receives into itself as many different impressions—that is as many different perceptions—as there are different movements which take place in this gland.

Descartes's psychophysical theory thus allows for the accumulation over time of impressions in the lead- or wax-like parts of the brain with corresponding effects on the soul. Past encounters with sense objects, including words, spoken and written, are the typical sources of these impressions. The resulting effects in the soul are passions, perceptions, imaginations and beliefs; more specifically, they involve *connections* between a passion and a perception, a passion and an imagination, a passion and an opinion (I discuss these pair-correlations in Section 9, below). These effects persist until a new alteration is impressed in the brain, either by chance or by art. This non-teleological process takes place in the brain along with the fixed and purposive teaching or institution of nature, which is accordingly overlaid and, as noted above, can be overridden.²¹

²⁰ For the sixteen emotions mentioned in *Man* (curiosity may be a seventeenth), see Descartes 1996, 11:164–67; 2003, 70–73. For the seven or more mentioned in *Principles* 4.190 and 197, see Descartes 1996, 8A:316–17, 321; 1985, 1:280–81, 284. These lists stand in clear contrast to the ordered list of forty passions in *The Passions of the Soul*.

²¹ Descartes needs to account for the distinction between teleological and inertial brain alterations and associated events in the soul. For example: the perception in my soul caused by sticking my finger in a flame is permanent and permanently connected to a strong desire (a passion) to pull my finger out of the flame. Here the association between pineal gland motions (mechanically caused by the flow of animal spirits directed by nerves from my finger to my brain, etc.) and events in my soul cannot be overridden by any new experience that impresses a new channel in the lead-like surfaces of my brain cavity such that, e.g., I feel pleasure with my finger in the flame and a desire to keep it there. Descartes

Descartes's ingenious theory thus models the process whereby nature's original and beneficent teleology (the institution of nature) is altered over time by psychophysical "deposits"—by the accretion of perceptions, passions, and imaginations, and of unexamined opinions about the beneficial and the harmful, the great and the small.²² Thereby man is a historical, not simply biological being. But I have gotten ahead of the story; the incorporation of speech (words) within the sensation-motion association occurs only with that of volition, Section 5, below.

It is important to draw the contrast between Descartes's new doctrine of the human soul, which we could call pineal-gland "hylomorphism," and what is thereby rejected, namely, Aristotle's whole-body hylomorphism.²³

In the Aristotelian-Scholastic teaching, the soul is a principle of life and life-functions in the living body, whether plant, animal or human, that is, soul is a general, biological principle. The soul is not a quantitative part of the body, like the battery in a watch, but is rather in the whole body as such. In fact, the parts of an ensouled body are what they are and act as they do only in terms of the whole they compose. If separated by dissection from the whole, they cease to be what they were. As Aristotle says, "[T]he whole must of necessity be prior to the part; for if the whole [body] is destroyed there will not be a foot or a hand, except [metaphorically] as when one speaks of a hand made of stone" (*Politics* 1253a20–22; 1984, 37). Most importantly for our present purposes, soul is *entelecheia*—translated 'actuality' or, following Sachs (2001, 1–42, 79–80), 'being-at-work-staying-itself'. "If the eye were an animal, the soul of it would be its sight... just as the eyeball and the power of sight are the eye, so here the soul and the body are the living thing" (*On the Soul* 412b19–413a3; 2001, 83). One could discuss these remarkable formulations for a long time, but most relevant for my present purpose is that, on this

does not provide this account; it is simply assumed that the association between pineal gland motions and events in the soul has these two components, one fixed by the purposive institution of nature, the other variable in function of our particular experiences.

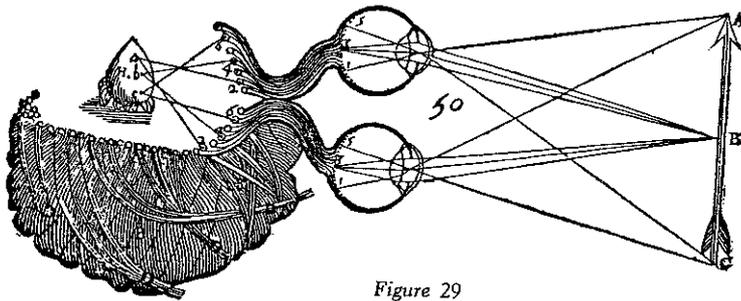
²² For Descartes's portrayal of this situation, see *Discourse* 1 and 2 (6:4–17; 1985, 1:112–19). Nothing that results from the particularity of our embodiment is any good.

²³ In the Aristotelian doctrine, the soul is in the whole body, as the Cartesian soul is in the whole pineal gland. But, in a more precise sense, my use of the term "pineal-gland hylomorphism" is inaccurate because the Cartesian doctrine omits the determinate form-matter (power-organ) correlativity that is distinctive of the Aristotelian account. As Aquinas explains it, "in reference to those...operations that a soul carries out through bodily organs, its whole capability, its power, is in the whole body but not in each part, because diverse parts of the body [e.g., an eye] are fitted to diverse operations of the soul [e.g., seeing]" (Aquinas 1984, 141).

traditional account, the soul is spatially coextensive with the body. Therefore, there is little scope for certain things that could be spatially external to the soul but internal to the body, and which affect the soul without the soul's knowing that the cause of its experience has no existence outside of its body.

4. FIRST FRUIT OF THE THEORY: INVOLUNTARY IMAGINATIONS

The psychophysical model covers not only sense perception, but also a type of imagination that is involuntary and uncontrolled. Usually, according to Descartes, the flows of animal spirits to the brain proceed via the nerves from encounters with external objects of the senses, and this models sense perception, for example, seeing something (an arrow) as in Fig. 29 of *Man* (11:763; 2003, 84):



Here, rays of light from an external object enter the eyes, determining animal-spirit flows through the optic nerves into the brain cavity whose configuration directs them onto the pineal gland, which finally causes a representation of the visible object in the soul.²⁴

But, in contrast to what happens usually, there may also be random flows of the animal spirits contained wholly within the brain and not coming via nerves from present objects of the senses. In such cases, as described in *Man*,

²⁴ Beyssade (2003) provides a thorough and accurate explanation of Descartes's neuro-mechanics of perception.

...past things sometimes return to thought as if by chance and without the memory of them being excited by any object impinging on the senses.

But if several figures are traced in this same region of the brain almost equally perfectly, as usually happens, the spirits will acquire a [combined] impression of them all, this happening to a greater or lesser degree according to the ways in which parts of the figures fit together. It is thus that chimeras and hypogryphs are formed in the imagination of those who daydream, that is to say who let their fancy wander listlessly here and there (*errer nonchalamment*) without external objects diverting it and without the fancy's being directed by reason. (11:184; 2003, 96)

As Descartes explains it later in article 21 of the *Passions*, “About imaginations that have only the body as cause”:

the [animal] spirits, agitated in various ways and coming upon traces of various impressions which have preceded them in the brain, haphazardly take their course through certain of its pores rather than others. Such are the illusions of our dreams and likewise the waking reveries we often have, when our thought wanders carelessly (*erre, nonchalamment*) without applying itself to anything of its own accord.

What Descartes describes here, based on his early-rising and long-standing model (note his use of the same words in the early *Man* and late *Passions*), are cases of involuntary imaginings, which “have only the body as cause.” In these cases, physical traces or channels in the brain cavity were impressed in the past by animal-spirit flows from sense objects that are now forgotten, but the impressions have persisted in the brain in a way that can affect the present experience of the soul, unawares; that is, the soul can be unaware of the true cause—this peculiar mechanism of chance and necessity inside the brain—of its imaginations and associated passions, which it accordingly misinterprets.²⁵

To sum up thus far: pineal-gland hylomorphism, body mechanism (of nerves and animal spirits), and sensation-motion association are the three essential components of Descartes's psychophysical theory. In *The Passions of the Soul*, a new addition, namely, volition, is built onto this edifice.

²⁵ Malebranche (*Recherche de la Vérité*, Book 2, Part 3, Chap. 6, Sec. 1; 1997, 191–92) provides a striking example: people who believed they had really attended a witches' sabbath when they were only dreaming.

5. DEVELOPMENT OF THE THEORY: VOLITIONS IN THE SOUL CAUSE MOTIONS IN THE BRAIN

In *Man* and *Meditation 6* we have Descartes's account of the mind-body union or the composite of soul and body. But in these earlier writings, the soul remains passive in its union with the body. It is only in *The Passions of the Soul* that volition—the soul's active function in its union with the body—first appears (aa. 17–20) and is thematically treated.²⁶ There, the one-way connection from pineal-gland motions to sensations in the soul is generalized and becomes reciprocal: along with sensations in the soul, Descartes includes the soul's volitions, which are posited by him to cause pineal-gland motions, again (without justification), according to a one-to-one correspondence.²⁷ The mechanism of nerves and animal spirits then transmits volitional motion from the pineal gland to the organs of sense perception and the limbs of the body. Descartes's general term for the soul's sensations and volitions, as well as all that we would today call the contents of consciousness, including perceptions, imaginations, words and their meanings, judgments and, finally, the passions, is *thoughts*.²⁸ The correspondence between thoughts in the soul and motions of the pineal gland is the most important part of his psychophysical model; it is the only link between the psychic and the physical, the soul and the body—and the world beyond. The thought-motion association is fundamental to Descartes's entire account in *The Passions of the Soul*, it is “the principle on which everything I have written about them [the passions] is based” (a. 136).

Article 44 states the key feature of the thought-motion association: it has two components, one fixed by nature, the other variable over time in function of our experience:

[E]ach volition is naturally joined to some movement of the gland, but...by artifice or habituation (*par industrie ou par habitude*) one can

²⁶ I exclude the earlier discussion of the freedom of the will in *Med. 4* (1641) because that account is about the acquisition of (or restriction of the judgment to) clear and distinct knowledge; it not about the soul-body composite, which renders our perceptions confused and obscure (*Passions*, a. 28; compare *Med. 4*, 7:62). Furthermore, in contrast to *Med. 4*, wherein “we do not feel we are determined by any external force” (7:57), when it is a matter of the soul's relation to the body and the passions, we *do* feel the external force, e.g., of fear (our legs and back are turning to flee and we perceive it; aa. 36–38).

²⁷ See note 16, above.

²⁸ “[A]ll the operations of the soul, so that not only [clear and distinct] meditations and acts of the will, but the activities of seeing and hearing and deciding on one movement rather than another, so far as they depend on the soul, are all thoughts” (To Reneri for Pollot, April or May 1638, 2:36; 1991, 97), also *Med. 2* (7:28 and 9A:22).

join it to others. . . . [N]ature or habituation (*la nature ou l'habitude*) has diversely joined each movement of the gland to each thought.

This, again, is the hypothesis that is “placed under” the phenomenon of the variability over time and place of human dispositions and character types. Like any hypothetico-deductive model in the modern scientific sense, it is supposed to yield a prediction. What it predicts is a new moral *techne*, namely, behavior modification, announced by the title of article 50: “[T]here is no soul so weak that it cannot, when well guided, acquire an absolute power over its passions”—this is to be the work of artifice (*industrie*) in the mastery of the passions. We examine the plausibility of this deduction in Section 9, below. It suffices for now to say that Descartes’s ingenious psychophysical theory is intended to ground the distinction between nature and history, as explained above, and, within our history, the distinction between a dark and confused past and a brighter, clearer future.

It is important to be aware of Descartes’s concern with speech, or, more accurately, human language. A simple textual indication of this is that the crucial, culminating section of the general theory of the passions—articles 45–50, on the soul’s power over its passions—is bracketed by two articles that mention language: learning to speak a language in article 44, and learning to understand one in article 50. Learning to transmit and receive *meanings* through words exemplifies “habituation” in the variable component of the thought-motion association. The meanings of words are, for Descartes, the most important class of thoughts that can be associated with pineal-gland motions and resulting passions and movements of the human body. “For we see,” he says, in *Principles* 4.197 (8A:320; 1985, 1:284), “that spoken or written words excite in our minds all sorts of thoughts and commotions.”²⁹ For Descartes, then, volition, and thus the freedom of the will, can be adequately understood only as seated in the medium of our speech about good and evil, great and small. To be truly free, we must judge rightly what is beneficial and estimable. For this, we must be free of distorting imagination.

²⁹ “*Nam videmus verba, sive ore prolata, sive tantum scripta, quaslibet in animis nostris cogitationes et commotiones excitare.*” In the 1647 French translation: “[N]ous voyons que les paroles, soit proferées de la voix, soit écrites sur du papier, luy sont concevoir toutes les choses qu’elles signifient, et luy donent ensuite diuerses passions” (*Principles*(F) 4.197, 9B:315–16).

6. VOLUNTARY AND PARTIALLY VOLUNTARY IMAGINATIONS

We have seen Descartes's account of involuntary imaginations in *Man* and article 21 of the *Passions*. But the soul is not only passive, subject to imaginations having only the body as cause, it is now active, able to will, to think and speak, to form images voluntarily, and to move its body. This must be the case if Descartes is to account for his own production of his books. Articles 17–20 of the *Passions* begin Descartes account of the functions of the soul, both active and passive. These four articles are essential for the following analysis and I replicate them here.

Article 17. What the functions of the soul are.

After having thus taken into consideration all the functions that belong to the body alone, it is easy to understand that there remains nothing in us that we should attribute to our soul but our thoughts, which are principally of two genera—the first, namely, are the actions of the soul; the others are its passions. The ones I call its actions are all of our volitions, because we find by experience that they come directly from our soul and seem to depend only on it (*& semblent ne dependre que d'elle*); as, on the other hand, all the sorts of cases of perception or knowledge to be found in us can generally be called its passions, because it is often not our soul that makes them such as they are, and because it always receives them from things that are represented by them.³⁰

Article 18. About Volition.

Again, our volitions are of two sorts. For the first are actions of the soul which have their terminus in the soul itself, as when we will to love God or in general to apply our thought to some object that is not material. The others are actions which have their terminus in our body, as when, from the mere fact that we have the volition to take a walk, it follows that our legs move and we walk.

³⁰ Any undergoing, being acted upon, or reception of the soul not initiated by itself is, for Descartes, a passion in the wide or general sense (a. 25), for example, seeing the color of a body; it is not up to us whether it is red or blue. The human emotions—passions in the narrow and proper sense and the subject of this book—are then a subclass of the passions in general. They are defined in a. 27 as “perceptions or sensations or excitations of the soul which are referred to it in particular [for example, I am afraid] and which are caused, maintained, and strengthened by some movement of the [animal] spirits.” The *proximate* cause of my fear is thus something of which I have no awareness; it is not the apparently frightful object that is now before me. How the causality of our passions is distributed between internal brain processes, our past experience, and the presently appearing object is a major theme of *The Passions of the Soul*.

Article 19. About Perception.

Our perceptions are also of two sorts, and the first have the soul as cause, the others the body. Those which have the soul as cause are the perceptions of our volitions, and of all [1] the imaginations or [2] other thoughts that depend on them. For it is certain that we could not will anything unless we perceived by the same means that we willed it. And though with respect to our soul it is an action to will something, it can be said that it is also a passion within it to perceive that it wills. Nevertheless, because this perception and this volition are really only a single thing, the denomination is always made by the nobler one, and so it is not usually named a passion, but an action only.

Article 20. About imaginations and other thoughts that are formed by the soul.

When our soul applies itself to imagine something which does not exist—as to represent to itself an enchanted palace or a chimera—and also when it applies itself to attend to something which is solely intelligible and not imaginable—for example to attend to its own nature—the perceptions it has of these things depend principally (*dépendent principalement*) upon the volition that makes it perceive them. That is why they are usually (*on a coutume*) regarded as actions rather than passions.

Article 17 specifies the actions of the soul as “all of our volitions, because we find by experience that they come directly from our soul and seem to depend only on it (*& semblent ne dependre que d'elle*).” What we are to make of the word *seem* is unclear but we can hazard an interpretation of it in view of the next article.

Article 18 subdivides our volitions into those that terminate (produce an effect) in the soul and those that terminate in the body. The latter are exemplified simply by willing “to take a walk” or to pick up a pen. Volitions that terminate in the soul are exemplified by “will[ing] to love God or in general to apply our thought to some object that is not material.” Descartes’s example points to metaphysics, theology and religion—to our highest and most compelling concerns, theoretical and practical. It reminds every reader of the Bible of the Judeo-Christian first great commandment.³¹

³¹ “The first of all the commandments is, Hear, O Israel, the Lord our God is one Lord [Deut. 6:4–5]: And thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind, and with all thy strength” (Mark 12:29–30). See also Deut. 4:29, 10:12, 11:13, 13:3, Josh. 22:5, Matt. 22:35–38, Luke 10:27–28.

Now willing to love God may “come directly from our soul” at the moment of willing, but does willing to love God “depend [in general] only on [our soul]” (a. 17)? Consider: A child prays under the instruction of parents and religious. It is only later in life that one could affirm by one’s own free decision the faith in which one had been raised, and, in the Christian teaching, that affirmation would not be simply autonomous but depend on God’s grace. Perhaps these issues are indicated by Descartes’s assertion in article 17 that our volitions (thus willing to love God) *seem* to depend only on the soul.

In any case, article 18 raises the immense question of the nature of God or the first principle of the universe: How should it be understood and taken as an object of our volition—of our will “to love” or “to apply our thought” to it? Could this question ever be adequately answered “as a Physicist”? Descartes makes no attempt to do so in *The Passions of the Soul*. There, in article 83, we learn that God (correctly known) is the principal object of devotion: “As for Devotion, its principal object is without doubt the supreme divinity, to which we cannot fail to be devoted when we know it as we should (*Pour ce qui est de la Devotion, son principal objet est sans doute la souveraine Divinité, à laquelle on ne sçauroit manquer d’être devot, lors qu’on la connoist comme il faut*).”

As an object of devotion, “we expect only good” (a. 162) from God. It follows that God is not an object of veneration or reverence (as discussed in Section 8, below, on the Decii). Therefore, we need not fear and “try to render [God] propitious” (a. 162). This rather heterodox result (cf. Psalm 111:10) is part of knowing God “as we should.” It accords with Descartes’s noteworthy account of divine providence in articles 144–46, whereby all that lies beyond our power happens with an absolute, eternally decreed necessity. To believe otherwise is to reduce God to fortune, a chimera that men venerate.³² What lies within our power are “the things which this same decree has willed to depend on our free will,” namely, the scientific search for knowledge of causes (in order to dispel belief in fortune) and the practice of generosity (for the benefit of humanity; aa. 145–46, 156).

Article 19 is about perception. It states that “[o]ur perceptions are of two sorts, and the first have the soul as cause [in the sense of a.

³² For a fuller account of Descartes’s theology, we would have to go to his other writings—to the early correspondence, *The World, the Meditations, Objections and Replies*, the *Principles of Philosophy*, and to his notorious doctrine of the divine creation of the eternal truths. For a collection of relevant texts, see Hassing (2010).

18], the others the body”—the body (rather than objects of sense) because of the mediating role of the nerves and animal spirits between the soul and the world. Descartes takes up first those perceptions that have the soul itself as cause, namely, the perceptions of its own volitions.

First, then, “are the perceptions of our volitions, and of all the [1] imaginations or [2] other thoughts that depend on [our volitions]” (a. 19). For Descartes, we cannot will something without being aware, thus perceiving, at the same time that we are willing it. Most significant here is that Descartes now begins his explicit account of imagination. Of our volition to love, or apply our thought to God, what perceptions do we, or should we, have—imagination, i.e., mental pictures, or other thoughts, say, of a pure mind, which cannot be pictured? In his letter to Chanut of 1 February 1647 (4:607–10; 1991, 308–10), Descartes states that “nothing that is in God can be imagined...[for] he is a mind, or a thing that thinks,” and this suffices to secure God as an object of intellectual love (aa. 91, 141, 147), which the soul could have even without its body (unlike the passion of love).

The title of article 20 repeats this dichotomy (between what is and is not accessible to picture-thinking): it is “[a]bout imaginations and other thoughts that are formed by the soul.” In contrast, article 21, as we have seen, is restricted to “imagination [but not other thoughts] that have only the body as cause.” With the exception of love in article 18, the passions are first mentioned by Descartes in article 21, on haphazard imaginings. Although sense objects are the “most common and principal causes” (a. 51) of the passions, Descartes, nevertheless, asserts again, in the title of article 26, “[t]hat the imaginations that depend only on the haphazard movements of the spirits may be passions as truly as the perceptions that depend on the nerves.” My point is not to make clear something obscure, namely, why Descartes would *identify* passions with haphazard imaginations; it is rather to note more generally that he is conspicuously concerned with imagination as a problem.³³

By imagination here is meant not simply the reception and reproduction of interior images derived in the past from the senses—a capacity that is common to many animals—but a distinctively human, creative, *poietic* power. Descartes is interested in the question whether the things we thereby imagine are imagined voluntarily, involuntarily (as in a. 21), or in a

³³ “[E]verything presented to the imagination tends to deceive the soul, and to make the reasons for favoring the object of its Passion appear to it much stronger than they are, and those for opposing it much weaker” (*Passions*, a. 211).

manner intermediate between these two. Let us see how this issue emerges from the text.

Article 20: The soul can apply itself to imagine something that does not exist, for example, it can “represent to itself an enchanted palace or a chimera.” It can also “attend to something which is solely intelligible and not imaginable—for example...its own nature.” The soul can thus will (deliberately, voluntarily) to imagine non-existents and to think existents that are not imaginable (because only intelligible). In these cases, “the perceptions it has of these things depend principally (*dépendent principalement*) upon the volition that makes it perceive them [and so] they are usually (*on a coutume*) regarded as actions rather than passions.” The idea here is that the more the soul depends on itself alone and not on anything other in its functions, the more it is truly active or *autonomous*. So how should we interpret the adverbs “principally” and “usually” (or “customarily”) here in article 20? Clearly enough, one’s ability to think about intelligibles that are not imaginable, like the soul, or the mind, or the self, would depend principally on the one who is thinking, but also partly on others, namely, past teachers of philosophy, so in this case the soul would not be *completely* autonomous. The other case, here in article 20, willing to imagine something that does not exist—the enchanted palace or the chimera—is more subtle. Let us try to use Descartes’s example of the chimera, a grotesque, fire-breathing monster with a lion’s head, a goat’s body, and a serpent’s tail.³⁴ The chimera appears in Homer, *Iliad* 6.179–83, where it is killed by the heroic Bellerophon, *Iliad* 6.155–203.

In deliberately willing to imagine a chimera, one clearly depends on having seen the three different animals, or pictures of them, whose parts compose the chimera. So the soul would, again, be principally but not completely autonomous in its activity of imagining. But there still remains a significant difference between the following two cases: (1) someone who wills to imagine a chimera, knowing that it does not exist outside of the imagination, and (2) someone who wills to imagine a chimera without that knowledge, thus falsely believing that it exists or has existed. The first imagining could be for the sake of entertainment, for example, for making Harry Potter movies. The second imagining might occur, for example, to instill courage in the soul for a fight against a frightening enemy by recalling the inspiring precedent of Bellerophon in accordance with article 45: “[I]n

³⁴ As suggested by his 19 June 1639 letter to Desargues (2:554–55), Descartes’s other example, the enchanted palace, may refer to his greatest scientific achievement, analytic geometry, the cardinal example of the right, reason-guided use of imagination.

order to excite boldness and displace fear in oneself...one must apply oneself to attend to reasons, objects, or precedents (*les raisons, les objets, ou les exemples*).³⁵

Setting aside the question of how the chimera was originally created, we can say that, in the first case, the imaginer heard about the chimera from others and learned that it is fictitious. In the second case, the imaginer heard about it from others and believed the story.³⁶ In both these cases of voluntary imagining, we could say that the perception depends principally upon the volition to imagine the chimera, but the presence of the error—the false belief in the real existence of the chimera—in the second imaginer means that his or her volition is less free or autonomous, partaking less of action and more of being acted upon (by the opinions of others), than the volition of the first imaginer. For, from article 49, “there is...a great difference between resolutions [volitions] that proceed from some false opinion and those that rest on knowledge of the truth alone.” The second case would then, in view of article 18, be exemplified by one who believes in, and wills to love a chimerical (imaginary, unreal) God. The range of such a person’s will, which could exhibit great strength, would exceed that of his or her knowledge. This is Descartes’s standard formula for error in *Meditation* 4 (7:58; 1985, 2:40) and *Principles* 1.35 (8A:18; 1985, 1:204). Note that articles 45 and 49 together pose the question, what *are* the “[true] reasons, [best] objects, or [right] precedents” that one should think of in order to inspire in oneself the courage to face death? In other words, *for what ought one to be willing to die and to kill?* Obviously, free government is impossible in a society that cannot answer this question correctly to within reasonable limits, that is, limits that permit internal moderation and external defense.³⁷

³⁵ In a. 45, Descartes gives three examples of reasons, objects, precedents to which the soul should attend: “that the peril is not great, that there is always more security in defense than in flight, that one will have glory and joy from having conquered, whereas one can expect only regret and shame from having fled.” The first two aim at self-preservation, in accordance with the institution or teaching of nature, but with the third, glory, we transcend the biological in favor of goods esteemed more highly than life (a. 94).

³⁶ Descartes in fact describes this type of error in his early account of the composition of the simple natures in Rule 12: “we are liable to go wrong...when we take as true a story that someone has told us (*errori sumus obnoxii...si quis fabulam nobis narraverit, et rem gestam esse credamus*)” (*Regulae ad directionem ingenii*, 10:423; 1985, 1:47).

³⁷ For the Homeric hero, and the Decii, immortal glory is the object. For Socrates, was it not to save the life of philosophy that he accepted death? (*Apology*, 37e–38a). Neither Socrates nor Descartes could have imagined great nations dedicated to protecting the rights and freedoms (of inquiry, of conscience, of religion) of their citizens. Nor could they have imagined the colossal tyrannies of the twentieth century. For all who live after World War II, thus in the wake of Hitler and Nazism, Stalin and Communism, it is clear that some wars, although never desirable, are necessary and just; i.e.,

In the extreme, pathological case—beyond all limits—we have the fanatics, vividly described by Descartes in article 190 (11:472, lines 9–16), on self-satisfaction. They

imagine that they are such great friends of God that...everything their Passion dictates to them is righteous zeal, even though it sometimes dictates to them the greatest crimes man can commit, such as betraying cities, killing Princes, and exterminating whole peoples just because they do not accept their opinions (*d'exterminer des peuples entiers, pour cela seul qu'ils ne suivent pas leurs opinions*).³⁸

These are public, political crimes of men possessed by forms of *thumos*, not private transgressions related to the erotic pleasures or financial crimes prompted by the love of money. Their God—pleased by blood—is a Cartesian chimera. For the sake of recollection and a sense of our continuing history, let us consider some examples of what Descartes describes at the conclusion of article 190.

7. IMAGINATION AND VOLITION DERANGED: EXAMPLES

On May 14, 1610, King Henry IV, a convert to Catholicism (formerly Calvinist) who had issued the Edict of Nantes (1598) granting freedom of worship to French Huguenots, was assassinated by François Ravaiillac, a Catholic extremist, because Henry had allied himself with German Protestant princes against Catholic Spain in the wars for the independence of the Netherlands. Henry IV was the founder of La Flèche, the Jesuit college attended by Descartes from 1607 to 1615. The young Descartes was a participant in the ceremony of the interment of the heart of the slain king in the Church of St. Thomas at La Flèche (Gaukroger 1997, 43; Aczel 2005, 32–34). The crime of Ravaiillac is a clear example of “killing Princes.”

Henry Kissinger (1994, 60–61) contrasts Cardinal Richelieu with Ferdinand II, Holy Roman Emperor from 1619 to 1637, whose coronation in Frankfurt on September 9 Descartes attended (*Disc. 2*, 6:11; 1985, 1:116):

there is a consensus about what we should be willing to fight for, and against. But before the transformative fact of these regimes (thus in Descartes's time) the right reasons for facing death may not have been so clear.

³⁸ Jacques Maritain echoes these lines three centuries later in response to atrocities of the Spanish Civil War (Barré 2005, 315): “It is...sacrilege to pretend to enroll God in the passions of a struggle in which the adversary is considered unworthy of any respect or any pity whatsoever.”

Emperor Ferdinand II, Richelieu's foil, had almost certainly never heard of *raison d'état*. Even if he had, he would have rejected it as blasphemy, for he saw his secular mission as carrying out the will of God....Never would he have thought of concluding treaties with the Protestant Swedes or the Muslim Turks, measures which the Cardinal pursued as a matter of course....In 1596, while still an archduke, Ferdinand declared, "I would rather die than grant any concessions to the sectarians when it comes to religion"....In modern terms, he was a fanatic. The words of one of the imperial advisors, Caspar Sciopius, highlight the Emperor's beliefs: "Woe to the king who ignores the voice of God beseeching him to kill the heretics. You should not wage war for yourself, but for God."

In a similar vein, from the period of Dutch history just prior to Descartes, we have Ferdinand Alvarez de Toledo, the Duke of Alba (1507–1582), during the Eighty Years' War of Netherlands' independence from Spain, 1568–1648. Henry Kamen (2004, 85, 93) writes that:

In perhaps the most memorable phrase he ever penned [in 1567, Alba said] "it is better that a kingdom be laid waste and ruined through war for God and for the king, than maintained intact for the devil and his heretical horde"....Alba's regime [in Flanders] had already in three years executed ten times more people than the Inquisition of Spain was to execute in the entire reign of Philip II.

But Kamen adds this note (184, n. 73): "These figures should, of course, be seen in perspective. The indigenous Inquisition of the Netherlands had, before the coming of the Spaniards, executed more people...than the duke of Alba ever did."

These four (Ravaillac, Ferdinand II, Sciopius, Alba) exemplify what Descartes describes in the conclusion of article 190. They, and all who followed them, believed themselves to be part of a far greater whole whose greatness they partook of, and whose mission they subserved—and this, according to the definition of generosity, is not a legitimate reason to esteem oneself.

They illustrate as well the second case, above: voluntarily imagining a chimera erroneously believing in its real existence. For all were motivated by their extreme interpretations (cf. Richelieu) of existing religious traditions—traditions that, in their judgment, demanded restoration and purification in order to save them from heresy and apostasy. They showed great resolution or strength of will. Their convictions about their relationship to God (they are his chief executive officers) and about God's will (they hear

his voice beseeching them to kill) were not wholly involuntary, that is, not simply haphazard imaginings as in article 21. As such, we could say that their imaginings were of the intermediate type: partially voluntary by virtue of their false belief (a. 49) in the real existence of a murderous God.

As a final example, pertinent to our continuing history, consider the following from Osama bin Laden:

With God's permission we call on everyone who believes in God and wants reward to comply with His will to kill the Americans and seize their money wherever and whenever they find them....Our *umma* [the worldwide community of Muslims] has also been promised victory over the Jews, as our Prophet told us: "The Day of Judgment will not come until the Muslims fight and kill the Jews"...This *hadith* [al-Bukhari, no. 3,593] of the Prophet also contains a warning that the struggle against the enemy will be decided by fighting and killing, not by paralysis of the powers of our *umma* for decades through other means, like the deceptive idea of democracy....it is very important to mobilize our *umma* to defend itself against the Zionist-Crusader alliance. In fact, the Islamic *umma* is the greatest human power, if only the religion were properly established....Peace be upon those who follow true guidance. (Bin Laden 2005, 61, 190–91, 236).

On September 12, 2006, Pope Benedict XVI gave a speech at Regensburg in which he cited a Byzantine source criticizing Islam for its adherence to a God "pleased by blood" (Benedict XVI 2006). On October 13, 2006, 38 Muslim scholars and clerics replied (Royal Aal al-Bayt Institute 2006) in a letter remarkable for its gracious and moderate tone. They rejected the God pleased by blood and spoke of the authoritative and literate tradition of Islam. On October 13, 2007, 138 Muslim scholars and clerics issued an open letter (Royal Aal al-Bayt Institute 2007) to the Christian churches of the world affirming the centrality of the Two Great Commandments—to love God and to love one's neighbor—for both religions. In a recent article, titled "How Good a Christian Was Descartes?," Leszek Kołakowski (2000) writes that "Descartes has never fallen into oblivion...and controversies never stop." But there should be no controversy about this, that Descartes, the Pope, and the Muslim clerics and scholars would all agree that the God of today's violent jihadis and of the fanatics of Descartes's time is fictitious.³⁹

³⁹ Given their agreement that a God who wills that we kill each other over differing interpretations of God's will is a chimera, what might their disagreements be, that is, do Descartes, Christianity and Islam have the same or different teachings concerning how God wills, specifically, on the relation of divine will to divine intellect? That inquiry goes beyond the range of the present essay; see note 32, above.

Let us sum up: By means of articles 17–21, Descartes has pointed out a human poetic faculty, an ability to produce images in pictures and words that give rise to passions, but which faculty cannot, of and by itself, apprehend whether what is imagined really exists or not. Passionate images can leave persistent brain impressions, such that the representation of the image would reexcite the passion and vice versa (the model for such pair correlations is described in Section 9, below). This, according to Descartes, is part of “the whole nature of man,” the account of which is undergirded by his distinctive psychophysical theory. It is important, however, to emphasize what the psychophysics does not explain: it does not explain either the origins or the particular contents—the meanings in words and pictures—of the passionate images whereby human beings act and are acted upon.⁴⁰ There is thus more to our nature than what can be ascertained “as a Physicist.” This must indeed be the case because Descartes’s own positive teaching—on generosity (aa. 152–59)—is not derived from or reducible to his psychophysics. In general, the most essentially human things (speech and moral self-consciousness, speech about the noble, just, holy, and the spirited passions thereby engaged) are compatible with, but not derivable from or explained by the psychophysical model.

Descartes’s standpoint is, therefore, that his (aspirationally) scientific account of the causes of our passions and imaginations, together with his prescientific proclamation of the master virtue of generosity, can attenuate the otherwise destructive force of those imaginations and volitions that cause us to get ourselves and others killed “without knowledge of the truth” (a. 49), or at least without sufficient resolution to avoid error.

There are, however, two significant objections (listed in my Introduction, above) to my thesis on generosity, individualism, and the attenuation of *thumos*, which I now address.

8. INDIVIDUALISM AS ATHUMETIZATION: OBJECTIONS AND REPLIES

Let me begin by restating and sharpening my claim, in the face of which Descartes’s reference to the devoted self-sacrifice of the Decii

⁴⁰ As the *Discourse on the Method* makes clear, the question of the origins of foundational opinions (Kennington 2004, 200) is to be superseded by the new dispensation: “regarding the opinions to which I had hitherto given credence, I thought that I could not do better than to get rid of them, all at once, in order to replace them afterwards with better ones, or with the same ones once I had adjusted them to the standard of [my own autonomous] reason,” not the reason of my parents, friends, teachers, books, traditions (*Disc.* 2, 6:13–14; 1985, 1:117).

(aa. 83, 173), and his letters to Elizabeth of 15 September 1645 and to Chanut of 1 February 1647 on the subordination of the individual to the community appear to be strong counterevidence (4:293–95 and 607–13; 1991, 266–67 and 308–11).

The most serious disorders of human life come not from our biological nature but from the distinctive passions of esteem and contempt, for one's own self and for other objects (think of sectarian conflict, then and now). These passions, although variable in time and place by virtue of the different opinions from which they arise are, for Descartes, not simply by chance and beyond our control. They are humanly alterable, that is, they can be modified and corrected to a degree by Cartesian education, at the heart of which is the revelation of Descartes's own opinion about the one single thing in any human being that is truly worthy of esteem, namely, the right use of what is truly one's own, the only thing "for which we could rightly be praised or blamed"—one's own free will:

And because one of the principal parts of Wisdom is to know in what manner and for what cause anyone should esteem or scorn himself, I shall attempt to give my opinion about it here. I observe but a single thing in us that could give us just cause to esteem ourselves, namely the use of our free will and the dominion we have over our volitions. (Article 152)

Thus, in the master virtue and passion of generosity, what is truly one's own is identified as the sole source of legitimate self-esteem.

The account of generosity as seated in the individual involves the denial that one's being a part of a larger whole can be a legitimate reason for esteeming oneself: "whatever may be the cause for which we esteem ourselves, if it is anything other than the volition we feel within ourselves always to make good use of our free will...[then] it always produces a most blameworthy Pride" (a. 158; recall a. 203 on anger). Furthermore, "believing we cannot survive by ourselves" is a form of weakness and contributes to servility (a. 159). Indeed, for the generous, "there is nothing whose acquisition does not depend on them which they think is worth enough to deserve being greatly wished for" (a. 156). It is this strong individualism—an individualism of self-sufficiency, not of liberal-capitalist dependency on the market and division of labor—that I believe is essentially related to Descartes's project of athumetization in *The Passions of the Soul*. Descartes's teaching is that it is unwise for people to imagine themselves to be parts of greater wholes whose greatness they partake of, and whose mission they subserve, and thereby to

scorn or to fear and hate those whom they imagine to be opposed and harmful to that whole and its mission. In the context of the religious wars then, and religious and tribal violence now, we can see the sense of this and can thus appreciate a serious reason for the rise of liberal individualism in the West (even if some of us think it has gone too far). Nevertheless, the example of the Decii and the letters to Elizabeth and Chanut seem to contradict my claim that, for Descartes, it is in general unwise for people to imagine themselves to be parts of greater wholes. I consider each in turn, first, the Decii, then the two letters.

Devotion and the Decii. Article 83 is titled, “About the difference between simple Affection, Friendship, and Devotion.” Devotion is defined as the form of love in which the lover esteems the beloved more highly than himself. Descartes says that,

in Devotion we so prefer the thing loved to ourselves that we are not afraid to die to preserve it. We have often seen examples of this in those who have exposed themselves to certain death in defense of their Prince or their city, and sometimes even on behalf of private people to whom they were devoted.

The vivid example of the ceremonial acts of devotion by the Roman military commanders Publius Decius Mus (at Vesperis in 340 BC), his son (at Sentinum in 295), and grandson (at Asculum in 279) is cited in article 173:

[W]hen the Decii threw themselves into the midst of the enemy and flew to certain death....their end was to enliven their soldiers by their example and cause them to win the victory, of which they had Hope; perhaps their end was also to have glory after their death, of which they were sure.

The actions of the Decii at Vesperis and Sentinum are described by Titus Livy, in Books 8 and 10 of the *Histories* (Livy 1982).⁴¹

According to Livy (8.6.8–8.10.8; 1982, 164–71), shortly before the battle at Vesperis,

both consuls [Manlius and Decius], it is said, were visited [in a dream] by the same apparition...who told them that the general on one side

⁴¹ The book of Livy covering Asculum is lost. There can be little doubt that Descartes read Livy’s accounts of the Decii at Vesperis and Sentinum in Books 8 and 10. In his letter to Elizabeth of October or November 1646 (4:528–32; 1991, 296–98), which continues their discussion of Machiavelli’s *Prince*, Descartes writes that “I have recently read his discourse on Livy [*Discourses on the First Decade of Titus Livius*] and found nothing bad in it” (4:531; 1991, 297). The Decii are cited by Machiavelli in *Discourses*, 2.16.1, 3.1.3, 3.39.2, 3.45 (Machiavelli 1996, 160, 211, 298–99).

and the army on the other were due as an offering to the gods of the Underworld and Mother Earth; if either army's general should devote to death the enemy's legions and himself in addition to them, victory would fall to the people on his side. [Entrails and soothsayers corroborate the vision.] They then agreed together that on whichever flank the Roman army started to give way, the consul in command there should sacrifice himself on behalf of the nation and citizens of Rome.

The battle is joined and after some time, the Roman left wing commanded by Decius begins to buckle. After supplications and prayers to the gods, he devotes himself and rides into the midst of the enemy, "a sight to admire for both armies, almost superhuman in its nobility, as if sent from heaven to expiate all anger of the gods and deflect disaster from his own people to the Latins." The Latins are terrified, the Romans "freed from religious uncertainty." In the meantime, Manlius skillfully launches a counterattack by fresh troops. He reassures them that they face enemy troops who are tired, exhorts them in the name of their country, their family, and their consul, "who lies dead to bring you victory." The Latins are routed, three quarters of them are killed. Livy:

But of all the citizens and allies, the consuls won the greatest glory in that war. One of them [Decius] drew all the threats and dangers from the gods above and below on to himself alone, while the other [Manlius] displayed such courage and wise tactics on the field that it is readily agreed amongst Romans and Latins alike who have handed down to posterity a record of this battle that which ever side had been led by Titus Manlius would undoubtedly have been victorious. (1982, 169–71)

Both Manlius and Decius won glory, but Manlius won the battle; i.e., the act of devotion by Decius was not the real cause of the victory.⁴²

Livy's description of the battle of Sentinum (10.28.1–10.29.17; 1982, 327–31) makes the same point: the act of devotion was not the essential cause of the Roman victory and, furthermore, there was needless loss of life due to the impatience and spiritedness of Decius, Jr.:

But although victory was still open to both sides and Fortune had not yet decided which way to tip the balance, the fighting was completely

⁴² In fact, it was not even necessary—Decius could have devoted someone else: "Here I think it should be said that when a consul, dictator or praetor devotes the legions of his enemy he not need necessarily devote himself, but may choose any citizen he likes from an enlisted Roman legion" (8.10.11; 1982, 171–72). Whom should he devote? The soothsayer who gave him the bad report ("the head of the liver was cut where it had special reference to his family"; 8.9.1; 1982, 169); see Livy, 10.40–41 (1982, 345–48), and Machiavelli, *Discourses*, 1.14.1–2 (1996, 41–42), on the chicken-men.

different on the right and left wings. The Romans with Fabius stayed on the defensive instead of pressing the attack....Fabius was satisfied that both Samnites and Gauls were fierce fighters at the start of an attack but only needed to be withstood, for if the struggle dragged on [they would soon weaken]. He was therefore keeping his men fresh, with vigor unimpaired as far as he could, until the time came when the enemy usually began to fail. But Decius was more impatient, being young and high-spirited (*ferocior Decius et aetate et vigore animi*; 10.28.6), and let loose all the resources he had at the first encounter.... they would win double glory, he said, if victory came first to the left wing and the cavalry.

Decius ends up with a fiasco and has to perform the act of devotion like his father. Then,

[w]ith these imprecations upon himself and the enemy he galloped his horse into the Gallic lines....to meet his death....[T]he pontiff Livius...cried out that the Romans had won the day....The Gauls and Samnites now belonged to Mother Earth and the gods of the Underworld; Decius was carrying off the army he had devoted....and on the enemy's side all was madness and terror. Then as the Romans were restoring the battle, up came Lucius Cornelius Scipio and Gaius Marcius, sent by order of Quintus Fabius to support his colleague, with reserves taken from the rearmost line....25,000 of the enemy were killed on that day and 8000 taken prisoner. Nor was it a bloodless victory; for the casualties in the army of Publius Decius amounted to 7000, while Fabius lost 1700. (Livy 1982, 327–31)

Had Decius not given in to his desire for glory (“they would win double glory”), had he remained cool and shown the tactical skill of Fabius, he would not have been responsible for the loss of over three times the number suffered on Fabius’ side.

Descartes does not endorse what went on at Veseris and Sentinum. Specifically, he does not endorse either zeal for military glory or the use of religion as an instrument of war. Regarding the former, Descartes’s view can be discerned in the amusing conclusion of article 211: “beg for mercy.”⁴³ Regarding the latter, Descartes’s distinction between devotion and veneration pertains.

⁴³ The passage is addressed to “those who are accustomed to reflecting on their actions” and what they can do in the face of the distorting passions of fear or anger, “[a]s...when one is unexpectedly attacked by some enemy.” Descartes advises that, if “they feel both the Desire for vengeance and anger inciting them to rashly pursue those attacking them, recall that it is imprudence to lose oneself when one can save oneself without dishonor, and that if the contest is very unequal, it is better to make an honorable retreat or beg for mercy than to expose oneself senselessly to certain death” (11:487–88; 1989, 134).

What the soldiers feel for their gods in Livy's account is called *veneration* by Descartes (aa. 55, 162), not devotion. It is the passion we have for objects that we highly esteem and believe to be "capable of doing us good or evil," but we are uncertain "which of the two they will do," i.e., we do not know what to expect. Before such an object, we therefore "submit... with a certain apprehension, in order to try to render it propitious" (a. 162). The highest or most extreme form of propitiation is the killing of a sacrificial human victim. The difference between veneration (what Livy describes as devotion) and true devotion—for Descartes, the highest form of love (a. 83)—is that, in the latter, "we expect only good" from the object that we love and greatly esteem: "For we have Love and Devotion, rather than a simple Veneration, for those from which we expect only good" (a. 162). Descartes thus revises the meaning of religious devotion (as discussed in Section 6, above) by purging it of uncertainty, apprehension, and propitiation.

The letters to Elizabeth and Chanut. Descartes's individualism does not mean that we should isolate ourselves from, or neglect our obligations to family, friends and community. In the letters to his friends Elizabeth and Chanut, Descartes makes clear that we are parts of certain larger wholes for the defense of which we should be willing to risk our lives if necessary:

[W]hen a person risks death because he believes it to be his duty, or when he suffers some other evil to bring good to others, then he acts in virtue of the consideration that he owes more to the community of which he is a part than to himself as an individual (*qu'a soy mesme en son particulier*). (To Elizabeth, 4:294)

But a careful reading of these letters accords with what we could call the de-politicization and (a barbarism) *de-religionization* of *thumos*—or, equivalently, with the athumetization of religion and politics. In the following, I treat the two letters together, citing only the page numbers in Descartes 1996, vol. 4. Both contain instructions regarding (1) our relation to God and (2) our relations to other people.

Regarding our relation to God: Both letters make a distinction between "loving divinity" ("a very great error") and "loving God" (608), for which we must know God as we should (294), which in turn requires that we form an idea of the immensity of the created universe and, by comparison, our own minuteness (292, 609–10). The great error consists in wanting to take God's place (609), i.e., wishing "to belong to God's council and assist him in the government of the world," which is "absurdly presumptuous" and "will

bring us countless vain anxieties and troubles” (292). The root of the error is the belief that we are the peak of creation (292, 608). There is obviously no basis for sacrificing one’s life out of devotion (a. 83) to God because God is indestructible; our death will not save God’s life. Both letters enjoin absolute submission to God’s will (294, 609) but this can only mean focusing on “the things that [God] has willed to depend on our free will” (a. 146), acquiring generosity, and seeking the knowledge of causes in order to dispel belief in fortune (a. 145).

Regarding our relations to others: In practice, “none of us could subsist alone...each one of us is...a part of the earth, the state, the society and the family to which we belong by our domicile, our oath of allegiance and our birth,” and “the interests of the whole, of which each of us is a part, must always be preferred to those of our own particular person—with measure, of course, and discretion” (to Elizabeth, 293), which includes the rule that “all our passions represent to us the goods to whose pursuit they impel us as being much greater that they really are,” so beware of distorting imagination (a. 211).

We can order ourselves in relation to the whole in a variety of ways. Descartes describes a hierarchy of cases, from the selfish subordination of “everything in relation to [one]self” to the complete subordination of oneself to the community, i.e., someone who “would even be willing to lose his soul (*voudroit perdre son ame*) to save others” (293). This is striking and puzzling from any Christian perspective (Matt. 16:26). Is Descartes accusing Christians of not being truly dedicated to others because of their ultimate self-concern? In the wars of religion, did not Christians in fact do the opposite of what Descartes describes: kill others (Christians) in order—as they imagined it—to save their own soul? Or is he saying that no one is absolutely selfless, not even the Christian, so self-concern must be given its due as fundamental to our being? Perhaps both are implied. At any rate, “one must... examine minutely all the customs [and opinions] of one’s place of abode to see how far they should be followed,” thereby to avoid irresolution (295).

The letter to Chanut also includes a striking passage, on devotion to one’s “prince or [one’s] country,” i.e., it is political:

[I]f his love is perfect he should regard himself as only a tiny part of the whole which he and they constitute. He should be no more afraid to go to certain death for their service than one is afraid to draw a little blood from one’s arm to improve the health of the rest of the body. Every day we see examples of this love, even in persons of low

condition, who give their lives cheerfully for the good of their country or for the defense of some great person they are fond of. (612)

Keohane (1980, 191, n. 18) provides evidence that this is bitter irony or Machiavellian black humor. Descartes's "persons of low condition" are without education, have nothing to gain and nothing to lose; as described, they are hapless cannon fodder. But most striking is the juxtaposition of this passage with the sentence that follows, which is religious: "From all this it is obvious that our love for God should be, *beyond comparison*, the greatest and most perfect of all our loves" (613; my emphasis). Should we die cheerfully for prince or country, objects incomparably less lovable than God, for whom (rightly known) it makes no sense to die? The implication is that if rulers understood things this way (as Elizabeth and Queen Christina of Sweden, revered by Chanut, no doubt did) fewer people would be dying absurdly for a "very great error." This is what I mean by the athumetization of religion and politics; it would indeed be useful, and if Descartes stands for anything, it is certainty (as much of it as possible) for the sake of utility: "I had an extreme desire...[to] acquire a clear and assured knowledge of all that is useful for life" (*Disc.* 1, 6:4; 1985, 1:113).

Let us then turn to a final piece of Cartesian psychophysics, to his quaint model of the connection or pairing—accidental but inertially persistent—of a passion with a perception, an imagination, or an opinion. It is supposed to shed new light on the heretofore unrecognized causes of certain of our passions, and thereby open new possibilities for the amelioration of their disorders, i.e., it is supposed to be useful.

9. MAKING NEW CONNECTIONS:

A CLAIM FOR MASTERY OF THE PASSIONS

Article 50 of *The Passions of the Soul*, which concludes Descartes's general theory of the passions, is provocatively titled, "That there is no soul so weak that it cannot, when well guided, acquire an absolute power over its passions." How is this possible? Is the scientific apparatus supposed to show its possibility, and, if so, does it succeed? I argue here that (1) the scientific apparatus *is* supposed to reveal this remarkable possibility but (2) it does not succeed.

Figure 30 of the *Treatise on Man* shows a linen cloth pierced by an array of needles:

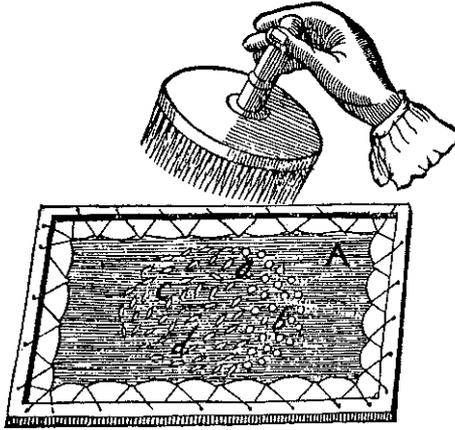


Figure 30

This quaint Cartesian model is supposed to represent concomitance in the origin of two or more impressions in the brain cavity (which is supposed to be like the cloth) in which the pineal gland is seated. Once made, the impressions (holes in the cloth) then persist in such a way that “if one were merely to reopen some, like a and b, that fact alone could cause others like c and d to reopen at the very same time” (11:178; 2003, 90). In Descartes’s psychophysics, the model works as follows: Each of the concomitant impressions in the surface of the brain cavity channels animal-spirit flows such that the pineal gland is moved in a compound way that causes the soul (via the thought-motion association) to have a set of passions and perceptions, or passions and imaginations, or (again, a. 149) passions and opinions that are connected to each other such that the excitation of one causes the excitation of the other(s).⁴⁴

Descartes’s immediate aim here in *Man* is to account physiologically for associative memory in humans and animals, or “how the recollection of one thing can be excited by that of another” (11:178; 2003, 89–90). Accordingly, the array of needles in Fig. 30 is rigid so that the distances and correlations between the holes in the cloth are not accidental. Thus, for example, we imagine a whole face whenever we see any of its parts. The set of physical imprints on the brain associated with such past perceptual experiences accounts for the persistent connections in the way we now

⁴⁴ An important assumption is well noted by Voss (Descartes 1989, 110, n. 14): “On what grounds should it be expected that the *mechanical* combination [the vector sum] of the movements of spirits that [via the pineal gland] separately produce [a pair of thoughts, e.g.] joy and desire will yield a passion that is” a combination of joy and desire? Descartes assumes without justification that his thought-motion association is, in mathematical language, linear.

remember and imagine wholes whose parts are by nature connected. But the concomitant brain impressions need not be connected or correlated in this way (by nature, essentially). Thus, as discussed above, we also imagine certain wholes whose parts are in reality not connected at all, for example, chimeras.

Finally, the two or more concomitant brain impressions may represent objects that are really connected (unlike the chimera) but only accidentally (unlike the normal human face). Descartes provides an example of this in his letter to Chanut of 6 June 1647, in which he describes a quirky episode from his own past, namely, his youthful affection for girls with slightly crossed eyes—an instance of an emotion (love) being excited by the perception of something accidental to its object (slightly crossed eyes):

[T]he impression made by sight in my brain when I looked at her crossed eyes became so closely connected to the simultaneous [brain] impression that aroused in me the passion of love that *for a long time afterwards* when I saw persons with slightly crossed eyes I felt a special inclination to love them more than others simply because they had that defect. (5:57; 1991, 322; emphasis mine)

Here, brain-impression concomitance and thought-motion association link our perceptions and passions in ways that are irrational, leading to the excitation of passions that we may not wish to have, or, by an easy extension of the theory, ought not to have, for example, hatred (religious, ideological, racial, ethnic), but which we cannot control without adequate knowledge (heretofore lacking) of their causes. Descartes thus goes on to say that, having understood “the reason for [his] love;...as soon as [he] reflected on it and recognized that it was a defect, [he] was no longer affected by it” (5:57; 1991, 322). Through scientific self-knowledge, Descartes disconnected the passion of love in him from the perception of slightly crossed eyes.

Despite Descartes's fanciful physics (the needles and cloth model, whose behavior is not warranted by his laws of nature), his deeper point is that the object of our passion—what presently appears before us in sense perception—may not be the essential (*per se*) cause of the passion. Rather, it may be only an accidental cause, the real cause being some past but inertially persistent connections in the brain of which we have no present awareness.

Can the new awareness that this sort of “mechanism” might underlie the genesis of certain human psychological characteristics—individual or collective—make it possible to change them? More pointedly, on what is the radical claim for human empowerment announced by the title

of article 50 based? It is based on the two peculiar examples given there, foul food and canine training. First, the foul-food effect:

It is also useful to know that although the movements—both of the gland and of the spirits and the brain—which represent certain objects to the soul are naturally joined with those which excite certain passions in it, they can nevertheless by habituation (*par habitude*) be separated from them and joined with other quite different ones; and even that this disposition (*habitude*) can be acquired by a single action and does not require long practice. Thus when someone unexpectedly comes upon something very foul in food he is eating with relish, the surprise of this encounter can so change the disposition (*disposition*) of the brain that he will no longer be able to see any such food afterwards without abhorrence, [a. 89], whereas previously he used to eat it with pleasure.

Here, a perception and a passion are connected via two associated and naturally, that is, originally concomitant motions of the pineal gland. But now by changing one member of the pair of pineal-gland movements (by forming a new impression in the brain with resulting new animal-spirit flow), the perception can be connected to a new and “quite different” passion. Thus a new perception-passion pair in the soul can be artificed by “rewiring” the brain. But let us take a closer look.

The passion of abhorrence is instituted by nature “to represent to the soul a sudden and unexpected death” (a. 89). What has in fact happened in Descartes’s example is that one natural perception-passion pair (sweets, say, and delight) has been replaced by another natural and much stronger one (sudden death and abhorrence). Is it, therefore, accurate of Descartes to call the foul-food experience *habituation*, that is, something subject to human control for the sake of regulating the passions, even acquiring “an absolute power over [them]”? It is moreover noteworthy that the change exemplified here in the soul of the eater is a jump from one extreme to the other (from ardent desire to abhorrence). Could we somehow modify Descartes’s example in a way that would just get the desire for sweets into the old-fashioned reasonable mean so that there would be a technique for producing the virtue of moderation with respect to pastry? The answer to these questions is, fairly clearly, no. One example remains (canine training), but we can at this point conclude that article 50 falls far short of the bold intention proclaimed by its title. We conclude as well that, in this culminating section of Part I of the *Passions*, the scientific apparatus is falling away. Let us review the training of setters, and then draw our conclusions concerning Descartes “as a Physicist” and “the whole nature of man.”

The human brain alterations of the foul-food effect are analogous to those occurring in certain non-human animals through training. “[W]hen a dog sees a partridge it is naturally inclined to run toward it, and when it hears a gun fired the noise naturally incites it to run away.” Here, the dog’s perception of the bird is originally conjoined with the movements of nerves, muscles, and legs for chasing it, and the dog’s perception of the gunshot is conjoined with the movement of fleeing. Hence, we have, not a perception-passion pair, but a perception-motion pair in the dog that is about to be modified. There can only be an analogy between human beings and non-human animals because the latter “have no reason and perhaps no thought [thus perhaps no passions] either.” Therefore, even if they do have some passions, they lack the speech- or opinion-based ones that we humans possess.

Now setters can be trained for hunting. This effectively disconnects the motion of chasing from the perception of the partridge, and the motion of fleeing from the perception of the gunshot, and reconnects the perception of the partridge with the nerve and muscle movements for stopping, and the perception of the subsequent gunshot with those required for running up to the fallen bird. And so Descartes concludes that,

since with a little skill one can change the movements of the brain in animals bereft of reason, it is plain that one can do it even better in men, and that even those who have the weakest souls could acquire a quite absolute dominion over all their passions if one employed enough skill in training and guiding them. (Article 50)

We know, however, as Descartes must, that this claim is much exaggerated because the problem is much more difficult for us humans. Animals are mechanized by nature for energetic self-preservation. The relevant movements of their bodies cannot be opposed by passions or volitions aimed at goods esteemed more highly than life; lacking speech, they cannot have opinions about what is estimable and contemptible.

But perhaps we can forgive Descartes his exaggeration in view of his motivational purpose, which is, “to give everyone the courage to study the regulation of his passions.” This might even be considered a new object of *thumos*, so that Descartes would intend not simply the attenuation of *thumos*, as I claimed earlier, but a redirection of it to a new goal: the mastery of the passions in the service of generosity. *Thumos* would then become zeal in the struggle to remove all obstacles to one’s own self-sufficient autonomy.

CONCLUSION

Two questions guide this essay: First, what is “the whole nature of man” according to Descartes? Second, what is the real role of his natural philosophy in the fulfillment of his stated purpose, “to explain the Passions...only as a Physicist”? I have moreover taken a narrowing and uncommonly political-philosophic point of view, focusing on *thumos* in relation to imagination and volition. It is a post-9/11 perspective.

Descartes’s final dualism constitutes “the whole nature of man.” This is the anthropological dualism of our fixed and universal, biological nature, on the one hand, and our variable and particular, historical being, on the other. The latter is articulated especially through our opinions about the great and the small, the estimable and contemptible, in view of which we, unlike any other living species, voluntarily face death. But, for Descartes, the human power of imagination has too often been problematically implicated in volition; human beings have too often suffered and sacrificed—spiritedness has rushed off to war (*Nic. Ethics* 1149a34)—in the service of chimeras (aa. 18–20), beings that have no existence outside of the imagination and the realm of its depicted images. The role of the psychophysics is to support the critique of imagination by providing a new account of the causes of our “thoughts.” This account removes the traditional power-act-object doctrine of soul and its fundamentally harmonious relation to the world in favor of various mechanisms of chance and necessity in the brain, thereby showing how we have misjudged the causes of our own passions, perceptions, and imaginations, and thus failed to use our free will well.

In the Aristotelian-Thomistic teaching, “all actions which proceed from a power are caused by that power in conformity with the nature of its object...[such that] the soul has, through its appetitive power, an order to things as they are in themselves” (Aquinas, *ST I–II*, q. 1, a. 1, resp., and q. 22, a. 2, resp.; 1981, 2:583 and 692).⁴⁵ Descartes would say, in fundamental contrast, that the soul has through its “thoughts” an order to certain processes in

⁴⁵ The Aristotelian-Thomistic teaching contrasts the cognitive and appetitive powers according to the manner in which the object of each is related to the soul. The object of the cognitive power, the true, is in the soul without matter; the object of the appetitive power, the good, belongs to the being of the thing as it is in itself (a composite of form and matter). Thus the fire in my knowledge does not burn; I can neither warm myself nor burn myself by that fire. It is the fire in the fireplace that is hot in itself, can warm me, and to which I draw near (but not too near). Will or rational appetite is, on this account, an inclination *following upon* knowledge. More generally, as Dewan writes (1980, 586) “it is the property of diverse powers that (1) one have in oneself what is outside, and (2) that one tend towards the outside thing.”

the brain of which it has no direct awareness, yet which strongly mediate its relation to the world. Between the soul, sequestered in a tiny part of the brain, and the world a large amount of bodily apparatus intervenes whose workings we have heretofore failed to understand due to our ignorance of the laws of nature and our belief in the erroneous Aristotelian doctrine of soul. The most important of the laws of nature is that of the inertial (purposeless) persistence of the states of matter and thus the matter of the brain, with corresponding effects in the soul that we are ill-equipped to interpret without the light of science. Hence the confusion and darkness of our past, and the hopeful benefactions of Cartesian science for the future.⁴⁶ Human history not only transcends biological nature, it is itself divided into a dark past and a bright future by the moment of reason's discovery of its own mission: From human action that has been at best partially voluntary or *heteronomous*—by virtue of our being acted upon by opinions or meanings arising from elsewhere—we progress to genuinely *autonomous* volition grounded in the resolution to avoid error to the greatest extent possible. And so the heretofore “curved and uneven” course of history—more by “chance rather than the will of certain men using reason” (6:11–12; 1985, 1:116)—is henceforth to be straightened and rationalized. This is the intention of early modern philosophy. It is (was) a grand conception, whereby philosophy ceases to be contemplative and becomes useful, that is, it assumes responsibility for the care of humanity; the classical rank ordering of theory over practice is inverted. The Cartesian version of this large project has the three parts described in the French Preface of the *Principles*: mechanics, medicine and, as completed in *The Passions of the Soul*, morals, “the ultimate level of wisdom” (9B:14; 1985, 1:186).

The regulation of the emotions under the aegis of generosity forms a core element of the ultimate level of wisdom. Generosity makes each of us be (or aspire to be) self-sufficient, thus tolerant, and beneficent: “it renders us like God in a way” (a. 152). As his own language in articles 152–53 makes clear, the doctrine of generosity is not, and is not supposed to be grounded in the new psychophysics; it is the product of Descartes's own reading of “the human experience of the human” (Kennington 2004, 186). Same for the doctrine of God and providence adumbrated in articles 83, 144–46, and 162. Much is merely asserted by Descartes. That which is supposed to be grounded in the psychophysics—the prominent claim in article 50 for empowerment over the passions—is not successfully demonstrated.

⁴⁶ See the First Letter of the Preface to *The Passions of the Soul* (11:301–22; 1989, 1–15) for a lapidary expression of Enlightenment optimism.

The Passions of the Soul ends with the following sentence: “But Wisdom is useful here above all [in the face of the pains the passions can cause]: it teaches us to render ourselves such masters of them, and to manage them with such ingenuity, that the evils they cause can be easily borne, and we even derive Joy from them all” (a. 212). Wisdom is to be useful, like medicine. It is difficult not to think of Aristotle: “[wisdom produces happiness] not in the way that the medical art produces health, but in the way that health produces health” (*Nic. Ethics* 1144a6–7; 2002, 115). For Aristotle, wisdom is the formal cause of happiness; for Descartes it is the efficient cause of mastery.

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