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WAS GASSENDI AN EPICUREAN?

Monte Ransome Johnson

Advocates of atomism have, over the ages, drawn radically incongruent philosophical implications out of a relatively austere physical theory. Yet this remarkable fact has been obscured by the tendency of commentators to assimilate the positions of two of its most famous exponents: the atomisms of Epicurus and Pierre Gassendi have been conflated by representing the Catholic philosopher as an “Epicurean,” rather than a critic of Epicurus. There has been an understandable emphasis on the opposition between Gassendi’s atomic physics and the physics of Aristotle and Descartes, and Gassendi’s importance in promoting atomism to influential English philosophers like Hobbes and Locke. The focus of these discussions typically refrains from an examination of the points on which Gassendi pointedly criticizes Epicurus and his theological positions. This situation has been largely remedied by Osler’s demonstration that voluntarist theology is essential to Gassendi’s philosophy. She points out that “his insistence on a creationist, providential account of nature and human life was a complete and explicit repudiation of Epicurus’s intentions.”¹ In this paper, I build on her work, in order to exhibit precisely the ways in which Gassendi contradicts Epicureanism.

That there are certain differences between the philosophies of Gassendi and Epicurus has not, of course, gone unnoticed.² But commentators have long been speaking loosely of “Gassendi’s Epicureanism.”³ It has even been maintained that Gassendi was not just “l’historien d’Epicure, il était son disciple.”⁴ His philosophy has been called Epicurean: “Gassendi deviates only slightly from his master Epikuros”;⁵ “Gassendi’s philosophy is an anti-Aristotelian version of Epicureanism”;⁶ “Gassendi formulated a Christianized Epicurean ethical system”;⁷ “Gassendi’s achievement was a version of Epicurus for modern (that is, post-medieval) times.”⁸ Thomas Lennon casts Gassendi on the side

of the (Epicurean) materialist “giants” against the theistic “gods” (represented by, e.g., Descartes) in his early modern replay of Plato’s *Battle of the Gods and Giants*.⁹

But Gassendi himself would be horrified at not being placed on the side of the gods in Lennon’s battle. Gassendi repudiates the main tenets of Epicureanism: their conception of gods, and denial of creationism, providence, teleological explanations, and human immortality. Although he accepts in a modified form the physics of atoms, empiricist epistemology, and emphasis on pleasure and freedom in ethics, still they stand diametrically opposed, from the standpoint of what both Epicurus and Gassendi acknowledge to be all-important.

I

Gassendi went to great lengths to make his disagreements with Epicurus clear. In his widely read and translated synopsis of Epicureanism, *Philosophiae Epicuri Syntagma* (PES), Gassendi attached special (in the Leon edition, italicized) paragraphs at the end of each of the chapters in which Epicurus’s views conflicted with his own. The paragraphs briefly state Gassendi’s objection, and then refer to those places in the *Syntagma Philosophiae* (SP) that contain an extended criticism of the Epicurean position.¹⁰ As Gassendi points out, such an exercise is supererogatory for the scholar, since expository works on philosophers do not usually mention how the doctrines conflict with faith, much less provide a refutation.¹¹ Of the one hundred chapters, twenty-five have such paragraphs appended. They have generally gone unnoticed.¹² As we will see, they are crucial to grasping Gassendi’s own position.

1. Voluntarism and Creationism

Gassendi objects to the starting points of Epicurean cosmology: that nothing is created out of nothing;¹³ and that God did not create the world.¹⁴ The former, fundamental to Epicureanism,¹⁵ is rejected by Gassendi because he is committed to the idea that God created the universe, the atoms and void, out of nothing. Epicureans hold that a world is simply an envelopment of a part of heaven broken off from the infinite;¹⁶ no god was involved in the creation of either our world or the universe.¹⁷

Gassendi also rejects the following tenets of Epicurean cosmology: that the universe is infinite, immobile, and immutable;¹⁸ that there are an infinite number of worlds;¹⁹ that the number

and figures of the atoms are infinite;²⁰ that the atoms and void are eternal;²¹ that the cause (and history) of order in the world is wholly natural;²² that the world is not governed by the providence of the divine;²³ and that this world will end like all other natural things.²⁴ These tenets are rejected because they imply a limitation on God's power. If, for example, the universe were spatially infinite, God's power over it would be limited; the same goes for the infinitude of atoms.²⁵ The eternality and indestructibility of atoms, and the inevitability of the destruction of the world, are also rejected, since God must have the power to create or destroy atoms, and to preserve the world indefinitely.

Gassendi's view on these matters is spelled out at length in "On the efficient principle or cause of things."²⁶ The book is devoted to demonstrating the attributes of God (omniscience, omnipotence, etc.), that God is the primary cause of everything, that he maintains and governs the world with both a general providence and a specific concern for humans. In the second chapter, entitled, "Given among the causes is a singular primary cause of everything, i.e., God,"²⁷ Gassendi scrupulously attacks Epicurus's theology. Epicurus is carefully distinguished from the atheists, since his limitation on the power of gods over nature concerns the gods of popular Greek religion, not the Christian God.²⁸ Epicurus's conception of divinity was thus "not malicious, but an ignorant lapse."²⁹ Gassendi refers to Epicurus's letters, which represent the gods as immortal, beatific animals, who enjoy supreme felicity untainted by any concern for the natural world or its inhabitants.³⁰ He cites the elaboration of these doctrines, along with their refutations, contained in various works of Cicero and Seneca, supplemented by arguments from Plato and Aristotle, and polemics of Lactantius. Gassendi's own views are made explicit in a later chapter, entitled "God is the author or productive cause of the world."

God is a cause, taking care of the world and directing it providentially, both generally for the world itself, and especially for human kind. . . . Establishing this most important point goes against Epicurus himself (*adversus ipsum Epicurum*); seeing that this, before others, relates to the most grave issues about which he has erred.³¹

Gassendi notes that, according to Epicurus, God must not be thought to have ordered celestial and similar phenomena, much less to be actively ordering it in the present.³² Such an active role in nature conflicts with both Epicurean theology, described above, and psychology (since the idea that gods control nature is a source

of anxiety and negates happiness, discussed below). Gassendi lists eight arguments found in Lucretius against the idea that God created the world,³³ offers extensive positive arguments to the contrary, and then responds to Lucretius' arguments.³⁴ These careful responses are then expanded and multiplied in the following chapter, "That God is the director or governing cause of the world,"³⁵ providing the opportunity to further refute what he calls the error of Epicurus (*Epicuri error*),³⁶ namely, that he does not accept a creationist and voluntarist theology. Several more arguments of Lucretius are adduced and refuted,³⁷ by adapting Stoic arguments taken from Cicero, to show that a superior being must have created the world.³⁸

2. Providence and Teleology

Gassendi wrote to his friend Campanella: "You insist on providence: and I argue the same thing against Epicurus, and if he errs about anything, I do not want to defend him."³⁹ Arguments for providence are a matter of course, given Gassendi's voluntarism and creationism. But Gassendi goes to an anti-Epicurean extreme, embracing the providentialist view that the world is designed and ordered for the benefit of living things, especially humans. He rejects the following: that the gods do not have special concern for human kind;⁴⁰ that meteorological phenomena are not influenced by God;⁴¹ that celestial regularities are not ordered by God;⁴² that animals are not creations of God;⁴³ and that organs do not have intrinsic functions.⁴⁴

Epicurus rejected the idea of divine concern for human affairs, partly because he saw such concern would entail divine intervention in nature—a source of great anxiety for humans.⁴⁵ Celestial and atmospheric events (like eclipses and lightning) were especially feared, and Epicurus posits atoms to provide naturalistic explanations to obviate the assumption that these phenomena were the workings of meddling gods.⁴⁶ Gassendi rejects the letter and spirit of these positions, arguing at length "that God directs the world with a special concern for human kind."⁴⁷ In a letter to a friend summarizing his Epicurean project, Gassendi says that one should not fear God's interventions into the world, because God invariably acts for human advantage. Similarly, he argues, one should not fear punishment after death—though it is certainly real—since torment is reserved only for the bad.⁴⁸

So deep was the Epicurean rejection of divine creation of nature that Epicurus and his followers rejected even the idea that the organs of plants and animals (including humans) have

intrinsic functions, as if by design. Famously, they held a quasi-evolutionist view that adaptive organs (like nonfunctional organs), were generated through random atomic compounding, enabling the natural kinds that exist now to survive and reproduce.⁴⁹ Gassendi completely rejects this position, devoting an entire chapter to a teleological conception of organs, “Of the use of parts of animals.”⁵⁰ Epicurus’s position is represented, as expounded by Lucretius, and then various authorities (chiefly Aristotle) are invoked for comprehensive response. Gassendi also strongly advocated the use of final causes in physics against the protestations of Descartes: “it is wholly appropriate and laudable to consider the end, inasmuch as it is absolutely necessary if we wish to recognize that the universe is governed by God and the prerequisite to that, that God is the cause of the universe.”⁵¹

Gassendi consistently argued for creationism, divine intervention, teleological explanations, and special providence for humans, both in the elaboration of his own philosophy, in explicit attacks on the Epicureans themselves, and even on rival mechanical philosophers.

3. Immortality of the Soul and Religion

Insofar as Gassendi commits to the existence of several incorporeal entities, namely God, angels, and the immortal rational human soul, he must object to the following Epicurean positions: that there are no incorporeal natures besides the void,⁵² that the soul is a corporeal nature;⁵³ that the spirit (*anima*), and soul (*animus*) i.e., mind (*mens*), are equally corporeal;⁵⁴ and that the soul is mortal.⁵⁵

For Epicurus, all soul is corporeal and mortal.⁵⁶ Lucretius further argued that “spirit” and “soul” are parts of the body, and thus both corporeal and mortal.⁵⁷ As such, the soul is, without qualification, mortal. At death, the soul atoms break apart and are dispersed from the body like smoke or mist.

Gassendi maintained an ontological distinction between spirit and soul, and argued that the soul—the mind or rational soul—is incorporeal and thus immortal.⁵⁸ He devotes a whole book of the SP to the subject: “Of the immortality of the soul,”⁵⁹ including arguments “from faith, physics, and morals.”⁶⁰ In a later chapter, “The objections of Epicurus to immortality of the soul refuted,”⁶¹ the Epicurean doctrine “Death is nothing to us”⁶² is overturned—Gassendi describes death as a “transition” to a better life.⁶³ What follows are no less than twenty-seven arguments against immortality, drawn from Lucretius⁶⁴ against this core Epicurean thesis.

Finally, consider Gassendi's rejection of several religious propositions: that there are multiple gods; that we believe in the gods because we have figments of them in dreams; that the gods do not intervene in the affairs of humans;⁶⁵ that death is nothing and suicide is permissible;⁶⁶ that gods should not be worshiped for benefits they confer to humans.⁶⁷ Gassendi excuses nothing that Epicurus says which conflicts with sacred doctrine: Epicurus, he acknowledges, failed to recognize providence, elevating nature to the supreme principle. Gassendi accuses Epicurus of impiety,⁶⁸ a serious charge, since Epicurus maintains that his view of the gods is the only pious one.⁶⁹ And Gassendi, like Epicurus, makes it an ethical issue: Epicurus's denial of special providence is held inconsistent with a true view of human happiness.⁷⁰

4. Some Points of Agreement

There are points on which Epicurus and Gassendi ultimately agree. The most important is obviously the acceptance of atoms and void as the basis for theorizing about nature in the first place. In very important ways, Gassendi modifies the theory; we will return to this below. Another area is canonic (i.e., epistemology or logic): Gassendi, with certain qualifications, accepts Epicurean empiricism,⁷¹ although he transforms it by adding elements of Platonic division and definition, Aristotelian category and syllogism theory, and Stoic theory of imagination.

Another point of contact is the use of pleasure in ethics. Gassendi advocates the enlightened hedonism of Epicurus, and defends it against numerous detractors, chiefly the Stoics.⁷² But his account of the virtues, which comprises over half of his *Ethics* (Part III of the SP), owes more to Aristotle than Epicurus.

To some extent Gassendi utilizes Epicurean notions to treat free will.⁷³ But while Gassendi shares Epicurus's estimation of the importance of defending freedom against atomic determinism associated with Democritus, he rejects the Epicurean solution of an uncaused declination of the atoms from their regular perpendicular course.⁷⁴

So despite some close points of agreement, Gassendi disputes Epicureanism on crucially important issues. Epicurean philosophy is motivated by and even subordinated to a concern to allay fear of death and gods. Epicurus says: "were we not upset by the worries that celestial phenomena and death might matter to us, and also by a failure to appreciate the limits of pains and desires, we would have no need of natural philosophy";⁷⁵ "there is no profit in philosophy if it does not expel suffering from the

mind.”⁷⁶ Since Gassendi believed the opposite about death and God’s role in the universe, and since without this motive “Epicureanism” is unthinkable, the only reasonable conclusion is that Gassendi is not an Epicurean.

II

Why then does Gassendi, while disagreeing with Epicurus, expound his philosophy? And why, while rejecting the anti-theological implications that Epicureans draw from atomism, does he advocate an ontology of atoms and void?

1. Why Does Gassendi Expound Epicureanism?

Given the *prima facie* incompatibility between Epicureanism and Gassendi’s Christian commitments, some interpreters have proffered a dissimulation hypothesis, arguing that Gassendi’s repudiations and refutations of key Epicurean doctrines were insincere. Pintard argued that Gassendi, along with and like other “libertine” philosophers, used his scholarship to conceal what amounted to agnosticism or atheism.⁷⁷ Pintard distinguished between the “spontaneous” and the “calculated” philosophy of Gassendi. The sincere or spontaneous part includes his attack on Aristotelianism, his “defense” of skepticism,⁷⁸ and his critique of Descartes. Gassendi intended his skeptical logic to apply to the existence of God, providence, and the immortality of the soul. The insincere or “calculated” philosophy is contained in his criticisms of Epicurus. These are represented as “concessions” to the religious authorities. Bloch went further, arguing that Gassendi ideologically manipulated his presentation of Epicureanism to make it palpable to his Christian peers.⁷⁹ Pintard only argued that Gassendi’s calculated positions were motivated not by ideology but by a desire to preserve privacy and free thought for himself and his friends and associates.⁸⁰

Several reasons militate against the hypothesis. Gassendi does not merely make verbal concessions to Catholic theological dogma. As we have seen, he backs up his arguments against certain Epicurean positions with pages of elaborate and painstaking analysis. The case of the immortality of the soul is quite striking: Gassendi countered no less than twenty-seven Lucretian arguments against immortality, and devoted an entire book to the positive thesis of the soul’s immortality. Less obvious, but equally important, are the serious modifications to atomic doctrine he makes to avoid anti-theological implications: rejecting that the universe is infinite, immobile, and immutable, that there are an infinite number

of worlds; that the figures of the atoms are infinite; and that the atoms and void are eternal.⁸¹ If these positions were defended insincerely, we see no sign of it in the text. We would have to accept that Gassendi offered an otherwise perfectly coherent, well-developed, highly original, and subsequently influential philosophy, and yet did so insincerely.

Even outside of the context of his defense of Epicureanism, Gassendi is willing to distance himself from Epicurus, and instead associate his adversary with the Epicurean position:

You [Descartes] say that . . . “it does not agree with the opinion I [Gassendi] have of the universe or with the one that Democritus and Epicurus have” (with whom I have nothing in common on this question [of how ideas of geometric figures are formed], though you do have much in common with them in the opinion you have concerning the corporeal nature of things and the essence of material things, indeed a great deal as far as I can surmise).⁸²

This disassociation is clearly not insincere, for there is no direct theological implication of the innateness of ideas of geometrical figures, and so no motive to dissimulate. Gassendi is simply following the argument wherever it leads. Most telling about his methodology is a remark in the preface to the SP:

The Stoic and Epicurean [philosophies] have much that is of value and worthy of being learned once the errors are eliminated and refuted in the same way as the very grave errors of Aristotle were refuted. This then is the task that I am attempting.⁸³

The situation is directly comparable to that with Cicero and Seneca who, while extensively using Epicurus and greatly preserving and extending our knowledge of his thought, nonetheless explicitly repudiate what they understood to be Epicurus's central philosophical commitments.⁸⁴ Gassendi was an expert philologist, who made permanent contributions to our text of Epicurus, and as well a compelling exponent of Epicurean doctrines, who decisively overthrew wrongheaded and mean-spirited mischaracterizations of Epicureanism. But at the same time he was a frank and occasionally vehement critic of Epicurean doctrines. In this regard, calling Gassendi an Epicurean would be a mistake akin to calling Cicero or Seneca an Epicurean. To put it more bluntly, to call Gassendi “Epicurean” would misrepresent and distort Epicureanism in such a way that Gassendi himself labored tirelessly to correct by way of his exegeses. *A fortiori* the assimilation of the two distorts our picture of Gassendi's philosophy.

It has long been held that Gassendi used Epicurus as a foil for Aristotelianism.⁸⁵ This is plausible, and makes much sense of the historical development of Gassendi's writings. Yet there are many issues on which Gassendi substantially agrees with Aristotle to the exclusion of Epicurus, some of which I mentioned above. Clearly, much like Cicero and Seneca, Gassendi found positions in Epicurus that were valuable not only for adoption and modification, but for critique and repudiation as well.

Incidentally, we see a similar motivation at work in two Christian humanists, Lorenzo Valla and Erasmus. Valla is perhaps not the clearest case, since a dissimulation hypothesis has been advanced as an interpretation of his qualified defense of Epicureanism in *De Voluptate*, a dialogue in which an Epicurean refutes a Stoic in a debate about the nature of happiness, but is in the end refuted by a Christian. But recent scholarship rejects the notion that Valla was insincere, and he is now read as dealing with Epicureanism and Stoicism within a Christian framework. As with Gassendi, Valla's own words are the best guide: he indicates that his first book will show that pleasure is good and his second book that the virtues of the Stoics are not good. His third book will distinguish the "true good from the false,"⁸⁶ and show that Christianity is conducive to the highest form of pleasure. This outcome is in certain respects similar to Gassendi's ethical position. And it would be a distortion, even if an effective strategy of character assassination, to label either Valla or Gassendi an Epicurean, just because they have utilized Epicurean philosophy in order to expound essentially Christian ideas.⁸⁷ Erasmus also wrote a dialogue, *Epicureus*, in which he defends a similar position, that Epicurus's conception of pleasure is consistent with Christianity. His character "Hedonius" says, "there are no people more Epicurean than godly Christians."⁸⁸ Despite this clever trope, it would be a gross mischaracterization to call Erasmus an Epicurean in a deep philosophical sense. His intent in writing this was to blunt the force of Luther's invective against him, having insultingly called him "Epicurean," without any clue about what Epicureanism really is.⁸⁹

What the comparisons with Cicero and Seneca, and Valla and Erasmus show are that a rich engagement with Epicureanism does not entail that one is a committed Epicurean. Further, it shows that it is possible to reject or ignore core theses of Epicureanism, but still defend Epicurus against misrepresentation. Gassendi engaged Epicureanism while remaining philosophically and religiously committed to Christianity.

2. Why Does Gassendi Advocate Atomism?

The acute historian of Epicureanism Howard Jones has asked a good question: "Classical Epicureanism has suffered a radical sea-change. . . . If Gassendi can feel free to manipulate traditional Epicurean doctrine to the point where in certain essentials it becomes the antithesis of itself, what status does he accord his own modified version?"⁹⁰ It is preferable to consider Gassendi's philosophy not a version of Epicureanism, but a version of atomism. Still, we can ask an important version of Jones's question: what status does Gassendi accord his modified version of atomism? Why does he bother to advocate a version of atomism at all?

A surprising answer to this question is that Gassendi advocated atomism for theological reasons. Like some other philosophers in a comparable position, he saw that atomism has tremendous potential for supporting a creationist and voluntarist theology. That is because atoms and void constitute a better ontology for the realization of God's voluntary choices than do the intrinsic natures of Aristotelian ontology.

This seems to have been the attraction of atomism for Robert Boyle, who was thoroughly acquainted with Gassendi's work. He argues that if one accepts the intrinsic natures of the Aristotelians, it is harder to "prove the wisdom (and consequently the existence) of God by his other works, since they may have another cause—namely that most watchful and provident being which men call nature."⁹¹ On the other hand, "according to the Epicurean hypothesis, it need not at all be admitted that motion must be produced by such a principle as the schoolman's nature. For, according to that great and ancient sect of philosophers, the atomists, every indivisible corpuscle has actual motion, or an incessant endeavor to change places, essentially belonging to it, as it is an atom."⁹² Now while Boyle advocates a form of atomism, which he refers to as "the corpuscular hypothesis," he does not endorse the Epicurean version of it:

By embracing the corpuscular or mechanical philosophy, I am far from supposing with the Epicureans that atoms accidentally meeting in an infinite vacuum were able, of themselves, to produce a world and all its phenomena. . . . The philosophy I plead for reaches but to things purely corporeal, and distinguishing between the first origin of things and the subsequent course of nature, teaches that God indeed gave motion to matter; but that, in the beginning, he so guided the various motion of the parts of it as to contrive them into the world he designed they should compose.⁹³

This is substantially the position that Gassendi advocated a generation earlier, when he wrote:

to present at last our conclusion that apparently the opinion of those who maintain that atoms are the primary and universal material of all things may be recommended above all others, I take pleasure in beginning with the words of Aneponymus. After his opening remark that "There is no opinion so false that it does not have some truth mixed in with it, but still the truth is obscured by being mixed with the false," he then continues, "For in their assertion that the world is made up of atoms the Epicureans spoke the truth, but in their assertion that these atoms had no beginning and they flew about separately in a great void, and then coalesced into four great bodies they were telling fairy tales." I say I take pleasure from these words for one can draw the inference that there is nothing to prevent us from defending the opinion which decides that the matter of the world and all the things in it is made up of atoms, provided that we repudiate whatever falsehood is mixed in with it.⁹⁴

Gassendi immediately goes on to state his position, which we have seen expressed elsewhere in detail, rejecting the Epicurean claims that the atoms are eternal and uncreated, infinite in shape and number, and moved by their own impulse. In what follows he lays out his belief that God created the atoms and their capacity for motion.⁹⁵ He asserts that, "it may be supposed that the chain of generation and corruption that continues even now and will persist on into the future had its beginning there, in that inexhaustible chaos of atoms, constantly supplying both the matter from which bodies were constructed and the motion, or cause, by which they were shaped."⁹⁶ So it appears that Gassendi, like Boyle after him, conceived of the ontology of atoms and void as the best possible substrate, in terms of being perfectly versatile and malleable, for the realization of God's voluntary choices and designs.

The "Aneponymus" to which Gassendi refers in the above quotation is William of Conches, the twelfth-century philosopher who taught a version of atomism in conjunction with Christian theology of a voluntarist sort.⁹⁷ The quotation referenced by Gassendi continues: "For nothing can be without beginning and place except God. We say, therefore, that God created these particles simultaneously and not separated, but in the constitution of a single whole. . . . For He that spoke, and things came to be, was able to create the parts and the whole simultaneously."⁹⁸ This is essentially Gassendi's own position: God created the atoms and the world order together. William's book is an attempt to show

that understanding the world in terms of natural elements does not exclude the Christian belief in a creator God. William in effect prefigures Gassendi's relation to Epicureanism, as Gassendi himself suggests.

A more remote, though equally interesting, comparison is with the Islamic philosophy of the Kalam. The Kalam theologians espoused a radically voluntarist theology, and at the same time adopted Greek atomism.⁹⁹ Scholars tell us that the impetus for the adoption of atomism was religious—it best suited their conception of God's free will.¹⁰⁰ At the same time, they modified the theory considerably.¹⁰¹ For example, Kalam theologians argued for explicitly theological purposes that the atoms were created and finite: "religious considerations which led the Kalam theologians to adopt atomism also made it impossible for them to adopt atomism in its original form as it was conceived in Greek philosophy."¹⁰²

The parallels with Kalam theologians, William of Conches, and Robert Boyle show that it makes perfect sense to adopt but adapt Greek atomism to a voluntarist theology. One is not thereby committed to the ethical and theological extrapolations of Epicureanism. Such a view was captured by Newton with maximum succinctness:

It seems probable to me, that God in the beginning form'd matter in solid, massy, hard, impenetrable, moveable particles, of such sizes and figures, and with such other properties, and in such a proportion to space, as most conduced to the end for which he formed them¹⁰³

In fact, in the long view of history, the anti-theological Epicurean version of atomism could be seen as a minority view. Most advocates of atomism appear not to have drawn Epicurean conclusions.

III

The atomism vindicated as a physical theory in the last century—still unquestionably a foundation of modern physics—is agreed by scientists and historians alike to be continuous with its predecessors.¹⁰⁴ So we should wonder to what extent this is true as well of the broader ramifications that have been drawn by the advocates of the earlier versions of atomism.

On the Epicurean view, atomism serves as the basis for a thoroughgoing naturalism that offers to undermine a conception of

nature as controlled by supernatural forces, and of ourselves as identical with an immortal soul, and thereby to liberate us from the psychological torments and political artifices dependent on such conceptions. This sounds familiar because to some extent modern philosophy has drawn Epicurean conclusions from the atomistic premises of its natural science. But to leave it at that would be a gross oversimplification. The implications of the modern science of atomism are not so one-sided and traditional: contemporary atomism owes as much to Gassendi and Boyle as it does to Epicurus. As we have seen, they repudiated Epicureanism while embracing atomism. Thus a statement like the following, made recently by Benjamin Wiker, must be judged false:

If modernity did follow Epicurus's lead, then it would inherit his entire uniform cosmology. Thus, it would inherit the moral universe that was necessarily part of his materialist universe. . . . [T]o be blunt, materialist-defined science must necessarily lead to materialist-defined morality. And this is exactly what happened historically. As I shall demonstrate, materialism was fully enshrined as the scientific paradigm by the eighteenth century. . . . Epicurus designed a view of nature to fit his desired way of life, a cosmology to support his morality. Modernity began by embracing his cosmology and ends by embracing his morality.¹⁰⁵

Failing to examine Gassendi's atomism on its own terms, and assuming the characterization of Gassendi as simply a reviver of Epicureanism, Wiker constructs an opposition between atomistic "materialism" and "intelligent design," with all the moralistic trappings one might read into those terms. But, as we have seen, this is a false dichotomy. There is no immediate, uncontroversial, and unavoidable "materialist-defined morality." On Gassendi's view, atomism serves as the basis for a program of naturalism that reaffirms the centrality of a providential and creative designer god to the functioning of nature, in the face of its obviation by the intrinsic natures of Aristotelian physics. The viability of his atomic hypothesis presupposes that a superior being created, arranged and maintains the atoms and their order purposefully. Such a view of course has profound ethical implications, one of them being that religion and the worship of God become a scientifically legitimized institution, conceived of by Gassendi as an annex of the virtue of justice.

The existence of diametrically opposed theological and ethical paradigms, both connected with the materialist theory of atomism, shows that the greater implications of atomism are neither

immediate and obvious, nor are they remote or unconnected. The importance of this for us is not, however, that we might vindicate creationism or show atomism to be consistent with some contemporary religious morality. Rather, acceptance of the physics of atomism does not immediately commit one to a certain view of morality. But this is also not to say that there is no legitimate connection to be drawn between the facts and values. On the contrary, the history shows plainly that there are multiple ways of deriving ethical implications from scientific theories. We require searching philosophical analysis and debate in order to provide the best account of the moral implications of our own physical science of atomism. History of the philosophy of atomism, including Gassendi's, is one of the most important resources we have to that end.

The relationship between science and ethics is an ever-changing one, but the relation between humans and atoms is a constant aspect of the relationship. We have moved from passive observers of nature and speculations about its atomic constitution to inhabitants of an "atomic age" in which we are masters of nature and active creators and manipulators of its atoms for both energy and weapons. Gassendi's unique combination of atomism with voluntarist and creationist theology engenders the transition between the Democritean conception of atoms as the completely unchangeable elements of physical reality whose motions we are subject to, but have no influence over, as a matter of physical necessity, to the view of atoms as subject to creation and manipulation by human beings themselves. Thus Gassendi's philosophy, on which the later experimental and technological elaboration of scientific atomism in large part depends, deserves to be preserved in its entirety and with all its unique aspects, and for reasons similar to those that drove him to preserve and clarify the work of his atomistic predecessor, Epicurus.

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NOTES

1. M. Osler, *Divine Will and the Mechanical Philosophy: Gassendi and Descartes on Contingency and Necessity in the Created World* (Cambridge: Cambridge University Press, 1994), p. 45. Osler further calls Gassendi's Epicureanism into question in "How Mechanical Was the Mechanical Philosophy: Non-Epicurean Aspects of Gassendi's Philosophy of Nature" in *Late Medieval and Early Modern Corpuscular Matter Theories*, ed. C. Lüthy, J. E. Murdoch, and W. R. Newman (Leiden: Brill, 2001), pp. 423–440. Oddly, she states "Gassendi's work is frequently and appropriately considered to be devoted to the recovery and Christianization of Epicureanism, which he intended to mold into a complete philosophy to replace Aristotelianism" (425). Osler then discusses, on the contrary, several Aristotelian aspects of Gassendi's natural philosophy. Yet she refers to Gassendi (sarcastically?) as "the restorer of Epicureanism" (436). Here Osler does not attempt to characterize Epicureanism beyond its commitment to atomism, nor does she deal with Gassendi's overall anti-Epicurean psychology and ethics. In earlier papers she frequently refers to "Gassendi's baptism of Epicurus": "Baptizing Epicurean Atomism: Pierre Gassendi on the Immortality of the Soul," in *Religion, Science, and World View*, ed. M. J. Osler and P. L. Farber (Cambridge: Cambridge University Press, 1985), 163–183; and "Fortune, Fate, and Divination: Gassendi's Voluntarist Theology and the Baptism of Epicureanism," in *Atoms, Pneuma, and Tranquility*, ed. M. J. Osler (Cambridge: Cambridge University Press, 1991), pp. 155–174.

2. L. Mandon, *Étude sur le Syntagma Philosophicum de Gassendi* (1858; reprinted New York: Burt Franklin, 1969), pp. 6–7; B. Rochot, *Les travaux de Gassendi sur Épicure et sur l'Atomisme 1619–1658* (Paris: J. Vrin, 1944), pp. 129–130; R. Tack, *Untersuchungen zum Philosophie- und Wissenschaftsbegriff bei Pierre Gassendi (1592–1655)* (Meisenheim am Glan: Anton Hain, 1974), pp. 139–141; B. Pullman, *The Atom in the History of Human Thought* (Oxford: Oxford University Press, 1998), pp. 121–122.

3. G. S. Brett, *The Philosophy of Gassendi* (London: Macmillan, 1908), p. xxxix; J. S. Spink, *French Free-Thought from Gassendi to Voltaire* (London: Athlone, 1960), p. 89; "l'Epicurisme de Gassendi" in M. Cariou, *L'atomisme. Trois essais: Gassendi, Leibniz, Bergson et Lucrèce* (Paris: Aubier Montaigne, 1978), p. 11f.

4. R. Pintard, *Le Libertinage Érudit: dans la première moitié du XVIIe siècle* (Paris: Boivin, 1943), p. 152.

5. J. R. Partington, "The Origins of the Atomic Theory," *Annals of Science*, vol. 4, no. 3 (1939), p. 264.

6. B. Brundell, *Pierre Gassendi: From Aristotelianism to a New Natural Philosophy* (Dordrecht: Reidel, 1987), p. 140.

7. L. T. Sarasohn, *Gassendi's Ethics: Freedom in a Mechanistic Universe* (Ithaca, N.Y.: Cornell University Press, 1996), p. 74.

8. W. R. Johnson, *Lucretius and the Modern World* (London: Duckworth, 2000), p. 80.

9. T. M. Lennon, *The Battle of the Gods and Giants: The Legacies of Descartes and Gassendi, 1655–1715* (Princeton, N.J.: Princeton University Press, 1993), p. 34f.

10. Gassendi will be cited according to the volume, page and column of *Opera Omnia* (6 vols., Lyon, 1658; Reprinted Stuttgart-Bad Canstatt: Friedrich Frommann Verlag, 1964). References not preceded by “Op.” refer to divisions of the SP.

11. “You will notice that, in those chapters where one is naturally disturbed, in which Epicurus proffers an opinion dissenting from sacred faith, I indicate the place in *Physics* in which is refuted that which offends the faith; no wrong should be excepted without an immediate response. Of course, his philosophy can, as much as relics bear traces, be known without being altered—nothing appears to have to be rescinded or suppressed; and neither is it done that way for Aristotle and others (and the same is true in the case of Lucretius himself), whose books are put forth unaltered, and there is not even adjoined to them refutations of the errors against faith which can be read in them” (PES, preface; Op. III.2).

12. Most notably in the English translation of PES in the immensely popular *History of Philosophy* by Thomas Stanley (3 vols., London, 1687; reprinted New York and London: Garland), all of these paragraphs, and the preface, have been omitted, giving the impression that Gassendi had not stated objections to Epicurus (Op. III.3–94 = Stanley III.XIII.849–935). On the paragraphs in the PES see O. R. Bloch, *La Philosophie de Gassendi: Nominalisme, Matérialisme et Métaphysique* (The Hague: Martinus Nijhoff, 1971), pp. 299–301.

13. “Since Epicurus reasons that out of nothing comes nothing, not only naturally but also for god, there is a refutation in Phys.I.iii.1, and I.iv.5” (Op. III.16a).

14. “That here the primary cause is solely natural, not recognized as divine, he is refuted from the fact of the author and governor of the world in Phys.I.iv.5–6” (Op. III.19b); “The error of having left out of other topics the author of the world was discussed especially in Phys.I.iv.5” (Op. III.28b).

15. Hdt. 38.10; DRN i.146–237. Epicurus’s works will be cited according the standard abbreviations and pagination. DRN = Lucretius, *De Rerum Natura*.

16. Hdt. 45, 73–4; Pyth. 88.

17. DRN 2.1052–1104, 5.156–234; Cf. Cicero, ND, 1.18–23, 52–3.

18. “That the space of the universe is infinite, as if outside of this world there was another, is refuted in the discourse against the infinity of the world, in Phys. I.i.2” (Op. III.13a).

19. “The error asserted by Epicurus about infinity of the world, has been discussed in Phys. I.i.2” (Op. III.33a).

20. “Discussed already where an infinite universe was rejected, assuming an empty magnitude, so for the quantity of atoms, in Phys.I.i.2” (Op. III.17b). Cf. G. to Valesio in Oct. and Nov. 1742 (Op. VI.158–9).

21. “Discussed already concerning the universe, where the eternity of atoms and the void is rejected, Phys.I.i.2” (Op. III.18b).

22. “This whole story, as to the production of the world, has been refuted in Phys. I.i.2, with special discussion of the origin of the world, in addition to our account of the author of the world, also from the use of parts of animals, III.ii.3” (Op. III.29b).

23. “This total impiety is attacked with the affirmations that god is the governor of the world in Phys.I.iv.6. and also that God governs with a special concern for the human race we discussed in chp. 7” (Op. III.30b).

24. “If this topic is interspersed with what is morally disgraceful, the disgraces have been discussed, among other places, in Phys.I.i.2” (Op. III.32b).

25. Hdt. 41–2.

26. SP, Phys I.iv.

27. Op. I.286b.

28. Op. I.287b.

29. Op. I.290a.

30. Op. I.289a; Men.123–4; DRN 5.146–55; Cic. ND i.45.

31. Op. I.311a.

32. Op. I.311b; Hdt. 76.10–11.

33. Op. I.313b–4a; DRN 5.168f.

34. Op. I.319ab.

35. SP, Phys.I.iv.6.

36. Op. I.319b.

37. Op. I.321b–2a. DRN 2, and 6.387f.

38. Op. I.324–6; Cic. ND, passim.

39. G. to Campanella, VI.59; trans. Sarasohn, *Gassendi's Ethics*, 59; Cf. Osler, *Divine Will*, 36, 54; H. Jones, *Pierre Gassendi 1592–1655: An intellectual biography* (Nieuwkoop: B. de Graaf, 1981), 47n.39.

40. “Since he again falls on impiety, refutations have been interspersed in topics, in which it is urged against Epicurus, that god is the governor of the world, and that god pays special attention to humans, with the first section of Phys.I.iv.5 & 7. Additionally in a further place, which concerns religion, with disputations of justice is in Eth.II.5 [=6?]” (Op. III.83a).

41. “Since this topic is tainted by not comporting with providence, it is refuted, particularly, in Phys.I.iv.6, etc.” (Op. III.53a).

42. "Since on this topic again he denies providence, the reader is referred to the frequent refutations, which can be seen in Phys.III.xiv.6" (Op. III.57b).

43. "Since he attributes to natural necessity a possible cause for that which is instituted by the author of nature, he is refuted with the indications of the prior issue of the author and governor of the world, but also in Phys.I.iv.5–6, etc." (Op. III.39a).

44. "Against this error we have poured arguments in Phys. III.ii.3" (Op. III.39b).

45. Hdt. 76–77; Men. 135; DRN 6.68–79.

46. Hdt. 78; Pyth. 85f; DRN 5.1183–1225.

47. Phys. I.iv.7.

48. G. to Valois, Oct. 1642, Op. VI.155b; cf. Jones, *Pierre Gassendi*, 173.

49. DRN 4.823–57, 5.772–877; Cf. Simplicius, *Commentary on Aristotle's Physics*, 371.33–372.14.

50. Phys. III.ii.3.

51. Adv. Cart. Med. IV, dub. I, art. II; Op. III.360b, trans. C. B. Brush, *The Selected Works of Pierre Gassendi* (New York: Johnson Reprint Company, 1972), 233.

52. "Here was the error of Epicurus, not that he called void an incorporeal nature, but that he admitted no other incorporeal things, such as those we endorse, like the divine, the angelic, and the human soul." (G. to Valois, Nov. 1642, Op. VI.157b, trans. Osler, *Divine Will*, 59; cf. Jones, *Pierre Gassendi*, 173). "Notice that Epicurus, who admits void, errs here in not allowing incorporeal natures; he is refuted copiously therefore concerning the rational soul in Phys. III.xiv.3, and concerning god, I.iv.3–4" (Op. III.12ab).

53. "That he holds the soul to be by nature corporeal, and this is by Epicurus even extended so far as to the rational, we have offered refutation regarding the immortality of the soul in Phys.III.xiv.3" (Op. III.41a).

54. "That he would have of the soul, the rational soul, composed out of atoms, as if its nature were corporeal, has been discussed above all in Phys.III.xiv.3" (Op. III.47a).

55. "We have already spoken of the claim that nothing would be born, is eternal, indeed how far it is possible to extend this to rational souls has been refuted in III.xiv.3" (Op. III.26a); "Since this entire topic is posited impiously, we have discussed its refutation in connection with the immortality of the human soul, against Epicurus, in Phys. III.xiv.3" (Op. III.52a).

56. Hdt. 63–67.

57. DRN III.94–176.

58. Gassendi also argues against the reasoning that Descartes uses to establish the immaterial soul. These arguments should be read in their

context as a criticism of Descartes's premises and not without qualification as a rejection of the idea of an immaterial soul. Gassendi says explicitly: "all these objections I bring, not in order to cast doubt on the conclusion you intend to prove, but merely by way of expressing my disagreement as to the cogency of the argument set forth by you" (Ad Cart. Med. VI, Dub. IV; Op. III.401a; trans. E. S. Haldane and G. R. T. Ross, *The Philosophical Works of Descartes* (Cambridge: Cambridge University Press, 1911), v. ii, 201).

59. Phys. III.xiv.
60. Phys.III.xiv.2, entitled "Esse Animos Hominum Immortales ex Fide, ex Physics & Morali."
61. Phys.III.xiv.iii.
62. KD 2.
63. Op. II.634b.
64. DRN III.417–860.
65. "Since here he errs by assuming multiple gods, we have refuted this, in connection with the unity of god discussed in Phys. I.iv.4. That he wrongly omits arguments from the rationality of the heavens, putting in its place figments in dreams, with respect to the existence of god, *ibid.*, chp. 2 and f. That he says that god is not free of a natural constitution; is refuted in the section regarding the form, by means of which we know god, *ibid.* chp. 3. That god cares neither for himself nor others, is neither angry nor gives thanks; neither existing in nor governing the world, and similar arguments, is refuted in the section regarding the governor of the world, *ibid.* chp. 6; regarding the author, chp. 5; regarding the useful parts (i.e., organs), sec. 3, later part, book 2, chp. 3; regarding the first from reasoned argument, I.iv.7 and elsewhere" (Op. III.14b).
66. "Since he is again on this topic impious, a refutation of Epicurus is put with our statements on the immortal soul of humans in Phys.III.xiv.3. And especially the position on voluntary death is attacked in III.xiii.4" (Op. III.84b).
67. "Of the fact that in both religious observations and causes, and surely beneficence, & supremacy of the divine nature, which Epicurus does not admit in the first place, we have offered criticism especially in Eth.II.5, and generally with respect to providence in the first section of Phys.I.iv.6" (Op. III.93a).
68. Op. II.808b.
69. Men. 123.10–124.6.
70. Op. II.664b–5a.
71. SP, Logic, esp. Lib. II, chp. v, and Instit. Log. Par. Prima. See also Jones, *Pierre Gassendi*, p. xxx. For Epicurus, see KD 24, Hdt. 37–8, 82.
72. Op. II.678f. For Epicurus on pleasure: Men. 127–32; KD 3–4, 8–10; Cic. *Fin.* 1.29–39.

73. Op. II.821–47. For the Epicureans on free will, see: Men. 133–4; VS 40.
74. Op. II.839b–40a. For the Epicurean swerve, see DRN 2.251–93; Cic. *Fat.*, 21–5.
75. KD 11.
76. Frag. 54 Bailey (Usener 221).
77. R. Pintard, *Le Libertinage Érudit*, part III, chap. ii.
78. I.e., *Exercitationes Paradoxicae adversus Aristoteleos* (1624).
79. Bloch, *La Philosophie de Gassendi*, pp. 485–495.
80. R. Pintard, “Les problèmes de l’histoire du libertinage, notes et réflexions” in *XVIIe siècle*, 32 (1980), p. 145.
81. “Discussed already concerning the universe, where the eternity of atoms and the void is rejected, Phys. I.i.2” (Op. III.18b).
82. Adv. Cart. Med.V. Dub.I. Art.iii; Op. III.378a, trans. Brush, *Selected Works*, pp. 254–255.
83. Op. I.5a; Cf. Blundell, *Pierre Gassendi*, p. 52. Tack, *Untersuchungen*, pp. 153–154, points out that Gassendi, in his concern to support a providential god, sometimes attains the anthropocentric outlook of the Stoics, arch-enemies of the Epicureans.
84. Cic. ND 1 and *Fin.* 1; Seneca, NQ, ii.2.6–7, v.2–5; *Benefic.*, iv.19.
85. K. Lasswitz, *Geschichte der Atomistik vom Mittelalter bis Newton* (2 vols. Hamburg and Leipzig: Verlag von Leopold Voss, 1890), v. ii, 127f.; L. Mabileau, *Histoire de la philosophie Atomistique* (Paris: Imprimerie Nationale, 1895), p. 403f.
86. L. Valla, *On Pleasure*, Proem, sec. 7, trans. A. K. Hieatt and M. Lorch, *Lorenza Valla: On Pleasure (De Voluptate)* (New York: 1977).
87. “Today no one seems seriously to identify Valla’s own thinking with the Epicurean’s oration, and no one considers Book III a hypocritical passport or safeguard for the rest of the work” (Hieatt and Lorch, *Lorenza Valla: On Pleasure*, p. 28). “It is clear that it would be a mistake . . . to speak of Valla as a committed Epicurean advocate. . . . [D]espite a degree of contemporary suspicion to the contrary, *De Voluptate* cannot be interpreted as a conscious contribution to the rehabilitation of Epicurus without a serious misreading of Valla’s true purpose” (Jones, *The Epicurean Tradition*, p. 148). See also M. De P. Lorch, “The Epicurean in Lorenzo Valla’s *On Pleasure*” in Osler, *Atoms*, pp. 89–114.
88. Erasmus. The Epicurean (Epicureus), trans. C. R. Thompson in *Colloquies*, v. ii, (Toronto: University of Toronto Press, 1997), p. 1075.
89. Jones, *The Epicurean Tradition* (London, 1989), pp. 163–165.
90. Jones, *The Epicurean Tradition*, p. 180.

91. R. Boyle, *A Free Enquiry into the Vulgarly Received Notion of Nature*, ed. E. B. Davis and M. Hunter (Cambridge: Cambridge University Press, 1996), p. 104.

92. R. Boyle, *The Excellency and Grounds of the Corpuscular or Mechanical Philosophy*, in M. R. Matthews, *The Scientific Background to Modern Philosophy: Selected Readings* (Indianapolis: Hackett, 1989), p. 91.

93. Boyle, *Mechanical Philosophy*, p. 111. See J. J. Macintosh, "Robert Boyle on Epicurean Atheism and Atomism," in Osler, *Atoms*, p. 197–219.

94. Op. I.279b–80a; trans. Brush, *Selected Works*, p. 398.

95. Op. I.280b.

96. Op. I.280b, trans. Brush, *Selected Works*, p. 401.

97. For William of Conches, see Lasswitz, *Geschichte der Atomistik*, v. i, 72–6; and B. Pabst, *Atomtheorien des Lateinischen Mittelalters* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1994), pp. 107–132.

98. *Dragmaticon Philosophiae*, I.6.8–9, trans. I. Ronca, and M. Curr, in *William of Conches: A Dialogue on Natural Philosophy (Dragmaticon Philosophiae)* (Notre Dame, Ind.: University of Notre Dame Press, 1997).

99. H. A. Wolfson, *The Philosophy of Kalam* (Cambridge, Mass.: Harvard University Press, 1976), p. 466f., argues that the source is an Arabic doxography on Democritus. A. Dhanani, *The Physical Theory of Kalām: Atoms, Space, and Void in Basrian Mu'tazilī Cosmology* (Leiden: Brill, 1994), p. 101f., finds compelling evidence for an Epicurean source.

100. Lasswitz says: "finden wir bei den Mutakallimun, einer orthodoxen Sekte des Islam, eine streng ausgebildete Atomistik, zu dem Zwecke, die natürliche Kausalität zum besten der Willkür Gottes aufzuheben, und der Katholik und fromme Domherr Gassendi weiss die Atomenlehre mit dem Dogma der Kirche zu vereinen" (*Geschichte der Atomistik*, v. i, 2). Cf. "the original impetus for the adoption of atomism and the main support for it . . . are to be found in religious considerations" (Wolfson, *Philosophy of Kalam*, p. 471).

101. The most striking difference is the notion, native to the Kalam, that the atoms are unextended. But this was the position of the Baghdad school only, the Basrian school arguing that they were extended (Wolfson, *Philosophy of Kalam*, p. 473f.). Dhanani has argued that the Basrian position was the mainstream one, and the issue turns on the Epicurean notion of minimal magnitudes (*Physical Theory of Kalām*, p. 101f.).

102. Wolfson, *Philosophy of Kalam*, p. 471.

103. *Optics, or A Treatise of the Reflections, Refractions, Inflections & Colours of Light* (4th ed., 1730, New York: Dover, 1952), p. 400. For an interesting discussion, see B. J. T. Dobbs, "Stoic and Epicurean doctrines in Newton's System of the World" in *Atoms, Pneuma, and Tranquility*, ed. M. J. Osler, p. 221–238.

104. "We are facing here one of the most fascinating cases in the history of ideas. The astonishing point is this. From the lives and writings of Gassendi and Descartes, who introduced atomism into modern science, we know as an actual historical fact that, in doing so, they were fully aware of taking up the theory of the ancient philosophers whose scripts they had diligently studied. Furthermore, and more importantly, all the basic features of the atomic theory have survived in the modern one up to this day, greatly enhanced and widely elaborated but unchanged, if we apply the standard of the natural philosopher, not the myopic perspective of the specialist" (E. Schrödinger, *Nature and the Greeks* [Cambridge: Cambridge University Press, 1954], p. 83). For a dissenting view, see W. Heisenberg, *Physics and Philosophy: The revolution in modern science* (London: George Allen & Unwin, 1958).

105. B. Wiker, *Moral Darwinism: How We Became Hedonists* (Downers Grove, Ill.: Intervarsity Press, 2002), p. 23.