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Editor's Statement

Because of ever increasing interest in *The Aquinas Review*, Thomas Aquinas College will now be publishing the journal twice a year, beginning with this the twenty-fifth volume, with an issue becoming available in late Spring/early Summer, and a second in late Fall/early Winter. We hope our readership enjoys receiving more frequently these essays which are intended to stimulate a continuing conversation about perennial truths connected with the curriculum of Catholic liberal education offered at TAC.

The six essays in this issue are wide-ranging, from texts ancient to modern, from science to literature, and from philosophy to theology. Carol Day presents a philosophical consideration of the much-criticized idea of a cosmic medium, generally referred to as "ether," demonstrating that, at least according to Albert Einstein, rumors of its demise are much exaggerated. Richard Hassing contrasts the views of nature proposed by Aristotle and René Descartes, reflecting on what is both subtle and obscure about the former, while showing how it is a good corrective to the excesses and omissions of the latter. Matthew Walz manifests St. Thomas Aquinas's understanding of the interrelations between the kinds of loves and their respective objects, which have their highest form in the love that is friendship, in contrast to Immanuel Kant's notion of a "kingdom of ends." In the fourth essay, Nathan Schmiedicke defends the minority view within contemporary biblical scholarship that, in the curse placed upon the Serpent in Genesis chapter 3, it is not a man, but a woman who will crush its head. Fifth, David Arias argues alongside Aristotle and St. Thomas that, despite the merits of the materialist approach to organisms, there can be only one substantial form in one living thing. Finally, John Nieto presents a way of "hearing" T. S. Eliot's *The Waste Land*, especially in light of Eliot's own notes, one that attends to the manifold but connected imagery and emotions provoked by the quasi-episodes in the poem.

Christopher A. Decaen Thomas Aquinas College, May 2022

Preface

At Thomas Aquinas College we often say that the education we provide is only a beginning. For the most part, our students are reading the important works in our program for the first time, and the class discussion, while certainly helping them to better understand the principal arguments and themes in the readings and to acquire the intellectual virtues, only introduces them to the profoundest truths and deepest questions that have engaged mankind for centuries.

Accordingly, it is fitting that the College publish *The Aquinas Review* to honor its patron and to provide a forum for deeper consideration of those matters which constitute its curriculum and are central to genuine Catholic liberal education. Consistent with the nature of the College itself, this review is marked by fidelity to the *Magisterium* of the Catholic Church and a respect for the great tradition of liberal learning which is our common heritage.

The essays in *The Aquinas Review* reflect positions taken by their authors and not necessarily by the College itself. The editors — in collaboration with the editorial board — determine the contents of each issue. Any interested person may submit an essay for consideration or letters or comments on articles already published.

It is our hope that *The Aquinas Review* will be a source of wisdom to its readers and contributors.

Michael McLean President, Thomas Aquinas College

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EINSTEIN AND THE ETHER

Carol Day

Einstein's general theory relativity is worth a look by scholastic natural philosophers, not only because it is important to consider modern scientific ideas, but because it offers an interesting perspective on some problematic aspects of Newtonian physics. The notions of space, time, and inertia that we find in Newton's *Principia* are reworked in Einstein's theory in surprising ways, and action at a distance through empty space, a notion which troubled Newton himself, is replaced by mediated action at the speed of light. My intention is not to defend the correctness of Einstein's theory. It is well known to physicists that the theory is at the least incomplete, if not wrong in some fundamental sense. Although a way has been discovered to reconcile special relativity with quantum mechanics, the same is not true for general relativity, and this necessarily calls the theory into question. On

Carol Day was born in Tennessee in 1951, where she came to love mountains, science and mathematics, and the classics. After earning degrees from Indiana University (B.S. in Astrophysics; Ph.D. in History of Science) and the University of Michigan (M.S. in Astronomy) and spending several summers working at astronomical observatories, she became a tutor at Thomas Aquinas College. She had the great pleasure of teaching many different subjects from 1981 through 2016, at which time she retired to northern Georgia. She now lives within sight of the Blue Ridge Mountains and spends her time reading, writing, hiking, canoeing, and visiting with family and old friends.

the other hand, it has been so successful¹ that one cannot simply dismiss it as irrelevant to our understanding of the natural world. It is worth our while as natural philosophers to give the theory the clearest possible interpretation. I do not propose to attempt this in a comprehensive way, but to make a beginning toward assessing the soundness of the theory from a philosophical point of view. The starting point will be Einstein's understanding of the ether as a physical reality. After rejecting the luminiferous ether of his immediate predecessors, he eventually discovered the need for a different kind of ether, one as strange to classical Newtonian physics as was the ether of Aristotle and the medieval philosophers.

Einstein rejected the notion of the luminiferous ether, which was thought necessary to explain the nature and propagation of light as an electromagnetic wave. If there is a wave, common sense tells us that something is waving, that there is an underlying medium of which the wave is a disturbance. Signs of the wave-like nature of light were apparent even in Newton's day,² and the next generations of Newtonians found more and seemingly decisive evidence. Only with the researches of Michael Faraday and the mathematical elaboration of his discoveries by James Clerk Maxwell in the nineteenth century was it discovered that light is not a wave in an ordinary elastic medium, such as air, or a wave at the interface of two fluids, such as the waves in the ocean, but a wave in the interconnected electric and magnetic fields that pervade space.

¹ Whereas Newton's mechanics successfully predicts the motions of celestial bodies to one part in 10⁷, the predictions of general relativity have been shown to be correct to within one part in 10¹⁴, a remarkable achievement. These figures are given by Roger Penrose in *The Large, the Small and the Human Mind* (Cambridge, MA: Cambridge University Press, 2000), 26.

² Primary among these were phenomena of diffraction and interference. These led Newton to posit a medium which interacts with light particles. See his *Opticks*, Book Two, Parts One and Two.

Force and Field

To understand this development, we must consider what physicists mean by "field." The concept was introduced into physics as an adjunct to the prior notion of force, as found in the Principia. Force is at the heart of classical mechanics; the concept was used by Galileo and others but first made precise by Newton. The primary instances of force are pushes and pulls. Newton considers these in his discussion of the laws of motion, which are the foundation of his rational mechanics. The first law simply states that a thing keeps on resting or moving with the same velocity unless a force acts on it to change its state. This is problematic for the Aristotelian natural philosopher because local motion is itself something that needs a cause, even if it is not changing speed. The law implies that inertial motion, i.e., uniform motion in a straight line, is not a real change in the mobile. This is the classical principle of relativity:³ all inertial motion is only apparent and so must be judged only as relative to some other inertial mobile.

Accelerated motion, on the other hand, is not just relative to a given inertial reference body. Although some philosophers of science, notably Ernst Mach, denied the objective reality of force and accelerated motion, Newton would not agree.⁴ The proper

³ Although it might be argued that Newton's belief in absolute space makes inertial motion a real change in the mobile, this is problematic if absolute space is infinite. In an infinite space there is no real "where" for the body to be. I see no reason to doubt that Newton had in mind an infinite space. Newton also describes this space as "mathematical," which would mean the geometry of Euclidean space. To Newton and his contemporaries, such space would be infinite. Newton did not use the phrase, "principle of relativity," but it is implied by his first law: "Corpus omne perseverare in statu suo quiescendi vel movendi uniformiter in directum, nisi quatenus illud a viribus impressis cogitur statum suum mutare" (Isaac Newton, *Philosophiae Naturalis Principia Mathematica*, third edition, assembled and edited by Alexandre Koyré, I. Bernard Cohen, and Anne Whitman, Vol. 1 [Cambridge, MA: Harvard University Press, 1972], 54). 4 Einstein may have agreed with Mach early in his career, but this was not his mature opinion, as I hope to demonstrate. Note: the absolute reality of

measurable effect of force in Newton's theory is the change in motion it produces, which he calls the "motive quantity of the force" (definition 8). Motion, or what we now call "momentum," takes into account the body on which the force is acting as well as the change produced in its motion. Momentum is the product of the mass of the body and its velocity, and the motive quantity of force is proportional to the change in momentum that it produces. A given force will produce the same change in momentum in any body, but the more mass it has, the less the velocity will change. If no change in momentum occurs, no force is acting.

Newton's second law of motion can be seen as a fleshing out of his definition of the motive quantity of force. In modern terminology, the second law sets force equal to the first derivative with respect to time of momentum, or F = d(mv)/dt. Since the mass of the mobile usually is not changing, more commonly one finds the law expressed as: F = mdv/dt, or simply as F = ma.

Using modern terminology, we may characterize the second law as a kinematic definition of force. The law specifies a measure of force in terms of the effect it produces in the mobile. In definition 6, Newton defines a different kind of measure, which he calls "absolute." This is "proportional to the efficacy of the cause that propagates it from the center, throughout the spaces round about." Every kind of central force (attractive or repulsive) will have a distinctive measure based on the absolute quantities of the bodies giving rise to it.

The force that Newton is most concerned with in the *Principia* is of course gravity. Newton's *magnum opus* is in essence a long argument that all bodies in the universe attract

acceleration does not imply that an accelerated motion will look the same or measure out the same in every reference frame. It is true as well that there can be fictitious forces, which are mere artifacts of accelerated motion. These are well known in Newtonian physics.

one another by gravitational force. The measure of gravitational force exerted by mass M on mass m (and vice versa) is $F = g \frac{Mm}{r^2}$, where g is a constant determined by the units chosen. Since the kinematic measure of the force is F = ma, if we equate the two measures, it follows that $a = g \frac{M}{r^2}$. Notice how the mass of the body being acted on cancels out. This would not happen with electrical force or, indeed, with any other kind of force. This strange fact is what lies behind Galileo's discovery that all bodies fall at the same rate, if we ignore air resistance.

The cancelling out of m has a more profound meaning, which Einstein expresses by saying, "The *same* quality of a body manifests itself according to circumstances as 'inertia' or as 'heaviness."⁵ In the kinematic equation, m is the measure of the body's inertia. In the "absolute" equation, m is the measure of the body's receptivity to the gravitational pull of other bodies. This is what Einstein refers to as "weight." The same m is also the measure of the gravitational pull the body exerts on other bodies. That mass is a measure both of inertia and of absolute gravitational power is, as far as one can tell from Newton's theory, a very surprising coincidence. We will return to this important point later, since it begs for some kind of explanation.

The followers of Newton soon developed new mathematical techniques for dealing with difficult problems of calculating motions arising from gravity, as well as those arising from

⁵ Albert Einstein, *Relativity: The Special and the General Theory: A Clear Explanation that Anyone Can Understand*, trans. by Robert W. Lawson (New York: Bonanza Books, 1961), 65. This authorized translation has been reprinted many times and by several publishers. The edition I cite, now out of print, includes two important appendices not generally included in later reprints. A more readily available version of this same translation is Albert Einstein, *Relativity: The Special and the General Theory* (Mansfield Center CT: Martino Publishing, 2010).

electrical and magnetic forces. The introduction of the notion of fields facilitated this development. Nominally, a field is defined as the measure of force acting on a unit of whatever object is subject to its action. Thus the gravitational field G is defined as the force that one or more bodies will exert on a unit mass. Similarly, the electric field E is the electrical force that will be exerted by any given combination of charges on a unit charge. Fields are understood to be functions both of time and of the spatial coordinates.

An advantage of the field approach is that it allows one to assign numbers to points in space, abstracting from what body might be there to be subject to the causes producing the field. The field, in other words, is a measure of potential force. Now, this might be taken just as a mathematical convenience. To the positivist, fields are merely artificial constructs in service of easy problem-solving and elegance of presentation. But to others, the mathematics suggests that something real is going on, that the potencies for force are physical properties of the space surrounding a body, or a charge, or a magnetic pole. Faraday argued this most vigorously by pointing to the lines formed in iron filings in the presence of a magnet, which he called "lines of force." Radiating out from the magnet, they represented a state of strain or stress in the surrounding medium; by their mediation, one magnetic pole acted to attract or repel another. Faraday took these lines as a visible sign of the presence of a real condition in the medium. Maxwell agreed with this interpretation and developed a comprehensive theory of electromagnetism and electromagnetic waves, demonstrating that light was such a wave.

The Ether

This realist approach to the electric and magnetic fields demands a substance in which they exist. This is what came to be called

the "luminiferous ether." The name harkens back to the radically different substance which was introduced by Aristotle to distinguish the immutable bodies above the moon from the realm of changeable bodies here below.⁶ The name was adopted by Maxwell and others to describe the substance that was supposed to fill space between ponderable bodies and the interstices within them. The function of this ether was to serve as the medium for the propagation of light waves and other electromagnetic radiation. There was much unresolved controversy about its nature and composition, most notably as to whether it was molecular and whether moving bodies such as the earth carried the ether along with them, in whole or in part. From the beginning, however, difficulties about the supposed ether were apparent. For example, the fact that celestial bodies move through the ether without hindrance suggests it exists in the form of a very thin fluid (gas or liquid) without viscosity or inertial resistance. On the other hand, the fact that light exists as a pair of transverse waves that propagate in all directions, not just at the interface between two substances, indicates that the medium must be solid. The immense speed of light also indicates a rigidity in the medium greater than anything known here below. From the ordinary Newtonian point of view, it seems that no medium could have all these properties. The ether would have to be something so unlike familiar matter as to be a radically different kind of substance. Maybe Aristotle was not completely off base in his thinking about the ether after all!

The result of repeated attempts to detect the motion of the earth through the luminiferous ether failed.⁷ Einstein pointed

⁶ For a helpful account of the ether argued to by Aristotle and subsequent developments in scholastic philosophy, see Christopher A. Decaen, "Aristotle's Aether and Contemporary Science," *The Thomist* 68 (2004): 375–429.

⁷ There are many accounts of this experiment, so I will not describe it here. The possibility that the earth brings its ether with it as it moves is ruled out by the phenomenon known as the aberration of starlight, which indicates that

to the null result of these experiments as an argument against the ether, but his primary reason for rejecting the notion was philosophical. The admission of a preferred medium, one which could be regarded as absolutely at rest, seemed to Einstein to be out of harmony⁸ with the principle of relativity, which he, like most other physicists, held as an incontrovertible first principle. Einstein's belief in the universality of the principle of relativity led him initially to reject the ether, quite apart from any experimental evidence, and to develop his special theory of relativity. Only later did other considerations cause him to readmit the ether into physics, though in a radically modified form.

Absolute Laws and the Constant Speed of Light

One cannot be a scientist and reject the absolute reality of everything. The principle of relativity has to do with perceptions and measurements of kinematic quantities, that is, of time, distance, velocity, acceleration, and so on. These measures are taken to be always relative to some observer or frame of reference that is regarded as at rest. Absolute rest, on this view of things, has no meaning. On the other hand, the laws of nature are themselves absolute. They do not depend on where or when one is in the universe, or how one is moving with reference to anything else. Unfortunately, it looked as if the laws of motion for moving electrical charges might fail to be absolute. Einstein showed how to remedy this problem in his seminal article, "The Electrodynamics of Moving Bodies."⁹

there should be an "ether wind." This was the situation faced by Lorentz, Einstein, and others, as they thought about what is going on with light.

⁸ This may seem strange, since Newton, as is well known, believed that there was an absolute space in which the relative spaces accessible to us by observation and experiments was embedded. But if this space is infinite, as Newton seemed to believe, then absolute inertial motion is undetectable, and one might argue that Occam's razor should cut it away.

⁹ Albert Einstein, "Zur Electrodynamik bewegter Körper," Annalen der Physik

One of the strange truths about nature is that the speed of light is not like any other speed, whether of a body or of a wave. As long as there is no medium to slow it down, light travels at the same speed in all inertial frames of reference. The speed of light, c, thus appears as a universal constant. This peculiar property of light takes on the character of law. This treating the speed of light in vacuo as something absolute makes a material medium in the space between the stars not only unnecessary but seemingly impossible. For if the medium propagates the light, and the observer moves relative to the medium, the observed speed would have to depend upon that relative motion.¹⁰ This relative motion is in fact measurable when light moves in a material medium. Fizeau measured the speed of light in water and obtained a result consistent with the quantity predicted by the special theory. It is only in the so-called vacuum of space that the speed of light is constant.

As is well known, the special theory of relativity upends our commonsense notions of space and time. In order to maintain the constancy of the speed of light *in vacuo* and to save the classical principle of relativity, our thinking about the measurement of time and distance must be revised. The principle of relativity implies that observers moving with respect to one another without acceleration or rotation must measure different

^{17 (1905): 891–921.} An English translation may be found in A. Einstein, H.A. Lorentz, H. Weyl, H. Minkowski, *The Principle of Relativity* (New York: Dover, 1952), 35–65.

¹⁰ If light, then, moves independently of a medium, it cannot be a wave in the ordinary sense. Yet that light has wavelike properties is indisputable, so one is left in a paradoxical situation when trying to say what it is. This would have been intolerable if developments in quantum mechanics had not brought in similar paradoxes. Clearly, there is something deeply mysterious about light. It seems to have substantial being, despite the wave-like properties that makes it look like an accident in some other substance. Einstein himself is credited with being the discoverer of the photon. It was on account of this, not the special or general theory of relativity, that he was awarded the Nobel prize.

velocities for mobiles in their two reference frames. This seems to make a constant speed of light impossible. This was a serious dilemma. The fact about light was well established both directly and indirectly, but physicists were loath to reject the relativity principle. Einstein came to the rescue by showing how the two assumptions are reconcilable.

The new thing in Einstein's theory is not that space and time are somehow related, but that their measures are entangled with each other. Separately, the measurements of time and distance are relative to the reference frame in which they are being measured. Lengths contract and clocks slow down when they are moving with respect to the observer. This is noticeable only when the relative speed is great, but that it is a real phenomenon is attested to by many careful experiments. Put together a certain way, however, one obtains an absolute measure agreed upon by all observers in inertial motion. This may be called the space-time interval. When things are not moving very fast, the space-time interval separates out into two distinct measures.¹¹ Since the space-like contribution to the time measure and the time-like contribution to the space measure depends on the size of $\sqrt{1 - v^2/c^2}$, the relative speed of the mobile has to be very great before this factor differs appreciably from 1.

Rejection of the Ether, and the Ether Redux

It was perhaps the strangeness of such new concepts that led the young Einstein to flirt with positivism in the form proposed by Mach, which called for the elimination of "metaphysics" from science, leaving only a world of sense impressions as elements to be organized into a system.¹² The positivist's approach ignores

¹¹ Not only space and time, but also momentum and energy are like this.

¹² Ludwik Kostro, *Einstein and the Ether* (Montreal: Apeiron, 2000), 21. This book is an invaluable source of quotations from letters and lectures given by Einstein in which he addresses the question of the ether. He helpfully supplies

any questions about the nature of the entities introduced into a physical theory and allows only empirical or operational definitions into science. It seems that this was Einstein's state of mind when he first formulated the special theory of relativity. With such a view of scientific knowledge, there was no role for a material ether. As a posited being that gives no direct evidence of its existence, it had to be rejected as an unwanted bit of metaphysics.

Although he always admired Mach and continued to respect his contributions to physics, Einstein eventually rejected positivism. In a late work he wrote:

I see Mach's greatness in his incorruptible skepticism and independence; in my younger years, however, Mach's epistemological position also influenced me greatly, a position which today appears to me to be essentially untenable. For he did not place the essentially constructive and speculative nature of thought, and more especially of scientific thought, in the correct light; in consequence of which he condemned theory on precisely those points where its constructive-speculative character invariably comes to light.¹³

The constructive and speculative nature of Einstein's thought is seen with great clarity in his rediscovery of the necessity of the ether. Reason shows the need for some kind of medium, but it

the original German texts in an appendix. In the remainder of this paper, this book will be referred to simply as Kostro.

¹³ Albert Einstein, "Autobiographisches," in *Albert Einstein als Philosoph und Naturforscher*, ed. P. A. Schilpp (Braunschweig/Wiesbaden: Friedr. Vieweg und Sohn, 1979), 8, quoted in Kostro, *op. cit.*, 22-23. He wrote even stronger words of disapproval of Mach's approach: "Mach's system studies the existing relations between data of experience; for Mach, science is the totality of these relations. That point of view is wrong, and, in fact, what Mach has done is to make a catalogue, not a system. To the extent that Mach was a good mechanician he was a deplorable philosopher" (quoted in "Einstein and the Philosophies of Kant and Mach," *Nature* 112, no. 2807 [1923]: 253; see also Kostro, *op. cit.*, 104).

can be known only by the construction of an hypothesis, one which makes sense of things that *are* known and measured. Einstein arrived at such a construction in stages. He began with an ether that acts on bodies and radiation but does not suffer action from them; he next introduced an ether that was also acted upon by ponderable bodies; finally, he experimented with an ether that would account for the very existence and activity of elementary bodies. This latter attempt did not succeed and had to be abandoned.

A key step in the formulation of the new conception of the ether was the idea of a unified space-time framework underlying physical reality. This idea of fusing space and time into one comprehensive mathematical structure did not originate with Einstein. This formalism was the work of Hermann Minkowski,¹⁴ who called the resulting structure the "world." A point in the world is called an event, and the motion of a body is represented by a "world-line." Einstein was unenthusiastic about Minkowski's approach at first, but he eventually came to appreciate it once he saw its usefulness for the development of a general theory of relativity.¹⁵ This caused him to take it more seriously and to incorporate it into his understanding of the metaphysical structure of the world.

In the first stage of the rehabilitation of the ether, Einstein conceived of it only as a replacement for Newton's absolute space but no longer absolute, as demanded by the principle of relativity. This conception was in keeping with the lingering empiricism and positivism inherited from Mach. In his essay "Relativity and the Problem of Space," Einstein presents his understanding of the role space and time play in classical mechanics:

¹⁴ Kostro, *op. cit.*, 43. The idea was introduced in a paper read to the Mathematical Society in Göttingen in 1907, and later published in the *Annalen der Physik* under the title "Das Relativitätsprinzip," *AdP* 47 (1915): 927–938. 15 *Ibid.*, 44.

In Newtonian mechanics, space and time play a dual role. First, they play the part of a carrier or frame for things that happen in physics, in reference to which events are described by the space-coordinates and the time. In principle, matter is thought of as consisting of "material points," the motion of which constitute physical happening. When matter is thought of as being continuous, this is done as it were provisionally in those cases where one does not wish to or cannot describe the discrete structure. . . The second role of space and time was that of being an "inertial system." From all conceivable systems of reference, inertial systems were considered to be advantageous in that, with respect to them, the law of inertia claimed validity. ¹⁶

Rather than associate Newtonian space and time with a material body, such as the luminiferous ether, Einstein believed that one could relativize the ether in exactly the same way as space and time without eliminating it as an unnecessary addition to physical theory. The evolution of his thought is described in an article written after the initial formulation of his theory.¹⁷ In it Einstein writes:

It is clear that in the theory of relativity there is no place for the notion of an ether at rest. If the reference systems K and K' are completely equivalent for the formulation of the laws of nature, it is inconsistent to base the theory on a conception that distinguishes one of these systems from the others. If one postulates an ether at rest with

¹⁶ Relativity: the Special and General Theory, Appendix V, 143-144.

^{17 &}quot;Chief Notions and Methods of the Theory of Relativity Presented in its Development," written in 1920 and never printed in full. This article was never published, but it exists as a manuscript in the Morgan library in New York; but the paragraphs relevant to the ether are quoted, both in German and in translation, in Kostro, *op. cit.*, 77–78, and 203-204.

respect to K, it moves with respect to K', which is not in accord with the equivalence of the two systems.

Therefore in 1905, I was of the opinion that it was no longer allowed to speak about the ether in physics. This opinion, however, was too radical, as we will see later when we discuss the general theory of relativity. It is still permissible, as before, to introduce a medium filling all space and to assume that the electromagnetic fields (and matter as well) are its states. But it is not permitted to attribute to this medium a state of motion at each point, by analogy with ponderable matter. This ether may not be conceived as consisting of particles that can be tracked in time.¹⁸

There is much to unpack here. First note his claim that the ether is not at rest. In this way it could not be more unlike Newton's absolute space. This is stated by Einstein in another way in a lecture delivered at the University of Leiden in 1916:

More careful reflection teaches us, however, that the denial of the existence of the ether is not demanded by the special principle of relativity. We may assume the existence of an ether; only we must give up ascribing a definite state of motion to it.¹⁹

If it has no definite state of motion, neither can it be in a definite state of rest. Einstein further insists that the ether is not a material substance, subject to the laws of mechanics; it does not consist in particles that can be tracked in time. Maxwell and others had attempted to come up with a workable molecular hypothesis for the composition of the ether, but these attempts had failed.

¹⁸ Morgan Manuscript, section 13, quoted in Kostro, op. cit., 77–78.

¹⁹ Published as *Äther und Relativitätstheorie* (Berlin, 1920), quoted in Kostro, *op. cit.*, 94; also available in Albert Einstein, *Sidelights on Relativity* (New York: Dover, 1983), 13.

Einstein presumably thought that this project was doomed from the beginning. If we conceive of the ether as a substance, analogous to ponderable matter, we run into all the difficulties that arise when we try to explain why it is does not act the way ponderable matter normally does. As we shall see, Einstein had a very different notion about what kind of thing the ether is.

Although the ether is not composed of ponderable matter, Einstein did regard it as a physical reality. He had begun to think of the ether as the reality that is represented mathematically by the four dimensional world of Minkowski. Looked at one way, the ether conceived as space-time is just an abstract mathematical construct, but from the physical point of view, it is a way of thinking about the concrete geometry of the world.²⁰

This is confirmed by something he says in the same lecture, that "to deny the existence of the ether means, in the last analysis, denying all physical properties to empty space."²¹ Empty space is the space of special relativity, what one has when no accelerating forces are present. "Empty" in this context presumably means the absence of bodies and such things as electromagnetic fields. Even empty space, if it is to be physically real, will need the ether.

If ether is real but not a substance, it must be a property of substance. Although the categories of modern science do not explicitly include substance and accidents, the reality of these two ways of being can hardly be ignored. Even for Einstein and other modern physicists, properties do not exist without being properties of something. To some, a field is the ultimate reality, playing the role of first substance. For these physicists,

²⁰ Einstein begins his presentation for the educated public with the distinction between pure geometry and the geometry that is a part of physics. He must have thought this distinction crucial to understand at the outset. See *Relativity: the Special and the General Theory*, Chapter 1.

²¹ Quoted in Kostro, op. cit., 95, and Einstein, Sidelights on Relativity, 16.

identifying this field and seeing how other things arise from it is the task of fundamental physics. This may have been Einstein's conception at some stages in the development of his thought. Since bodies also exist, how to fit them in was a problem that plagued him the rest of his life.

Ether in the General Theory of Relativity

If the ether has a role to play in the special theory, it is even more critical in the general theory. In fact, if he had not discovered that the general theory requires something that might reasonably be called "ether," Einstein would have had no reason to mention it in connection with the special theory. To understand how his new understanding came about, we should first consider what the general theory proposes to explain, and form some notion of how it proposes to do so.

The underlying idea of the general theory is that the principle of relativity is universally applicable. We no longer give special attention to reference frames that are unaccelerated, as was the case in the special theory. This opens up the account to the real world, in which there are always present fields of one sort or another. There are, in reality, no bodies moving uniformly in straight lines, though we can still make use of such bodies as idealized reference frames, ones that are approximated by bodies deep in interstellar space. It just seemed wrong to Einstein that the important principle of relativity should be realized only in approximation; there should be no way of establishing absolute accelerations as objective measures of motion. This universalizing of the principle changes everything.

Of course, there has to be a reason why this is a plausible move. We have already seen what makes it possible: the equivalence of inertial and gravitational mass, which we first saw as an implication of Galileo's discovery that gravity treats all bodies

equally. It may not be clear at first how this is relevant to the expansion of the principle of relativity. Einstein gives an imaginative scenario to explain the connection, and we can do no better than to recount it here.²² Imagine a man in a big box who cannot see outside it. A giant being is pulling on a rope attached to a hook on the top of the box in such a way as to accelerate it uniformly upward. The man feels that he has weight. Moreover, if he releases a body that he holds in his hand, he sees it fall to the bottom of the box with uniform acceleration. In fact, every experiment he might do on heavy bodies indicates that he exists in a uniform gravitational field. So what causes the man and other things in the box to be heavy? Is it their inertia, or is it the pull of a gravitational field? We cannot distinguish between these by measurement, since mass is an ambiguous measurement. If we could see the giant, we could tell which is the correct account, but suppose there is no way to observe the giant?

In the real world, there is nothing like the giant to be discerned. Einstein concludes that we should just admit that there is a gravitational field for the man in the chest, but none for an observer outside the box. Does this mean that gravity is an illusion? Not if a gravitational field is the same thing as an acceleration field, for there *is* a perceived acceleration inside the box, one constant in magnitude and direction. What Einstein is suggesting is that there is some reality that can look (and be measured) differently in different reference frames and even, in special cases, be made to disappear.²³ His imagined example is well chosen, since the man in the box is by supposition unable to look outside and see a giant being who might really be responsible for the acceleration. This is an important point. Einstein is not saying that every acceleration has no knowable cause. After

²² See Relativity: the Special and the General Theory, Chapter 20.

²³ As he points out, there is no possible reference frame in which all gravity can be made to disappear. A little thought is sufficient to provide some examples, such as a gravitational field directed to a central point.

all, I know that my car decelerates because I am applying the brakes. Similarly, it is evident that electric and magnetic fields cause accelerations. Nevertheless, I can always replace these accelerations with a suitable gravitational field and regard myself as at rest. Again, he is not claiming that either acceleration or gravity is not real, but only that they are relative in their form and measure to the reference frame to which they are being referred.

Now, as is the case for the man in the thought experiment who cannot see the giant, so it is for gravity itself. We know how to measure gravity, given mass and distance, and we know it somehow arises from bodies, but we cannot see the cause in operation. I can know how my pushing on the brake pedal causes my car to slow down because I can see and understand the mechanical parts and how they are linked. There is nothing like this with gravity. Though superficially similar to the case of electromagnetic fields, there is an important difference. The force coming from a charge or a magnet is modified by the presence or absence of a given medium, and this indicates some kind of instrumental causality in the medium. We may not be able to see it, as in the case of the brakes, but it is a reasonable inference that some physical process in the medium is involved in transmitting the force. Gravitation is not like that. Though introducing a medium obviously has an effect, in that new mass is introduced into the system, this medium does not in any way add to or take away from the effect coming from the original source. It is possible to shield from both electric and magnetic forces, but no shield works against gravity.

The gravitational field is, therefore, essentially different from other fields. The universality of its scope and the fact that it treats all bodies in the same way suggests that it might be understood as a property of space itself. If all one could say was this, that the gravitational field is a property of space, one would have not said anything very new or startling. The revolutionary idea

comes from considering the implications of the equivalence of gravitational acceleration to the geometric properties of spacetime. Einstein was able to show that clocks run slower in gravitational fields than they would if no field were present, and the stronger the field, the slower the clock. This is a real effect, verifiable by *all* observers, unlike the time dilation of special relativity. There is also a real effect on the length of bodies; they shrink in the direction of the field, the more so as the field grows stronger. The implication of all this is that physical space is no longer Euclidean in the presence of a variable gravitational field. This is the curvature of space that one hears about as the characteristic feature of general relativity. In fact, one must think of space-time, not space alone, as being curved, since clocks too are affected by gravity.

In the mathematics of general relativity, the curvature of space-time is expressed in a four dimensional object called the metric tensor.²⁴ Einstein sometime refers to this tensor as a whole by the symbol which stands indifferently for any of its components, $g_{\mu\nu}$. The *g* calls to mind that this tensor is a description of the gravitational field. The two Greek subscripts range over the three dimensions of space and the dimension of time. For our present purpose, it is enough to recognize this as a way of expressing in a concise fashion both curvature (what we might call the measure of local deviations from Euclidean geometry) and the measure of gravity as a function of location and time. In Einstein's theory, this tensor arises from the distribution of energy and momentum in space and time. Variations in the frame of reference entail variations in this tensor.

²⁴ It is not necessary to know much about tensors for our purposes. Suffice it to say that a tensor is an expression of some physical function or quantity in terms of its components, with some constraints. A vector is a simple example. The tensors of relativity theory require components involving the three space coordinates and time, individually and in pairs.

EINSTEIN AND THE ETHER

Curvature, Gravity, and the Ether

Einstein came to regard the ether as critical to the general theory of relativity because the false idea had to be overcome that space could be empty of all physical being. The rejection of the luminiferous ether might look like a return to the old pre-Socratic notion of the void. Given that matter exists, however, the general principle of relativity requires the existence of gravitational fields everywhere, and thus of the metrics to which they are equivalent. That these realities are what Einstein meant by his relativistic ether is shown in a letter to Lorentz, who had proposed the notion of a non-mechanical ether at rest, in violation of the principle of relativity. Referring to his own proposal of a new kind of ether, Einstein wrote:

I agree with you that the general theory of relativity is closer to the ether hypothesis than the special theory. This new ether theory, however, would not violate the principle of relativity, because the state of this $g_{\mu\nu}$ = ether would not be that of a rigid body in an independent state of motion, but every state of motion would be a function of position determined by material processes.²⁵

The first point he makes here is that the ether is a more important hypothesis in the general than in the special theory, but even the latter is open to it.

The special theory does not require the absence of a gravitational field, as one might think at first. It turns out that it is consistent with the existence of a non-zero uniform gravitational field, one in which bodies accelerate uniformly along parallel straight lines. This is the imaginary scenario of the giant pulling on the box. To understand why this does not contradict either the claim that the space of special relativity is flat or that

²⁵ Einstein, "Letter to H. A. Lorentz, 17/6/1916," quoted in Kostro, op. cit., 68.

the space and time variables are so connected as to produce a constant speed of light, it must be noted that the space of special relativity is Minkowski space, not Euclidean space. In Euclidean space, the differential of distance is $ds^2 = dx^2 + dy^2 + dz^2$ and time is absolute. In Minkowski space, the differential of absolute separation is $ds^2 = dx^2 + dy^2 + dz^2 - c^2t^2$. The subtracted time term preserves the constant speed of light under Lorentz transformations, as required by the theory. It also implies that the spacetime of special relativity is only quasi-Euclidean. Considered by itself, space is flat, but the purely spatial separation between two events is not absolute, nor is time. In fact, it can be shown that the relativity of time is all that is needed to account for the acceleration produced by a uniform gravitational field. There might have been a hint of the role that time plays in gravity in Galileo's demonstration that a heavy body requires only the passing of time for its fall to come about when released from rest.²⁶

The second point Einstein makes is that "the state of this $g_{\mu\nu}$ = ether would not be that of a rigid body in an independent state of motion," and thus the principle of relativity is not violated. The ether may be one in definition, but there are as many individual ethers as there are possible frames of reference. This implies that Einstein's ether, unlike that proposed by all his predecessors, is not a substance. Consider what kinds of being are relative. They include time, distance, the magnitude of gravitational and other fields, the energy of a body and its momentum. Some of these, such as energy and momentum, enter into an absolute combined measure, but separately they are relative. All these are not independently existing beings but properties of something underlying. We will see that this rather common

²⁶ This thesis is set out and explained in an imaginative way in Lewis Carroll Epstein, *Relativity Visualized* (Chicago, IL: Insight Press, 1985), Chapter 10. I highly recommend this book to both beginning and more advanced students of Einstein's theories.

sense judgement is indeed what Einstein thinks. The relativistic ether must also be a property of something. It remains to see how we can characterize that something.

His third point follows from the second, that the ether is not a "rigid body in an independent state of motion." Note how Einstein makes a concession to our usual way of thinking by separating the temporal and the spatial aspects of the world. This is unavoidable if one wants to use the usual terminology of physics.²⁷ The material processes he has in mind are the variations of energy and momentum with time in a given reference frame; these determine the state of motion of the ether in that frame.

The Metaphysical Status of the New Ether

For Einstein, ponderable matter is not the ultimate physical being, and this distinguishes him from the classical atomists. Space was for them merely an empty stage on which bodies play their part, interacting by means of forces or collisions. Space, or rather space-time, was as real for Einstein as material bodies, if not more so. If it is real, what kind of being is it? One might be tempted to think of the ether as the ultimate physical reality, but that does not seem to be an adequate conception. Ether, as we have seen, looks more like a property than a substance. One might object that, from the point of view of theoretical physics, there is no need to look deeply at the metaphysical structure of space, but Einstein was more than just a theoretical physicist. He was also a philosopher. In the following text, we can see something of the complexity of his conception:

²⁷ There is good reason to think that for Einstein the true conceptual world is a sort of Platonic idea in which everything exists in an immutable, four-dimensional mathematical unity. It is not clear how to reconcile this with the empiricist cast of thought found in some of his work, but both strains are present. Most often, he uses the ordinary language of motion and variable properties as if they are not problematic.

On the basis of the general theory of relativity ... space as opposed to "what fills space," which is dependent on the co-ordinates, has no separate existence. ... If we imagine the gravitational field, *i.e.* the functions, to be removed, there does not remain a space of the [Euclidean] type, but absolutely *nothing*, and also no "topological space." For the functions g_{ik} describe not only the field, but at the same time also the topological and metrical structural properties of the manifold. . . . There is no such thing as an empty space, *i.e.* a space without field. Space-time does not claim existence of its own, but only as a structural quality of the field.²⁸

A great deal is packed into these sentences, and it may not be immediately clear what he means. First, note that the functions g_{ik} play two roles. As gravitational potentials, they describe the (gravitational) field, but at the same time they describe "the topological and metrical structural properties of the manifold." We can see from this why Einstein distinguishes space from the field; space is only one of the two modes in which the field manifests itself. We know that he has identified the field, in the form of the functions g_{ik} , with the ether. But the field is not the ultimate thing. Underlying it is the manifold, the thing that has topological and metrical properties. This fits with the claim that the ether not a substance.

What is this manifold? This word has a technical meaning in geometry. Without getting into details, suffice it to say that it is a very general notion referring to what a mathematician

²⁸ *Relativity: the Special and the General Theory*, Appendix V, 155. Here he uses the indices *i* and *k* the same way he used μ and ν in earlier quotations. These so called "dummy variables" are to be replaced systematically by the numbers 1 - 4, so that, for instance, g_{14} refers to the component of the tensor that combines *x* and *t*, in that order. All 16 components of the tensor are summed up by the expression g_{ik} . This is comparable to the use of a dummy variable in standard summation notation.

would call a space of *N* dimensions, with *N* left to be specified. It does not yet have a determinate kind of geometry but is open to both Euclidean and non-Euclidean determinations.²⁹ For Einstein, the manifold is not yet space. Only with the addition of the field does it acquire a geometry, thereby becoming space. On the other hand, there is no reason to think Einstein regards the manifold as only an abstract mathematical concept. In fact, he claims in this passage that the manifold could not exist without a field to give it geometrical as well as physical properties. From this we may infer that it does exist, although its reality is minimal.³⁰ Einstein does not here, or elsewhere as far as I know, refer to anything more fundamental, and nothing of the sort is required by his physics.

The Ether and Matter

The problem of the interaction between fields and matter was and remains an important issue. At first Einstein thought that bodies and light responded to the gravitational field, that is, to the curvature of space-time, but *they* did not affect *it*. The ether of special relativity acted on matter and radiation, but was essentially passive; they did not act back on it. A purely passive ether proved to be unsupportable for empirical reasons. The discovery of the expansion of the universe proved that the ether must be

²⁹ The kind of manifold relevant to the physics of general relativity is called "Riemannian," which means that it is Euclidean in the neighborhood of every point, though it may be non-Euclidean overall.

³⁰ Though it might be tempting to regard the manifold as Einstein's version of prime matter, this would be misleading for two reasons. First, it is not devoid of all properties. It is extended and has dimensionality. Second, it does not play the role that prime matter does in Aristotle's physics. Aristotle brings in prime matter only because it is necessary to explain substantial change. Since the Scientific Revolution, physicists have not concerned themselves with substantial change. But it does have this in common with prime matter, that it is a principle of being rather than something that exists of itself.

understood as something dynamic. As he expressed the idea in 1924, the ether is "determined in its locally variable properties by ponderable matter."³¹ In the ether of general relativity, "every state of motion would be a function of position determined by material processes." In other words, the activity of bodies (ponderable matter) causes a response in the ether, altering it "in its locally variable properties." The locally variable properties are the space-time curvature and any other physical properties that respond to these changes in geometry.

A commonplace in popular treatments of general relativity is that matter tells space how to curve, and space tells matter how to move. This is putting into ordinary language the idea expressed by what is called Einstein's equation: $G_{\mu\nu} = 8\pi G T_{\mu\nu}$. The left side of the equation is an expression in geometrical terms of how space-time is curved, and $T_{\mu\nu}$ is an expression of the momentum and energy present in the space. This is an example of a field equation. It allows one in principle to calculate the force on a unit of mass (or energy equivalent) at a location in space and time, given knowledge of the momentum-energy tensor, $T_{\mu\nu}$. Even though this equation is not solvable except under certain special circumstances, it is important as a summary of the essential causal idea of general relativity.

A much more difficult question than the manner in which bodies and fields interact is the question of what body is. Einstein's inclination was to reduce matter to field, or even to regard both as manifestations of the same thing. This latter idea is expressed in a book he wrote with Infield: "Matter is where the concentration of energy is great, field where the concentration of energy is small. But if this is the case, the difference between

³¹ A. Einstein, "Über den Äther" (1924), translated into English as "On the Ether," in *The Philosophy of the Vacuum*, ed. by S. Sanders and H.R. Brown (Oxford: Clarendon Press, 1991), 13–20; quoted in Kostro, *op. cit.*, 105.

matter and field is a quantitative rather than a qualitative one."³² His views on this and related matters changed over time, and neither he nor his successors have worked out a satisfactory theory that either reduces matter and field to energy or, assuming that they are essentially different, clarifies how to think about the boundary between them. Although this remains an unsolved problem, the apparent fact that bodies affect space and space in turn affects bodies leads to an interesting new interpretation of inertial motion.

The motion of a projectile once it leaves the hand or weapon must either be explained or assumed not to require a moving cause, as in Newton's theory.³³ Aristotle does not spend much time on this problem, but he suggests that the displaced air could be giving the projectile a push from behind. This can't be the solution, though something like it is at work in the soaring of a hawk or the flight of an airplane. If this were a sufficient explanation, one would expect that by making the medium less dense the forward motion would be harder to maintain, but of course the contrary is true. But Aristotle's insight, that the mover must be in contact with the moved, is surely correct. It is a property of bodies that they act where they are, either immediately or through an instrument.³⁴ A possible explanation, developed in the middle ages and perhaps held in some form by Galileo, was that the mover imparts a form, called impetus, to the mobile, and this serves as a co-joined mover. But what kind of form impetus

³² Albert Einstein and Leopold Infeld, *The Evolution of Physics: From Early Concepts to Relativity and Quanta* (New York: Simon and Schuster, 1961), 241; quoted in Kostro, *op. cit.*, 144.

³³ It would be unfair to Newton to say that inertial motion has no cause. It does have a formal cause in his theory, namely the *vis insita* of the body.

³⁴ That this principle is *per se notum* is indicated by the trouble felt by some physicists when confronted with the phenomena of quantum entanglement. They do not understand that action at a distance through a medium can be instantaneous.

might be is very puzzling, since it seems to make the mobile a self-mover. Can there be such a thing in an inorganic body?

Although Einstein, as far as I know, did not have the problem of explaining the nature and causes of projectile motion in mind, his fully developed theory does in fact suggest a possible account of inertial motion. The first thing to note is that in general relativity, the conditions for inertial motion in Newton's sense do not exist, even in principle. That there is no perfectly inertial motion in the real world is of course true, no matter what theory is proposed. In the account given in the Principia, however, inertial motion plays a fundamental role is establishing the baseline against which all accelerated motions are to be compared. This is possible for Newton, but impossible for Einstein, because the former accepts space as something prior to and unconditioned by bodies, while the latter does not. In general relativity, since space itself is not Euclidean, the baseline motion will be motion along a geodesic, that is, along a path determined solely by the local gravitational field. Thus in general relativity, inertial motion may be redefined as motion under the influence of gravity alone.

What can we say, then, about the projectile? The projectile is surrounded at all times by the gravitational field. Variations in the field that surrounds the body determine its trajectory and speed, in the absence of other causes. Even if the field is spatially homogeneous in a given reference frame, time does not stand still.³⁵ As with an electrical field, where the charge placed in it moves along the gradient from a region of higher to lower potential, so too does the heavy body in the gravitational field. One way Einstein characterizes the functions in the metric tensor is as gravitational potentials. This gives rise to the gradients

³⁵ It follows that the surrounding space is not homogeneous in other reference frames. The important point here is that the body is necessarily in a variable gravitational field, considered from a four dimensional point of view.

along which the body moves. This idea is illustrated in the common popular demonstration in which a sheet is stretched out and a heavy body put in the center to make a simulated two-dimensional curved space. A smaller body released on the surface follows a curved path according to the variable pressures of the sheet on the object. In relativistic physics, once the body is set in motion, perhaps merely by the variations of the spacetime curvature on all sides of it, it continues to move under the influence of its surroundings. If we know the ether by means of the functions g_{ik} , we can determine the trajectory of an inertial mobile in whatever frame of reference we happen to be working in. Any other accelerations, such as those due to the electromagnetic interaction between the thrower's hand and the projectile, make the motion non-inertial.

The ether is a concept with a long history, and its meaning changed as our conception of the physical world has changed. Although it seemed to be dead and buried, Einstein resurrected the notion in an interesting way, though with reticence, and never in his professional or scientific works. To many it seemed an unnecessary and even misleading notion, but to Einstein, the use of this name to describe the gravitational field makes clear its nature as a real but not substantial being. Even if the theory of general relativity is not adequate, or is even erroneous, it does bring back to scientific respectability some important truths about the nature of the physical world that had for a long time been rejected.
ARISTOTELIAN INTELLIGIBLE FORM AND CARTESIAN IMAGEABLE QUANTITY:

PHYSICS 2.1 VS. RULE 14

Richard F. Hassing

The following is based on two texts, Aristotle's *Physics* 2.1, and Rule 14 of René Descartes's *Rules for the Direction of the Mind*. In *Physics*. 2.1, Aristotle defines nature as internal source of motion and rest, then explains the two-fold meaning of nature as matter and form. In Part I, I focus especially on Aristotle's account of nature as form (*eidos, morphê*).¹ An Aristotelian form is intelligible, but not itself sensible. It is thus essentially related to speech (*logos*) more than sight (*opsis*). Observation of the visible

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1 See 193a31-b12; this text is given in its entirety as an appendix to this essay, using the Coughlin translation (Aristotle, *Physics*, or *Natural Hearing*, trans. Glen Coughlin (South Bend, IN: St. Augustine's Press, 2005), 25-27).

look and the pattern of motion of a thing is necessary for our knowledge of form but not sufficient.

In Physics 2.1, besides the implicit distinction between seeing (the sensible particular) and saying (the intelligible universal), several other significant distinctions are explicitly at work. They are: nature and art, potency and act, parts and whole, genus and species, becoming and being.² Although I have taught it many times, I do not feel that I have ever gotten fully to the bottom of this brief text. I try again in the following, in hopes of making sufficiently clear Aristotle's distinctive teaching that a form is an active source of being. In brief—and this is imprecise but easy to remember-Aristotle's distinctive teaching is that an eidos is an entelecheia (standardly translated "actuality"; De Anima 2.1, 412a10; Metaphysics 9.8). Whether we find it plausible or not, it is worth knowing that this distinctive, Aristotelian doctrine of nature disappeared from view in the modern turn. I present an emblematic example of how it disappeared in Part II of my talk, in which we turn to Descartes, and Rule 14 of the Rules for the Direction of the Mind. There Descartes proclaims that all terms of explanation in the science of nature must be spatially imageable, like the coordinates and curves, symbols and equations of Cartesian and subsequent mathematical physics.

Part I: Aristotle on Form in Physics 2.1

I will proceed rather quickly through the two preliminary sections of *Physics* 2.1 to the main objective, the argument for form (193a31–b18). When we get to this target text, I will slow down and follow the guidance of C. S. Pierce: "They [Greek writers] took it for granted that the reader would actively think; and the writer's sentences were to serve merely as so many blazes

² The location of these distinctions has been added (in square brackets and boldface) to the Coughlin translation, given in the appendix.

to enable him to follow the track of that writer's thought."³ The two preliminary sections of *Physics* 2.1 are (1) the definition of nature, then (2) nature as matter (Antiphon and the bed).

The definition of nature (192b8-193a3)

Physics 2.1 begins "among the beings" (*tôn ontôn*) by distinguishing their causes into nature and art (chance, too, is a cause but outside of reason; 197a20). The beings here are not mathematical, not metaphysical. They are physical; animals and their parts, plants, and the elements are listed. These are *per se* movable in place, quantity, quality, and are wholes divisible into parts; this is implied by the term "constituted," *sunestôta* (192b14). Natural wholes have inborn impulses or innate tendencies (sources of motion and rest) that are irreducible to the properties of their parts—unlike artifacts. Artificial wholes do have internal tendencies for moving and resting (e.g., a car), but only insofar as they happen to be composed of parts that have natural (irreducible) tendencies.

Nature is then defined as "a certain principle and cause of moving and resting in that in which it is, primarily, in virtue of itself, and not accidentally" (192b22). To get at the intimate way in which nature is inside the moved subject, Aristotle uses the words, "primarily, in virtue of itself [or essentially] and not accidentally" (*prôtôs kath'auto kai mê kata sumbebêkos; per se primo et non per accidens*). There are two distinctions in this complex adverbial phrase: (1) essentially vs. accidentally (*per se* vs. *per accidens*); (2) essentially and primarily vs. essentially but not primarily (*per se primo* vs. *per se non primo*). To illustrate the first distinction Aristotle gives the example of the person being healed who happens to be a doctor and is able to medicate

³ Peirce quotation given without documentation by David Rapport Lachterman, *The Ethics of Geometry: A Genealogy of Modernity* (New York: Routledge, 1989), 30.

himself. The source of motion (medical art) is *in* the moved subject but not because of the essential whatness of the subject: being human and getting sick and then being on the mend does not entail possessing medical art. If (a nutty thought experiment) whenever we began to get sick, medical knowledge began to come into our minds, and the sicker we got the more we knew how to cure ourselves, and we did cure ourselves, and then as we healed we forgot the medical knowledge—if that always happened whenever we got sick, then the source of motion *would* be in us essentially, in virtue of what it means to be human. But that does not happen, and so, for the most part, the healing subject and the source of motion are separate; in this rare example they are together only *per accidens*.

The question of greatest interest concerns the second distinction, above, namely, being inside essentially and primarily vs. being inside essentially but not primarily. Aristotle gives no example here in *Physics* 2.1⁴ and there are highly divergent interpretations among the commentators. According to Aquinas, and I follow him here, *primarily* means *not in virtue of the parts*.⁵ Therefore, nature as principle and cause of motion and rest is *in* the whole as such. The *specific* way a natural thing behaves for example, cats meow and stick up their tails when they see someone they like, whereas dogs bark and wag their tails when they see someone they like—that species-typical behavior, says Aristotle, cannot be wholly explained in terms of the parts of the cat and the dog. The whole is prior to its parts; the parts are what they are only in terms of the whole they compose.⁶

⁴ He does in *Phys.* 5.1, 224a25–28.

⁵ *In octo libros Physicorum expositio (Commentary on Aristotle's Physics)*, English translation by R. J. Blackwell, R. J. Spath, and W. E. Thirlkel (New Haven: Yale University Press, 1963), Bk. 2, lect. 1, n. 145, and Bk. 5, lect. 1, n. 639.; hereafter *In Phys.*, nn. 145, 639

⁶ See *Metaphysics* 5.26, 1023b33; 7.10, 1035b23; 7.11, 1036b31; 7.16, 1040b15; *Politics* 1.2, 1253a20–24 (quoted below).

Another example: a horse falls because it has mass and (in the earth's gravitational field) weight. It's no accident that the horse has mass and weight, but the horse's mass and weight are just the sums of the masses and weights of its parts. In fact mass and weight are common to all bodies regardless of their species. So the principle of motion here is *in* the moved subject essentially (a horse is necessarily a body), but only in virtue of the parts, thus not primarily. In contrast, a horse foals (has baby horses, not puppies; cf. 191b21) only *as* a horse and this cannot, according to Aristotle, be adequately explained in terms of the horse's material parts.⁷

There is another way to take Aquinas on the crucial term "primarily": it means not in virtue of *logical* parts, as in a definition in terms of genus and species (which will be important in the following), say, genus "animal" and species "horse." The genus is a logical part of the whole definition. On this interpretation, a horse falls down as a body, it gets back up as an animal (with limbs and feet), and it foals as a horse.⁸ At the moment, I do not see a contradiction between these two interpretations of "primarily" and suspect that the relation between them could be the topic of a valuable paper.

After giving the general definition of nature, Aristotle says, "whatever things have this sort of principle have [a] nature. And all of these are substance" (192b33). But the parts of animals (named in the second sentence of *Physics* 2.1) are not substances, although they are by nature. Accordingly, Aristotle goes on to say,

[b]oth these [natural] things and whatever is in them in virtue of themselves are according to nature, as being

⁷ If we think DNA has refuted Aristotle here, we should see recent writings on the holistic features of molecular biology, for example, Evelyn Fox Keller, *The Century of the Gene* (Harvard University Press, 2000), especially 51–56 and 63.
8 This is the example Coughlin uses in his translation and commentary, in Aristotle, *Physics*, p. 41, n. 1.

borne up is in fire [and as flesh and bone are in an animal]. For this is neither nature nor has a nature, but is by nature and according to nature. (192b35–193a1)

The next step in *Physics* 2.1 is the account of nature as matter, or Antiphon and the bed. But let us pause for a moment and note two issues that have now come up in our consideration of "primarily": (1) the relation between whole and parts in a natural substance; (2) the distinction between genus and species in a definition. Both distinctions—whole and part, genus and species—enter into Aristotle's argument for form.

Nature as matter: Antiphon (193a4-31)

Aristotle begins his account of nature as matter (193a4-5) by emphasizing that natural beings show themselves: "It is apparent (phaneron) that among the beings (tôn ontôn) there are many such things." We do not have to perform Baconian experiments in order to discover natural beings. Antiphon, a materialist, has an interesting position. He says (193a10-14) that the nature and substance of the beings is "the first thing present in each, in virtue of itself unorganized, e.g., the nature of a bed is the timber (or wood, xulon); of the statue, the bronze." He says we could verify this if we buried a bed (Bacon would approve) and germination somehow occurred and a sprout came up from the ground. Antiphon says the sprout would be wood, not a bed. Now, the sprout indeed shows itself through itself, per se. Is Antiphon then on his way to Aristotle's understanding of nature? Let us consider carefully. Antiphon thinks of the sprout and calls it "wood." But "wood" is a generic term, like a genus. We never see, nor could we ever imagine, generic wood. We could never cut generic wood. Wood, just as such, exists only in our intellect, and cannot be an object of sense perception or imagination; it cannot show itself through itself. Rather, the word "wood"

means a building material prepared by us—milled—from various kinds or *species* of trees. Indeed, in *Metaphysics* 7.4, Aristotle says, "[e]ssence (*to ti ên einai*)... will belong to nothing that is not a species of a genus (*genous eidôn huparchon*), but only to these" (1030a12–13). Trees of many kinds are potentially timber or lumber, wooden boards of that kind through our saw-milling art, and the resulting material is potentially many other useful and beautiful things, like houses and furniture, through our arts of carpentry and woodworking. We human beings are the natural beings that possess art—*technê* and then technology—and "we [unlike any other species] use all existing things as if they were for our sake," without any ends of their own (*Physics* 2.2, 194a35). But (back down on the ground) the sprout that shows itself is always pine, or oak, or walnut, etc., as is the wood that we can thereafter work on.

So Antiphon has named confusedly, sort of like the child that calls every woman "mama" in Physics 1.1. But, unlike the child of *Physics* 1.1, he is not on his way to deepening his understanding by making the right distinctions. Rather, he wants to go beyond burying the bed; he wants to keep acting on the sprout, not in the way that is best for it, by watering it, but by breaking it down (say by freezing, heating, crushing) to discover what persists unchanged through all possible undergoings. Same for the bronze of the statue and, in general, for any compound body. By this reductive analysis, according to Antiphon, we finally come to the simple bodies, the four elements, fire, earth, water, air, which, according to Antiphon and thinkers like him, could not be further broken down or transformed, "for there is no change from these [elements] to the others [so no primary matter], but other things [compound bodies] come to be and are destroyed times without number" (193a28). Aristotle concludes (193a29) that "[i]n one way, then, nature is said thus, as the first underlying material in each thing among those having in themselves a principle of motion and of change." At this point, the only genuine (*per se*) change, it seems, is change of place among unchanging eternal elements combining and separating at random with no necessity in the wholes that result. Thomas Aquinas states it succinctly:

The ancient natural philosophers, being unable to arrive at primary matter . . . held that some sensible body, such as fire or air or water, is the first matter of all things. And so it followed that all forms come to matter as to something existing in act, as happens [*per accidens*] in artificial things.⁹

A very big question for Antiphon (and for all materialists to this day) is, *what about us*?—we are the unique part of nature with speech and art (*logos* and *technê*), and all that that implies; we are not members of our species in the way the other animals are members of theirs (*pace* the Darwinians). And we are trying to give an account (*logos*) of nature right now. Can mere random aggregates of elements—like Antiphon, if we are to believe his account—attain truth in speech?

Aristotle has not yet mentioned act and potency. That comes next, along with speech in the argument for form. Let us note that Antiphon and those like him are probably examples of the blind man at 193a8, who can form syllogisms about colors but whose speech is only "about names and is without understanding." Empedocles seems to have thought that we are all like that, i.e., naming without understanding. As reported by Aristotle at *Metaphysics* 5.4, 1015a1–3, Empedocles said that:

Nothing that is has a nature, But only a blend and parting of things blent,

⁹ In II Phys., lect. 2, n. 149; Blackwell, 73.

And "nature" is a name bestowed on these by men. ¹⁰

Aristotle's task (and ours) is thus to give an account that uses names *with* understanding, understanding of two of the most fundamental terms in the history of philosophy, nature and substance (that which most fully *is* and, therefore, must persist).

Nature as form, 193a32-b18

Aristotle: "But in another way [besides matter], nature is the form and species (*morphê kai eidos*) according to account" (Coughlin tr.), or (Sachs tr.) "the form, or the look that is disclosed [not to sight but] in speech."¹¹ I have added the implicit contrast between speech and sight in order to prepare the comparison with Descartes on the exclusive primacy of visual, in fact *Cartesian-algebraic-geometrical* imagination for the science of nature.

Aristotle continues: "For just as 'art' is said to be what is according to art and the artistic, so too 'nature' is said to be what is according to nature and the natural." Indeed, we look at a statue or a house, a bird or a tree and are able to recognize that the former are products of art, the latter of nature. We have this ability because we are by our human nature responsible for the distinction between nature and art. As artisans, we must be separate from the materials we work on; we cannot assemble the boards into a bed if our bodies are continuous with the boards. But, for Aristotle, we are not so separate that all of nature is material to work on. Needless to say, this is another fundamental difference between Aristotle and Descartes, and the subsequent modern tradition.

¹⁰ Aristotle, *Metaphysics*, trans. H. Apostle (Grinnell, IA: Peripatetic Press, 1966), 77.

¹¹ *Aristotle's Physics: A Guided Study*, trans. Joe Sachs (New Brunswick, NJ: Rutgers University Press, 1995), 50–51.

Aristotle continues:

We would not yet claim, in the former case [art], that the bed has anything according to art if it is only a bed potentially and had not yet the species [form, *eidos*] of a bed, nor that it is "art," and neither would we do so in things constituted [put together] by nature. For what is potentially flesh or bone does not yet have its own nature, before it takes on the species according to account [the form stated in speech], by which, when defining, we say what flesh or bone is; nor is it [yet] by nature. (193a34–b2)

(A parenthetical remark: When Aristotle refers to our "defining" [horizomenoi] should we think of something succinct and complete, like a definition in Euclid's Elements? Alternatively, note that it was Socrates who turned [Phaedo, 96ff] from materialist explanations to intelligible forms and to "what is ...?" questions. Many Platonic dialogues are dedicated to questions like, What is knowledge?, What is virtue?, What is justice? And these dialogues rarely yield a complete answer to the what-is question. Will an Aristotelian definition of flesh or bone here be more like the Euclidean geometry model or the Platonic dialogue model?) Having begun Physics 2.1 with the difference between the natural and the artificial, it seems we are now to learn something important about nature from what the natural and the artificial have in common. This may seem puzzling, but remember that the definition of nature still governs the argument: natural things contain within them sources of their own motion in a way (per se primarily) that artificial things do not.

Now, what the natural and the artificial have in common here is *naming after act*. That is: We humans name both products of art and natural things according to their completed forms. We do not call a pile of boards a bed, and similarly we do not call flesh and bone what is only potentially flesh and bone. These

assertions raise four points: (1) What exactly *is* potentially flesh or bone? (2) Flesh and bone are parts of an animal; they are by nature, but they are not substances with natures. (3) Flesh and bone are, again, generic terms, like "wood" or "animal." As such, "wood," "animal," have no existence outside the human intellect and as such have no matter. Nothing could be potentially *generic* flesh or bone. (4) Defining flesh and bone seems to be essential to the argument here; yet it cannot be the form of flesh or the form of bone at which the argument aims but rather the form of a natural substance that has flesh and bone. In attempting to define, let us use the basic Aristotelian framework of proximate genus and specific difference, but how should that framework be applied here to the case of flesh and bone?

Begin with the question, what exactly is potentially flesh or bone? The answer to this question ought to refer to the larger whole of which flesh and bone are parts. And it ought to name the species of that whole, not just the genus of a species. So my answer is: A chicken egg, if it stays under the chicken, is potentially chicken flesh and bone, along with the other parts of the chicken (I am assuming that what is potentially bone is also potentially flesh). On the other hand, if the egg is taken and cooked by us and eaten, then it is potentially human flesh and bone, among other parts. Or if eaten by another animal then it is potentially flesh and bone of that species. More generally, foods and fertilized eggs are potentially flesh and bone. I suggest that Aristotle is pointing here to eating (i.e., metabolism) and reproduction as key phenomena that cannot be adequately explained on materialist grounds, so further reduction back to chemical elements won't solve the problem. Let us continue our attempt at defining flesh and bone, for which the following text from *Politics* 1.2 pertains:

For the 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, unless in the sense that the term is similar (as when one speaks of a hand made of stone), but the thing itself will be defective. Everything is defined by its function and its capacity (*panta de tô ergô hôristai kai tê dunamei*), and if it is no longer the same in these respects it should not be spoken of in the same way, but only as something similarly termed. (*Politics* 1.2, 1253a19–24)¹²

This text is about organic unity (here, of the *polis*) and definition: In an organism, the whole is prior in being to its parts (the whole affects what the parts are), in contrast to artifacts, in which the parts are prior to the whole (the parts are what they are independently of the whole they compose). This comports with the meaning of "primarily" in the definition of nature. Most importantly, everything, both whole and part, is defined by its work and its power. In our attempt to define flesh and bone, let us take a human being—as does Aristotle (193b6)—as the whole of which flesh and bone are parts. What then are the defining work and power of a whole human being? See Aristotle's *Nicomachean Ethics*. What are the defining work and power of the human body parts, flesh and bone? Can we answer this unusual question in a way that leads our thought on to the human form? I think we can, as follows.

The traditional genus in the definition of human being is of course "animal." Let us narrow this down to "animal able to move by itself" (*hyph' autou; a se*), in the sense of *Physics* 8.4 (able to start itself, stop itself, speed up, slow down, change direction). Most animals can do this because they have jointed bones and muscles (flesh) that can expand and contract. Within this genus of animals able to move by themselves, what is the human specific difference in terms of flesh and bone? Is there

¹² *Aristotle's Politics*, 2nd ed., trans. Carnes Lord (Oxford: Oxford University Press, 2013), 4–5; see also *Meta*. 7.10, 1035b23–25, 7.11, 1036b31–32.

something that human flesh (muscles) and bones can do (in the whole living human being) that the flesh and bones of no other species can do—something that is very important for being human? Yes, upright posture.

"The Upright Posture" is the title of a 1952 essay by the phenomenological psychologist, Erwin Straus.¹³ The essay shows the essential connections between our vertical physiological structure (especially arms, neck, head and mouth) and our powers and work of speech and art, *logos* and *technê*. The essay explicates and vindicates the Thomistic formula, "matter [is] for the sake of form,"¹⁴ over against the opposite Darwinian consensus that "form is for the sake of matter," that is, our species-specific rational powers are for the sake of species-neutral reproductive fitness. The last sentence of Straus's essay is, "Upright posture, which dominates human existence in its unity, makes us see that.... [t]he 'rational' is as genuine a part of human nature as the 'animal."

In view of these considerations, my definition of human flesh and bone is:

Material parts most necessary for upright posture among animals able to move by themselves—including all that upright posture implies for human thinking, doing, and making.

What about other living species? The focus of *Physics* 2.1 seems especially to be on what we today call the biosphere (for Aristotle, the sublunary) in contrast to outer space (for Aristotle, the celestial region). I assume that with further study of animals and plants—see Aristotle's biological works—the account given here of human flesh and bone could be extended to the flesh and bone, and in general, to the wholes, parts, works, and powers of other living species, in quest of the forms of each. Knowing by

¹³ Erwin Straus, "The Upright Posture," *Psychiatric Quarterly* 26.1 (1952): 529–61.

¹⁴ Materia propter formam (STh I, q. 65, a. 2; q. 76, a. 5; q. 91, a. 3).

connaturality would be an essential part of this learning.

We still have about ten more lines of text in Aristotle's argument for form (193b3–18). At this point, however, I think we can answer that earlier question about defining what something is: Euclid is not a good model; definitions there are nicely complete. Rather, defining in quest of an Aristotelian form is a path, as in *Physics* 1.1, from what is more known to us to what is more known by nature. Defining something surely delimits it, bounds it off, distinguishes it from what it is not, e.g., a natural whole is not an artifact, a horse is not a dog. But, to quote Sean Collins, "[o]bviously, there are few things of which we can claim to easily and completely answer the question, 'What is it?"¹⁵ In particular, there remains a seeking, *zetetic* aspect to the account of species (193a31, b5). It seems to me that this is borne out by the conclusion of *Physics* 2.2.¹⁶

Back now to the text:

Whence, in another way, nature would be the form and species of things that have in themselves a principle of motion, [which species is] not separable except according to account [or in speech]. What is from these is not nature, but by nature, e.g., man. And this [form] is more nature than the material. For each thing is named [by its name] when it is in actuality (*entelecheia*) rather than when it is in potency. (193b3–8)

The word "man" names the human form or species that is *in* the

¹⁵ Sean Collins, "The Heritage of Analytic Philosophy," *The Aquinas Review* 10 (2003), 59.

^{16 &}quot;To what extent, then, must the student of nature know the species and the 'what it is'? Or [must he not know] as the doctor knows sinew and the smith bronze, up to knowing what each is for the sake of? And he knows about things which are separable in species, but are in material, for man and the sun beget man. It is the work of first philosophy to determinate how and what the separable is" (*Physics* 2.2, 194b10–15).

natural substance *per se* primarily. Thus, the Aristotelian intelligible form is not separable from the informed subject except in the weak sense that our utterance, "man," is separate from, thus is not the individual human, form-matter composite that we see before us. Note that the visual perception and, later, in memory, the visual image of that individual in our imagination are also separate, but they are particular and do not convey the universal *kind*-character of, say, *man*, or *horse*. Here then we have Aristotle's distinctive teaching that the mode of being of a form is actuality; an eidos is *entelecheía* (adverbial).

We need to reflect further on the senses of "separate," especially in view of what is most famously separate—separate not only in speech but also in being—namely, a Platonic intelligible form. A Platonic form or Idea exists (eternally and unchangeably) in separation from the sensible changeable particulars that participate in it. So, as is well known, Aristotle contradistinguishes himself from Plato by virtue of the internality and mode of being of an Aristotelian form.

What about artifacts and the meaning of "separate"? We can define artifacts very well; we set their purposes and make them out of pre-given materials and can give the assembly instructions. Accordingly, the form of an artifact, e.g., a bed, is separate from the artifact not only in speech but also in being, because the design (formal cause) exists first in the mind of the artisan (*Metaphysics* 7.7, 1032b1–3). And obviously, the artisan and his art (efficient cause) are separate from the product (*Nicomachean Ethics* 6.4, 1140a12–14). Therefore, the form of an artifact is not an internal cause (inside the artifact) of the generation of the artifact; an artificial form is not a natural form. In fundamental contrast, the form of a thing that comes from seed—and such things are the principal inhabitants of the biosphere—is an internal cause of becoming. That's what Aristotle

says next:

Moreover, man comes to be from man, but not bed from bed. Whence, also, they say that the nature is not the shape but the timber, because if the bed sprouted, not a bed but timber would come to be. So if this is art, the form also is nature. For man comes to be from man. . . . [I now omit some of Aristotle's words and finish the lines of text in *Physics* 2.1 relevant to this essay.] [N]ature, said as coming to be, is the road to nature. . . . [W]hat is born, insofar as it is born, goes from something into something. What, then, is born? Not that from which, but that into which. So the form is the nature. (193b9–18)

Man comes to be from man, pine tree comes to be from pine tree. A bed comes to be not from bed—there are no bed seeds— but from a man using pine boards, say, and something soft for a mattress, and woven blankets to keep warm at night. Above it all is the sun moving on its helical path throughout the year, on which all life depends ("man and the sun beget man"; *Physics* 2.2, 194b14).

We are now confronted with the question of how seeds work. Three empirical facts about seeds: First, every seed is of a kind or species; there is no generic seed outside of the human intellect. Second, every specific seed is destroyed in the growth of the new plant or animal. Yet, third, as that plant or animal matures, it grows within it new seeds of the same kind.

What persists through all this change (191a20)? Not the visible seed, which is destroyed, nor the visible individual offspring, which grows and ages from infancy to youth, to maturity, to decrepitude. What persists is what we cannot see but only say: the intelligible form or kind (and of course primary matter). But there is an interesting detail to the operation of seeds. Seeds—think of plant seeds—can remain for a long time in a jar. We,

external agents, then plant and water them in order to start them up, after which they develop on their own. In *Metaphysics* 7.9 (1049a13–18), Aristotle distinguishes these two phases in terms of two actualizations—of first and second potency (in the later terminology). Actualization of first potency is called a *metabolê*, a general change (1049a15); does it fall within physics or not? Actualization of second potency—the new, embryonic plant or animal develops on its own—is a *kinêsis*, a motion proper (*per se* successive change), and clearly does fall under Aristotle's definition of motion in *Physics* 3.1–2.

I will end my exegesis of *Physics* 2.1 here. I hope I have succeeded in making plausible Aristotle's distinctive doctrine of intelligible form: the *eidos* disclosed in speech that is at work in natural beings. But the account of *Physics* 2.1 is not airtight; the existence of the commentatorial tradition makes this clear. And look at all the things we *say* and can define—"bed," "wood," "flesh," "bone," "animal"—that are *not* nature because either they refer to artifacts (no *per se* internal principle) or they are generic terms (cannot be seen or imaged; exist in the intellect only, like "animal"). How does Aristotle know that, having narrowed down our speaking to a species (not a genus, not an artifact), the thing named really is irreducible?¹⁷

In conclusion, we have learned something important but are left with open questions. Descartes does not like open questions.

Part II: Descartes on Imageable Quantity in Rule 14

The tenor of this essay changes here in order to cover more ground. I must shift from detailed textual analysis to striding with seven-league boots (hard to follow) over a large terrain, namely, Descartes's science, for which a semester would be required. Among the inadequately argued assertions that I

¹⁷ See especially Thomas Aquinas, *Commentary on the Credo*, Prologue, para. 5.

will make, my basic point is that Descartes banishes non-spatially-imageable principles and entities from physics. He thus removes non-imageable intelligibles, or the noetic, from the science of the material world. Accounts of the noetic include Platonic forms (Ideas) and Aristotelian forms (along with certain late Renaissance notions of mystical, invisible powers). Aristotle's distinctive doctrine of *eidos* and *entelecheia* thereby disappears from the subsequent tradition of classical physics. Consider the following, from *The World*:

But they [the philosophers] should ... not find it strange if I suppose that the quantity of the matter I have described does not differ from its substance any more than number differs from things numbered. Nor should they find it strange if I conceive of its extension, or the property it has of occupying space, not as an accident, but as its true form and its essence (*comme sa vraye forme & son essence*).

The World, chap. 6 (AT XI 36)¹⁸

And the following, from *Principles of Philosophy*:

The only principles which I accept or require in physics are those of geometry and pure mathematics. . . . and since all natural phenomena can be explained in this way . . . I do not think that any other principles are either admissible or desirable in physics.

Thus, from *World*, we have the famous Cartesian formula, nature = matter = extension = the object of geometry, and,

¹⁸ The Philosophical Writings of Descartes, vol. 1, trans. J. Cottingham, R. Stoothoff, D. Murdoch (Cambriddge: Cambridge University Press, 1985), 92.
19 Ibid., 247.

from *Principles* 2.64, an apparently delirious rationalism. But if we take the phrase "geometry and pure mathematics" to mean Descartes's own analytic geometry, with variables (coordinates) that can take on whatever physical dimensions may be useful for solving engineering problems, then we have our own familiar physics, of matching numerical measurements to numerical model predictions.

Intellect and imagination

The *Rules for the Direction* [the *new* direction] *of the Mind* is an early (1628), unfinished, unpublished work. It is, nevertheless, a fundamental source for Descartes's science and for mathematical physics generally. Rule 14 is especially relevant. The title of Rule 14 is:

Title: The Problem [of mathematics or physics] should be re-expressed in terms of the real extension of bodies and should be depicted in the imagination entirely in terms of bare figures. Thus it will be perceived much more distinctly by the intellect. (AT X 438)²⁰

Here, in the title of Rule 14, we have extension of bodies, imagination, intellect. What is the relation between intellect and imagination in knowing bodies? Imagination here is not a power of the soul but is itself a body housed in the brain along with the common sense (which integrates mechanical input from the five external senses). The corporeal common sense *cum* imagination was identified by Descartes in later writings as the pineal gland.²¹ Through the body-mechanism of sense organs and limbs linked to the brain by nerves, the outer world is recorded (via the common sense) in traces—lines and figures—etched on the corporeal imagination. In order to know the world, the

²⁰ Ibid., 56.

²¹ See The Passions of the Soul 1.30–50 (AT XI 351–370), in Ibid., 340–348.

Cartesian intellect "applies itself" (*se applicat*) to the traces on the corporeal imagination, which by proportions represent the motions and configurations of bodies out in the world (as in the geometry of perspective in painting). Descartes's model of the human cognitive powers is given in Rule 12. There he says,

the power [intellect] through which we know things . . . is purely spiritual. . . . Nothing quite like this power is to be found in corporeal things. . . . [Here we have the prototype of Cartesian substance dualism: pure intellect is *res cogitans*, all the rest is *res extensa*; there's no place for form.] It is one single power, whether it receives figures from the common sense [this is ordinary sense perception] or applies itself to those [figures] that are preserved in the [corporeal] memory [this is remembering] or forms new ones [that is, new figures on the corporeal imagination]. . . . Lastly when [pure intellect] acts on its own [as in the *cogito*], it is said to understand (*intelligere*). (AT XI 415–416)²²

Focus on the figures formed by the pure intellect on the corporeal imagination; they will include (under Descartes's tutelage) the letter signs, equations, coordinates and curves externalized on the paper before us as we do problems in mathematics and physics! This active function of pure intellect forming signs and figures on the imagination is called imagination or, *nota bene*, "conception" by Descartes, and the conjoint operation of pure intellect and corporeal imagination is called *ingenium*. *Ingenium* is the root of our words "engine," "engineer," and the title of the present work is really *Rules for the Direction of the Ingenium* which rules lay the foundation for a new and far more productive relation between intellect and imagination, according to Descartes.

²² *Rules for the Direction of the Mind*, in *Ibid.*, 42.

Relation between mind and world in Aristotle and Descartes

This is all obscure due to my jumping and picking pieces of a much larger argument. But, even so, we are in position to see something striking and very important, namely, we can compare Descartes and Aristotle on the relation between mind and world. Even a cursory reading of Descartes's account of the cognitive powers in Rule 12 shows that Cartesian mind is isolated, separated from the world. Cartesian mind has no direct contact with anything other than the pineal gland in the brain. As Jacob Klein puts it,

The "pure" intellect in itself has no relation at all to the being of the world and the things in the world. What characterizes it is not so much its "incorporeality" as just this unrelatedness.... [I]n order to be at all able to come into "contact" with the objects of the corporeal world "which are outside us and very much foreign" (quae extra nos sunt, et valde aliena; Rule 8, AT X 398 [no connaturality here])—that is to say, in order to come into contact with the "world" in general—[the pure intellect] needs the mediation of a special faculty, namely precisely that of the imagination.²³

Thus Descartes's mind-world separation. What then is Aristotle's understanding of the mind-world relation? We have two famous one-liners from *De Anima*: "the soul is, in a way, all things" (3.8, 431b21). In what way is the human soul all things? By receipt of the forms of things; indeed "the soul is a place of forms" (3.4, 429a28). For Aristotle, there is a natural harmony between mind and world such that the natural employment of our natural faculties provides a reliable start on the path to science (*Physics* 1.1). For Descartes, there is no such harmony and the natural

²³ Jacob Klein, *Greek Mathematical Thought and the Origin of Algebra* (New York: Dover, 1992), 202–203.

employment of our natural faculties yields persistent error; he says, "most people have nothing but confused perceptions throughout their entire lives" (*Prin.* 1.73). Hence the need for the artifice of Cartesian Method to redirect and conduct the mind in the search for truth.

By now we have a throng of questions—about Descartes and what he is doing, and why. He preconceives the mind as isolated from the world in order to defend the mind from error and then, paradoxically, to empower the mind to master the whole of nature by his new mathematical physics. And that physics of the *res extensa* is accompanied on the side of *res cogitans* by a distinctively modern, Enlightenment conception of the autonomous Self.²⁴

Rejection of non-imageable intelligibles in Rule 14

Here, finally, is Descartes's rejection of the noetic, as it emerges in Rule 14. Descartes says:

The chief part of human endeavor is simply to reduce ... proportions to the point where an equality between what we are seeking and what we already know is clearly visible. We should note, moreover, that nothing can be reduced to such an equality except what admits of greater and less, and everything covered by the term "magnitude." Consequently, when the terms of a problem have been abstracted from every subject in accordance with the preceding Rule, then we understand that all we have to deal with here are magnitudes in general (*magnitudines in genere*).

²⁴ If one only has a few hours to dedicate to these questions, two short writings by Jacob Klein are very helpful: First, "The concept of 'number' in Descartes," in *Greek Mathematical Thought*, 197–211; second, "Modern Rationalism," in *Jacob Klein: Lectures and Essays*, eds. R. Williamson and E. Zuckerman (Annapolis, MD: St. John's College Press, 1985), 53–64.

The final point to note is this: if we are to imagine something and are to make use, not of the pure intellect, but of the intellect aided by imagination, then nothing can be ascribed to magnitudes in general that cannot also be ascribed to any species of magnitude.

... [T] hat species of magnitude that is most readily and distinctly depicted in our imagination ... [is] the real extension of a body considered in abstraction from everything else about it except its having a shape [e.g., lines and figures].... [For] the imagination ... [is] nothing but a real body with a real extension and shape....

Of course the learned often employ distinctions so subtle that they disperse the natural light and they detect obscurities even in matters that are perfectly clear to peasants. So we must point out to such people that by the term "extension" we do not mean here something distinct and separate from the subject itself, and that we do not recognize philosophical entities of the sort that are not genuinely imaginable. For although someone may convince himself that it is not self-contradictory for extension *per se* to exist all on its own even if everything extended in the universe were annihilated [N.B. a degraded "Platonism" seems to be Descartes's immediate target], he would not be employing a corporeal idea in conceiving this, but merely an incorrect judgment of the intellect alone....

[H]enceforth we shall not be undertaking anything without the aid of the imagination. $(AT X 440-443)^{25}$

Descartes's teaching is that, for example, a geometrical line is really a very thin filament of extension, extension being identical to body or space (AT X 442–447). It is a mistaken judgment of the intellect to think otherwise. But as long as we are clear that visible lines, figures, numbers, letter signs do not posit

²⁵ Rules, in Ibid., 58-59.

separate entities existing in some Platonic realm, then we should use them for solving problems. We should perfect their use in the construction of numerical-variable-magnitudes, and their symbols, which constitute the coordinates and equations of Descartes's analytical geometry, and then calculus, differential equations, and the subsequent development of classical physics (of which successful Cartesian physics, namely, geometrical optics, is but a tiny part). Theoretical physicist Louis De Broglie describes the world conception of classical physics:

[W]ith [Cartesian] coordinates of space and time, classical mathematical physics was in a condition to represent in a precise way the succession of phenomena which our senses allow us to verify around us.

From that moment a way opened quite naturally before theoretical physics and it boldly entered upon it. It was thought that all evolution of the physical world must be represented by quantities [like, for example, the position and momentum of a particle] localized in space and varying in the course of time. These quantities must render it possible to describe completely the state of the physical world at every instant, and the description of the whole of nature could thus be given by figures and by motions in accordance with Descartes's programme.²⁶

Finally, consider the words of Hans Jonas on the implications of Descartes's mathematization of nature. It's quite apt.

The psycho-physical problem named in the title of this paper was born together with modern science in the 17th century and is the twin brother of its guiding axiom that things corporeal must be explained by corporeal causes alone, or that the latter are sufficient to explain everything in the physical realm, neither requiring nor even

²⁶ Louis De Broglie, Physics and Microphysics (New York: Harper, 1955), 116.

admitting the cooperation of mental causes [which causes include natural forms or souls in living things].... So put, the axiom-in a stunning break with premodern, "Aristotelian" physics-amounts to the thesis of a causal redundancy of mind in nature. . . . At the root of the radical turn was a reinterpretation of "nature" itself in purely spatial or geometrical terms. This made measurement of magnitudes the main mode of scientific observation, and quantitative equation of cause and effect, i.e., of antecedents and consequents, the ultimate mode of explanation. [E.g., position and velocity (x,, v,) of a planet at time t, entail by equations of motion position and velocity (x_2, v_2) at time t_2 .] This epistemic program of the new science received its metaphysical underpinning in Descartes' doctrine of two heterogeneous kinds of reality ("substances" in his language)-the res extensa and the res cogitans-each defined by its one essential attribute, "extension" and "thought," respectively, and each having nothing in common with the other. The gain of this ontological dualism was the setting free of nature for the unrestricted reign of mathematical physics; the cost was that the relation of mind and body became an intractable riddle. Post-Cartesian continental philosophy is one persistent grappling with this riddle: whatever solutions were proposed, the most persuasive assertion of our untutored experience-interaction between body and mind-had to be discounted from the outset. This gave 17th century speculation the anti-commonsensical, intellectually violent flavor which characterizes it. The most familiar appearances had to be contradicted.²⁷

²⁷ Hans Jonas, "Parallelism and Complementarity: The Psycho-physical Problem in Spinoza and in the Succession of Niels Bohr," in Richard Kennington, ed., *The Philosophy of Baruch Spinoza* (Washington, DC: Catholic University of America Press, 1980), 121–130, here 121.

Conclusion

From Descartes, we have gotten a sense that algebra involves a use of mind that detaches it from the world, and the word (try to read out loud any big equation in physics). We can deepen our sense of this detachment by looking again at genus and species. It is the species that possesses real being outside the mind, not the genus (*Metaphysics* 7.4, 1030a12–13). We cannot feed and pet generic animal.

When it comes to number, this reasoning fails. When it comes to number, it is as if we do have a generic animal that we can feed and pet.²⁸ In the case of number the analogue of feeding and petting is calculation, *logistikê*. Very concretely: by calculation I mean the four binary operations of arithmeticaddition, multiplication, subtraction, division of two numbers (hence binary) to produce a third number. We first learned this in grade school where we had to memorize the multiplication table. So $7 \ge 8 = 56$, etc. Do we remember what it was like being asked to multiply *a* and *b*? There is no multiplication table to learn here. Rather, we learn the rules (axioms) governing the binary operations of arithmetic: associative, commutative, distributive; we learn the additive and multiplicative identity elements, 0 and 1. Etc. Now we can make sense of $a \ge b = c$, of y = ax + b. Constants and variables, a, b, x, y, are generic numbers. They are not specific or determinate numbers, e.g., not 7 or 8, but *potentially* any number. But, whereas generic animal exists only in the mind, *a*, *b*, *x*, *y* exist not only in the mind but also outside the mind, on the paper in front of us. This ability to calculate with letter signs is what Descartes and others develop (from the 14th to the 17th centuries). Descartes, more than others, tries to give a philosophic account of it in The Rules for the Direction of the Mind. His account is important, even essential,

²⁸ I thank Blaise Blain for this metaphor.

but by no means fully adequate. In particular, the success of his mathematics does not entail the truth of his model of corporeal imagination and pure intellect separate from the world. But, in a way, conceiving the mind as separate from the world makes it be so. That is: algebraic thinking (syntactically based axiomatic mathematics in general) fosters a certain one-sided mental habitus. The study of Aristotle's distinctive teaching about form as bond of soul, word, and world is a useful corrective.

Appendix: Aristotle, Physics 2.1, 192b8-193b12

Of things which are, some are by nature and some through other causes. The animals and their parts and the plants and the simple bodies, such as earth, fire, air, and water, are by nature. For we say these and such things are by nature. But all these things clearly differ from things not constituted by nature. For each of these has in itself a principle of motion and standing, some according to place, some according to growth and diminution, and some according to alteration. A bed and a cloak, however, and anything else of this kind, insofar as they are subject to each predicate [mentioned] and inasmuch as they are from art, do not have any inborn impulse for change at all. But insofar as they do have one, and just to that extent, as nature is a certain principle and cause of moving and of resting in that in which it is, primarily, in virtue of itself, and not accidentally.

I say "not accidentally" because someone who is a doctor might become the cause of health for himself. But still, it is not according as he is healed that he has the art of doctoring, but it just happens that the same one is the doctor and the one being healed. Whence, also these are sometimes separated from each other. So too for each of the other things which are made. For no one of them has the principle of the making in itself, but for some this principle is in others and is from outside, [b30] like a house and each of the other things wrought by hand, but for some, whatever might become causes for themselves accidentally, this principle is in them but in virtue of themselves. Nature, then, is what was said.

Whatever things have this sort of principle have a nature. And all these are substance. For there is something underlying, and nature is in an underlying.

Both these things and whatever is in them in virtue of themselves are according to nature, as being borne up is in fire. For this is neither [193a1] nature nor has a nature, but is by nature and according to nature. It has been said, then, what nature is, and what is by nature and what is according to nature.

But to try to show that nature exists is laughable. For it is apparent that among beings there are many such things. Showing the manifest through the unmanifest is not being able to discern what is known through itself and what is not known through itself. That it is possible to suffer this is not unclear. For someone blind from birth might syllogize about colors. Whence, it is necessary that, for such people, the argument is about names and is without understanding.

To some it seems that the nature [a10] and substance of beings which are by nature is the first thing present in each, in virtue of itself unorganized, e.g., the nature of a bed is the timber, of the statute, the bronze. Antiphon says a sign of this is that if someone buried a bed in the earth and the rotting stuff took power to send up a sprout, not a bed, but timber would come to be, as the one, the disposition according to rule and art, belongs accidentally, but the substance is rather that which remains, while continuously suffering these things. And if each of these things suffered this same thing in relation to something else, as bronze and gold in relation to water, bones and timber to earth, so too [a20] in any of the other cases, that other thing

is the nature and substance of them. Whence, some say fire is the nature of beings, some say earth, some air, some water, some some of these, some all of them. For that which, of these, someone assumed to be such, whether one or more, this and so many he said was substance entire; all things, however, he said were passions and states {possessions, habits} and dispositions of these. And he said any one of these was eternal, for there is no change from these to the others, but other things come to be and are destroyed time without number. In one way, then, nature is said thus, as the first underlying material in each thing among those having in themselves a [a30] principle of motion and of change.

But in another way, nature is the form and species according to account. [matter-form; seeing-saying] For just as "art" is said to be what is according to art and the artistic, so too "nature" is said to be what is according to nature and the natural. [art-nature] We would not yet claim, in the former case, that the bed has anything according to art if it is only a bed potentially and had not yet the species of a bed, nor that it is "art," and neither would we do so in things constituted by nature. [potency-act] For what is potentially flesh or bone does [193b1] not yet have its own nature, before it takes on the species according to account, by which, when defining, we say what flesh or bone is; nor is it [yet] by nature. [parts-whole; genus-species] Whence, in another way, nature would be the form and species of things which have in themselves a principle of motion, [which species is] not separable, except according to account. What is from these is not nature, but by nature, e.g., man. And this {form} is more nature than the material. For each thing is named [by its name] when it is in actuality, rather than when it is in potency.

Moreover, man comes to be from man, but not bed from bed. Whence, also, they say that the nature [**b10**] is not the shape but the timber, because if the bed sprouted, not a bed but timber would come to be. So if this is art, the form also is nature. For man comes to be from man. [becoming-being]

A "KINGDOM OF FRIENDS": PERSONAL DIMENSIONS OF AQUINAS'S

MORAL WORLD

Matthew D. Walz

A Kantian introduction

It is not wrong to credit Immanuel Kant with thematizing the dignity of human personhood, an idea that profoundly affects the way we think today about the moral life. Persons bound by duty to transcend their passions and act according to rational principle: such are the inhabitants of Kant's moral world. Owing to their freedom, persons possess an inviolable dignity, an intrinsic worth, placing each of them above all price. Together they constitute a "kingdom of ends," a system of self-legislating agents who should consider the principles of their actions as universally binding and ought not to infringe upon the dignity of others. By thematizing personhood in this way, Kant overcomes the ethics of empiricism, in which moral feeling or sentiment

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reigns supreme, and advances toward a morality that appeals to reason alone.

This advance in ethical thinking seems to have been crucial for the modern world. For it brought to light and universalized a fundamental insight into the value of human beings, an insight that explains why we, as rational and not just emotional, are pained by the suffering of not only those close by, but even those at a distance whom we know only through the superior media of our age. Indeed, Kant's moral vision moves us to consider the groundwork of respect necessary for establishing a human community, especially when we begin thinking in global terms.

Two difficulties, however, loom over the Kantian moral world, especially when we consider ethics as "local," as dealing with relationships between persons who encounter each other daily—two difficulties, in fact, that Kant himself acknowledges. Because my primary focus here is not Kant's moral world, but Aquinas's, allow me to paint a picture of the Kantian moral world with broad strokes, although without (I hope) caricaturizing it.

The first difficulty looming over Kant's moral world has to do, broadly speaking, with *inspiration*. Does anything in his moral world inspire one to strive for moral excellence, either proximately or ultimately? Does anything elicit us to act morally, let alone to act at all? Kant balks at holding that the happiness of persons—one's own or that of others—ought to move us to act morally. To be sure, he does famously posit in the *Grounding for the Metaphysics of Morals* that "rational nature exists as an end in itself."¹ It is important to notice, though, that he does not mean that persons are those *for whom* we act; rather, persons are "ends" in that they are "boundaries" of human activity. "This principle of humanity and of every rational nature generally as an end in itself," he says later in the *Grounding*, "is the *supreme*

¹ Immanuel Kant, *Grounding for the Metaphysics of Morals*, trans. J. W. Ellington (Hackett: Indianapolis, 1993), 36 [Ak. 429].

limiting condition of every man's freedom and action.²² When Kant posits the person as an "end," then, he is not saying that a person is a $\tau \epsilon \lambda o \varsigma$, i.e., some good that draws us out of ourselves by its intrinsic attractiveness or appeal.

Personhood in Kant's moral world, then, functions in a manner analogous to the impenetrability of bodies in the physical world, not by drawing other things into motion, but by serving as a boundary or limit to their activity. In the physical world, however, attractive forces exist between impenetrable bodies.³ But what is it in Kant's moral world that draws persons to act and interact rationally and excellently? Indeed, rational beings seem inert of themselves if some affectivity does not ground their very existence. Kant's disavowal of any such affectivity in persons that draws us to act morally constitutes what I call his *inspiration problem*.

A second difficulty looming over Kant's moral world has to do with *the meaning of one's own freedom*. Now, it is clear that Kant does not deny the *fact* of human freedom. "[T]he footpath of freedom," he says, "is the only one upon which it is possible

² Kant, *Grounding*, 37 [Ak. 430–1]; emphasis added. Further on in the *Grounding* Kant makes the same claim about good will—the possibility of which underlies human dignity—as an end: "And so the end must here be conceived not as an end to be effected, but as an independently existing end. Hence it must be conceived only negatively, i.e., as an end which should never be acted against and therefore as one which in all willing must never be regarded merely as a means but must always be esteemed at the same time as an end" (37 [Ak. 437]).

³ Considering the crucial role of gravitation between bodies in the Newtonian physical universe, it is interesting that Kant leaves out "attractive forces" between persons in his moral universe. Perhaps, however, this makes sense, especially if he does not want to subsume morality under the umbrella of "nature." Then it is precisely the lack of attractive forces between human persons as such—i.e., as moral agents capable of responding to duty for its own sake—that sets them apart from other beings in the universe. This is precisely how they self-legislate, almost as if *ex nihilo*.

to make use of reason in our conduct."4 And so, Kant concludes, "it is just as impossible for the most subtle philosophy as for the most ordinary human reason to argue away freedom."5 But what does it mean to be free? Here Kant halts the inquiry; for to explain freedom would be to situate human action wholly in the realm of appearances and thus subject it altogether to laws of nature. Human beings posit their freedom coherently, in other words, only when they "bethink themselves and admit, as is reasonable, that behind appearances there must lie as their ground also things in themselves (though hidden) and that the laws of their operations cannot be expected to be the same as those that govern their appearances."6 The meaningfulness of freedom, therefore, remains opaque even to the free agent himself. To be sure, human freedom is mysterious. Still, we human beings long to understand what it means to be free; we long to see the point or purpose of our freedom. Kant's averseness to inquiring into freedom's meaning, then, can only disappoint. His disavowal of our ability to explain human freedom constitutes what I call his meaningfulness problem.

Interestingly, Kant himself unites the meaningfulness problem with the inspiration problem. "The subjective impossibility of explaining freedom of the will," he says, "is the same as the impossibility of discovering and explaining an interest which man can take in the moral law."⁷ These problems are at root the same because they both concern the role of goodness in the moral world. And by "goodness" I do not mean primarily moral or practical goodness, as Kant understands it—i.e., the will's conformity with a rule or standard; indeed, Kant secures a central place for goodness understood thus. By "goodness,"

⁴ Ibid.

⁵ Ibid.

⁶ *Ibid.*, 59 [Ak. 459].

⁷ Ibid., 37 [Ak. 430-1].

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rather, I mean *metaphysical* goodness, which manifests itself in the appeal and self-diffusiveness of beings precisely as existing, especially when those beings are persons. In other words, the lack of inspiration and the impossibility of explicating human freedom in Kant's moral thought arise from its deontological character—or, if I may suggest a more apt word, its de- $\kappa\alpha\lambda$ óv-tological character—because he fails to ground the moral world in the $\kappa\alpha\lambda$ óv, the "beautiful," the knowability and manifestness of the existing as good. Indeed, the $\kappa\alpha\lambda$ óv underlies the Greek—more specifically, Plato's and Aristotle's—moral world, inasmuch as that world is saturated by goodness and beauty that free rational agents are able to apprehend, and by which they are innately attracted.

The Personal Depth of Aquinas's Moral World

Thomas Aquinas, unlike Kant, stands with the Greeks inasmuch as he grounds his moral world in metaphysical goodness. In fact, with something of a wink at Kant's formula, Aquinas's moral world may be best described as a "kingdom of friends" populated by free persons called to share themselves in love of friendship. Yet nowadays it is useful-indeed, perhaps indispensable-to begin with Kant's moral vision and to consider Aquinas's in light of it, because not only do Kant's terminology, his thematization of personhood, his assertion that persons are ends, and his conceptual model of a "kingdom of ends" inform much of our moral discourse, but they also help bring to light crucial aspects of Aquinas's moral world. Yet Aquinas's moral world transcends Kant's by being grounded in the goodness and beauty of existence that expresses itself in the appeal of objective realities and the self-diffusiveness of personal subjects. In what follows I attempt to point out a few crucial aspects of Aquinas's moral world. For the sake of concision, I focus on a single text, a section of Aquinas's Commentary on the Gospel of John, which

elucidates some key principles and distinctions helpful for understanding his moral world.

In this text Aquinas entertains a possible objection to something Christ tells his disciples at the Last Supper, namely, "If you were of the world, the world would love its own; but because you are not of the world, but I chose you out of the world, therefore the world hates you" (John 15:19). "By 'world' here," the objector says, "the Lord understands the princes of the world, who were going to persecute the apostles. But these very same princes persecute some who are found to be worldly, such as murderers and thieves. The world, then, does not love what is its own just as it does not love the apostles."⁸ The world's own aversion to crime, the objector is saying, argues against Christ's words; for the same worldly people who persecute the apostles also prosecute criminals. Hence the world appears not to love its own.

Aquinas's initial response runs thus:

It must be said that one is able to find something that is purely good, but something purely evil is never found, since the subject of evil is something good. The evil of guilt, then, is grounded in a good of nature. Hence a human being cannot be a sinner and evil unless he has something of good. So, then, according to the evil that people have—namely, lack of faith—they belong to the world, and they hate the apostles and those who are not of the world; but according to the good that they have, they are not of the world, and they hate those who are of the world, namely, rogues and thieves and others of this sort.⁹

^{8 &}quot;Per mundum intelligit hic Dominus principes mundi, qui persecuturi erant Apostolos; sed ipsi iidem principes persequuntur aliquos mundanos inventos, puta homicidas et latrones: ergo mundus non diligit quod suum est, sicut nec Apostolos." *Super Evangelium Sancti Ioannis Lectura* (Marietti: Turin/Rome, 1952), Lib. XV, lect. iv, n. 2035 (p. 384). Translations of Aquinas's texts are mine. 9 "Dicendum est quod est reperire aliquid pure bonum, sed pure malum
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Aquinas immediately dives to the depths, making an axiomatic assertion that governs his reflections on this text: all that exists is good; any evil there is, is in something good. And so one can say that even the worldly in some way do not belong to the world, and this goodness in them gives rise to notions of justice and the desire to see it carried out. Criminals, too, are not wholly of the world; for underlying their badness stands the natural goodness of their being. Thus Aquinas situates the moral world *within* the metaphysical world. The moral world cannot escape the constitution of existence itself; hence the morally bad, just like any other defect and privation, is parasitic on the good.

The objector, though, is not fully convinced; for he remains in the following doubt:

[E]very sin belongs to the world, and so with respect to any sin whatsoever someone is of the world. But we see that some men who come together in a certain sin hate one another, such as the arrogant. As Proverbs [13:10] says: "Among the arrogant there are always quarrels." And [we also see that] a greedy person hates a[nother] greedy person. . . . The world, then, hates the world. It does not seem to be true, therefore, when the Lord says that the world loves what is its own.¹⁰

nihil invenitur, cum subiectum mali sit bonum. Malum ergo culpae fundatur in bono naturae. Unde non potest aliquis homo esse peccator et malus, quin habeat aliquid boni. Sic ergo secundum malum quod habent, scilicet infidelitatem, pertinent ad mundum, et odiunt apostolos et eos qui de mundo non sunt; sed secundum bonum quod habent, non sunt de mundo, et odio habent eos qui de mundo sunt, scilicet fures et latrones, et cetera huiusmodi" (*Ibid.*). 10 "[A]d mundum pertinet omne peccatum, et sic secundum quodlibet peccatum aliquis est de mundo. Sed videmus quod aliqui homines convenientes in aliquo peccato, se invicem odio habent, sicut superbi; Prov. XIII, 10: Inter superbos semper iurgia sunt: et avarus odit avarum. . . . Mundus ergo odit mundum. Non ergo videtur verum esse quod dominus dicit mundus quod suum erat diligeret" (*Ibid.*, n. 2036 [p. 384]). The objector's claim, based on Scripture itself, is this: If to be of the world is to be a sinner, then the world does not love its own; for sinners of the same sort—such as the proud or the greedy do not love their own.

In reply to this, Aquinas introduces a key distinction in modes of love, one that underlies his account of the moral world, namely, the distinction between love of desire (*amor concupiscentiae*) and love of friendship (*amor amicitiae*). "It must be said," Aquinas says,

that love is twofold, namely, love of friendship and love of desire; but these differ. For in love of desire we draw those things that are outside of ourselves toward ourselves, since by this love we love other things inasmuch as they are useful or delightful to us. But in love of friendship the reverse is the case, because we draw ourselves toward those who are outside of ourselves; for we stand toward those whom we love by this love as we do toward ourselves, joining ourselves to them in some way.¹¹

Taking a cue from Aquinas, we can try to picture this twofoldness of love in our mind's eye in terms of the direction, as it were, of the attractions and motions involved. In love of desire, on the one hand, I draw an object *toward myself*. When I love in this mode, I am affected by the object and take it to myself in order to "fill up" myself or someone else with it. *The thing loved is taken; the one loving receives*. In love of friendship, on the other hand, we draw ourselves *toward another*. When we love in this mode,

^{11 &}quot;Dicendum, quod duplex est amor: amicitiae scilicet et concupiscentiae, sed differunt: quia in amore concupiscentiae, quae sunt nobis extrinseca, ad nos ipsos trahimus, cum ipso amore diligamus alia, inquantum sunt nobis utilia vel delectabilia; sed in amore amicitiae est e converso, quia nosmetipsos trahimus ad ea quae sunt extra nos; quia ad eos quos isto amore diligimus, habemus nos sicut ad nosmetipsos, communicantes eis quodammodo nosmetipsos" (*Ibid.*).

we do not take the other to ourselves to fill up something we lack; rather, we go out of ourselves and join ourselves with the other. *The one loving is taken; the one loved receives*.

Now, this depiction of the twofoldness of love is helpful owing to its simplicity as well as to the illuminating contrast it draws between the differing direction of love between the lover and what is loved. This picture, however, is too "flat," too one-dimensional; for, in fact, human love is actually two-dimensional. Let us clarify this picture of the twofoldness of love, then, by considering love's dimensionality, because this enables us to recognize how these two modes of love are related and, indeed, unified.

Human love is willing-something-for-someone. To articulate it in grammatical terms, human love always involves a direct object and a dative. Consider first the willing-something dimension of love, the direct-object dimension, which is the arena of love of desire. In this dimension, I take something to myself, I appropriate it as my own. This appropriation or taking-to-myself of something so as to fill up someone (either myself or someone else)—i.e., the acquisition and possible sharing of something good—constitutes the "exterior" dimension of love. A man may buy shoes for himself and roses for his wife, and he relates to the shoes and the roses with love of desire; they are the direct objects of his love. For Aquinas, though, this dimension of love results from and expresses willing-for-someone, whether that someone be myself or someone else. For it is the subjective goodness of myself or that of another that draws me into acquisition or sharing. Hence this willing-for-someone dimension-i.e., the dimension of love of friendship-underlies the acquisition and possible sharing of goods. It serves as the "magnetized substratum" of free someones, free subjects, whose fields are populated by somethings that can be acquired and shared.

These directional and dimensional distinctions between modes of love implies a distinction in what gives rise to them. What is attractive about the something or the someone that the one loving loves? Knowing this sheds light on the phenomena underlying the objector's doubt, namely, that the proud despise the proud and the greedy the greedy. "[I]n love of friendship," Aquinas continues,

a likeness [between the one loving and the one loved] is the cause of love. For we do not love someone in this way except inasmuch as we are one with him; yet likeness is a kind of oneness. In love of desire, however, be it of something useful or something delightful, likeness is the cause of separation and hatred. For since by this love I love someone inasmuch as he or she is useful or delightful to me, I hate whatever is able to impede what is useful or delightful as something opposed. And thus it is that the proud quarrel with one another, inasmuch as one usurps for himself the glory that another loves and in which that other delights.¹²

Here Aquinas concurs with the objector: the world does not love its own, because those who are worldly consider others who are worldly to be interfering with their pursuits. They are alike in their worldliness, a likeness that drives them apart. Striving after the same goods, they perceive each other as competitors for those goods and thus as obstacles to them. They see others not as someones, but as somethings—objects that get in the way of their own pursuits.

^{12 &}quot;[I]n amore amicitiae similitudo est causa amoris, non enim sic diligimus aliquem nisi inquantum sumus unum cum eo: similitudo autem est unitas quaedam. Sed in amore concupiscentiae, sive sit utilis, sive delectabilis, similitudo est causa separationis et odii. Cum enim isto amore aliquem diligam inquantum est mihi utilis vel delectabilis, quidquid est impeditivum utilitatis seu delectationis, habeo odio contrarium. Et inde est quod superbi iurgantur adinvicem, inquantum unus usurpat sibi gloriam quam alius amat, et in qua delectatur" (*Ibid.*).

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Thankfully, desiring useful and pleasing objects is not the full story about love, not even about love of desire; it is this that the objector fails to see. There is always a deeper dimension—a personal dimension—of love at work in human love. "[I]t must be known," Aquinas explains

that love of desire is not love of the thing desired, but of the one who desires. For someone loves another someone with this love [of desire] inasmuch as he or she is useful to *him*... And so in this case he loves himself more than the other, just as someone who loves wine because it is delightful to himself loves himself more than the wine.¹³

As suggested above, all human love entails both an accusative and a dative; in other words, there is *something that* is desired and there is *someone for whom* it is desired, whoever that be oneself in self-referential love of desire or someone else in love of friendship.¹⁴ This "accusative-dative" structure of love—and especially the dative dimension—constitutes the *personal structure* of human love, which is the fundamental dimension in which human love exists, especially evident in love of friendship when the someone-for-whom is a person other than the one loving. As Aquinas puts it, "love of friendship is love more of the one loved than of the one loving, because [in love of friendship] one loves the someone who is loved for his own sake, not for the

^{13 &}quot;Sed sciendum, quod amor concupiscentiae non est rei concupitae, sed concupiscentis: propter hoc enim quis hoc amore aliquem diligit, inquantum est sibi utilis.... Et ideo magis diligit in hoc se quam illum: sicut qui diligit vinum quia est sibi delectabile, se potius quam vinum diligit" (*Ibid.*).

¹⁴ To borrow a notion from Husserl's *Logical Investigations*, "willing-*some-thing*-for-*someone*" articulates the "categorial form" of human love, i.e., the intelligible structure of human acts of love that we can both discern in them and, through our own choices, intelligently impress upon them. To see the helpfulness of Husserl's notion of a categorial form in moral thinking, see Robert Sokolowski, "Phenomenology of Friendship," *Review of Metaphysics* 55 (2002): 451–470.

sake of the one loving."15

Love of a person, therefore, exercises primacy in all movements of human love. This is perhaps more hidden in self-referential love, in which one's love remains within the sphere of the self. In such a case there is not, properly speaking, love of friendship, since no other person is loved as if another self. Love of friendship, therefore, manifests a greater potentiality of love, namely, the ability to break out of the sphere of the self so as to pursue the good of another. Aquinas asserts this primacy of love of friendship over love of desire quite strongly in other places: "That which is loved with love of friendship," he says in the *Summa theologiae*, "is loved simply and through itself, but that which is loved with love of desire is not loved simply and according to itself, but is loved for another."¹⁶ In every case, then, the

Cf. also *In librum De divinis nominibus* (Marietti: Rome/Turin, 1950), c. IV, lect. ix, nn. 404–5 (p. 134): "Unde considerandum est quod, cum amor importet habitudinem appetitus ad bonum amantis, tot modis contingit aliquid amari, quot modis contingit aliquid esse bonum alterius. Quod quidem, primo, contingit dupliciter; nam bonum dupliciter dicitur, sicut et ens: dicitur enim, uno modo ens proprie et vere, quod subsistit ut lapis et homo; alio modo quod non subsistit, sed eo aliquid est, sicut albedo non subsistit, sed ea aliquid album est. Sic igitur bonum dupliciter dicitur: uno modo, quasi aliquid in bonitate subsistens; alio modo, quasi bonitas alterius, quo scilicet alicui bene sit. Sic igitur dupliciter aliquid amatur: uno modo, sub ratione subsistentis boni et hoc vere et proprie amatur, cum scilicet volumus bonum esse ei; et hic amor, a multis vocatur amor benevolentiae vel amicitiae; alio modo, per modum bonitatis inhaerentis, secundum quod aliquid dicitur amari, non inquantum volumus quod ei bonum sit, sed inquantum volumus quod eo alicui bonum sit, sicut dicimus amare scientiam vel sanitatem.

Nec est inconveniens si hoc etiam modo amemus aliqua quae per se subsistunt, non quidem ratione substantiae eorum, sed ratione alicuius perfectionis quam ex eis consequimur; sicut dicimus amare vinum, non propter

^{15 &}quot;Sed amor amicitiae est potius rei amatae quam amantis, quia diligit aliquem propter ipsum dilectum, non propter ipsum diligentem" (*Super Ioannis*, n. 2036 [p. 384]).

^{16 &}quot;Nam id quod amatur amore amicitiae, simpliciter et per se amatur: quod autem amatur amore concupiscentiae, non simpliciter et secundum se amatur, sed amatur alteri" (*Summa theologiae*, I-II, q. 26, a. 4).

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underlying substance of love consists in love of a person—love of self in self-referential love and love of another in love of friendship. Relative to this, love of desire is an accident or offshoot, as it were, of love of a person. The moral world of Aquinas, then, is charged with the inherent dynamism, attractiveness, and free self-diffusiveness of personal beings, which supplies the context and inspiration for human love and, in turn, moral beauty.

Aquinas is now in a position to resolve the difficulty the objector has with Christ's words. "So, then," Aquinas says,

because in love of friendship likeness is the cause of love and unlikeness the cause of hatred, so it is that the world hates what is not its own and is unlike to it, and it loves—that is, by love of friendship—what is its own. But it is the reverse with respect to love of desire. And for this reason [the Lord] says that if you were of the world, the world would love what is its own, namely, by love of friendship.¹⁷

According to Aquinas, then, the worldly too participate in self-communication, since even sinners draw themselves toward others and to some extent seek each other's good. Can this explain the brotherhood among criminals and the loyalty of gang members? Certainly it makes sense in light of the axiomatic

substantiam vini ut bene sit ei, sed ut per vinum bene sit nobis vel inquantum delectamur eius sapore vel inquantum sustentamur eius humore. Omne autem quod est per accidens reducitur ad id quod est per se. Sic igitur hoc ipsum quod aliquid amamus, ut eo alicui bene sit, includitur in amore illius quod amamus, ut ei bene sit. Non est enim alicui aliquid diligendum per id quod est per accidens, sed per id quod est per se; et ideo oportet quidem diversitatem amorum accipere secundum ea quae sic amamus ut eis velimus bonum."

^{17 &}quot;Sic ergo, quia in amore amicitiae similitudo causa est amoris, dissimilitudo causa odii, inde est quod mundus odio habet quod suum non est et sibi dissimile, et diligit, idest dilectione amicitiae, quod suum est. Sed de dilectione concupiscentiae est e converso. Et ideo dicit si de mundo fuissetis, mundus quod suum erat diligeret, scilicet amore amicitiae" (*Super Ioannis*, n. 2036 [p. 384]).

principle with which Aquinas first responded to the objector: all that exists is good. In Aquinas's moral world, in other words, all human agents are at root good, and so all share in the appeal and self-diffusiveness of being's goodness. To one degree or another, therefore, all belong to the kingdom of friends; for personal goodness permeates the moral world—in fact, makes the world moral in the first place—and manifests itself in daily intercourse among human beings, who constantly foster relationships and join themselves to others by means of word and deed, thereby to some degree or another willing the good for others.

Transforming our Moral Vision

What is the upshot of these aspects of Aquinas's moral world? More specifically, do the principles and distinctions that Aquinas introduces address the difficulties associated with Kant's moral world, namely, the problems of inspiration and the meaningfulness of freedom? I believe they do, although appreciating how, both theoretically and practically, requires a deep—perhaps even supernaturally furnished—conviction concerning the metaphysical goodness and beauty of oneself and others. At this point, therefore, instead of examining the principles of Aquinas's moral world further by means of philosophical discourse, it seems more advantageous to behold them in the beautiful and complex particularity of an individual human being—in this case a literary character, the charming Pierre Bezukhov from Leo Tolstoy's *War and Peace*.

Those familiar with this novel may recall a striking passage in which Tolstoy describes Pierre's inner life in a way that, at least as I see it, encapsulates some of the key aspects of Aquinas's moral world that I have presented. The passage describes Pierre considering retrospectively the attitude he had toward others upon returning to society after a grueling, but eye-opening

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period as a prisoner of war. He calls this previous attitude "madness." During this captivity he was transformed, owing to an unexpected experience of contentment during an arduous time as well as to his association with Platon Karataev, a down-to-earth, spiritually profound peasant. The relevant passage runs thus:

Often in afterlife Pierre recalled this period of blissful madness. All the views he formed of men and circumstances at this time remained true for him always. He not only did not renounce them subsequently, but when he was in doubt or inwardly at variance, he referred to the views he had held at this time of his madness and they always proved correct.

"I may have appeared strange and queer then," he thought, "but I was not so mad as I seemed. On the contrary I was then wiser and had more insight than at any other time, and understood all that is worth understanding in life, because . . . because I was happy."

Pierre's madness consisted in not waiting, as he used to do, to discover personal attributes which he termed "good qualities" in people before loving them; his heart was now overflowing with love, and by loving people without cause he discovered indubitable causes for loving them.¹⁸

Tolstoy's description of Pierre's "madness" fleshes out how one can allow love of friendship to hold primacy in one's relationships with others and transform one's moral outlook. It is a love that emanates from self-diffusive goodness under the attraction of other persons as persons, whose substantial goodness is affirmed forthwith, *prior* to attending to their qualities—qualities

¹⁸ Leo Tolstoy, *War and Peace*, trans. Louise and Aylmer Maude, ed. G. Gibian (New York: W. W. Norton, 1996), 995. I have changed the translation slightly—substituting "madness" for "insanity"—in accord with the Dunnigan translation (New York: Signet, 1968), 1345.

that may be useful or pleasant and thus may incline us to love the other person with love of desire rather than love of friendship. Giving himself over to this prevenient mode of love of friendship-and the renewed perspective on the world to which it gives rise—is Pierre's "madness," a name that brings to mind the θεία μανία-the divine madness-of ἔρως that Plato explores in the *Phaedrus* and that he too articulates as a response to the beauty of being.¹⁹ When from our own personal goodness we emanate and affirm the radical goodness of others, we are led to be "ecstatic," to reach out, to extend ourselves, to move and to stand outside of ourselves-or, as Aquinas put it in a passage cited above, "we draw ourselves toward those outside of ourselves; for we stand toward those whom we love by [love of friendship] as we do toward ourselves, joining ourselves to them in some way."20 Pre-affirming the value and attractiveness of others in light of our own substantial and freely self-diffusive goodness thus impels us toward our own moral excellence. Thereby we recognize that persons are indeed ends-not as limits to our freedom and action, but as substantially attractive beings who elicit action from us. And thereby do we give way to our free self-diffusiveness, joining ourselves to others by love of friendship.

Allow me to stretch a bit here by asserting something I cannot justify fully in this paper, although I will try to explicate it briefly. This description of Pierre captures, I think, not only what Aquinas proposes as the inspiration that underlies our striving for moral excellence, but also what he understands to be the meaningfulness of our freedom. The free human being grasps and affirms the fundamental goodness of persons; the free human being, moreover, directs his or her activity toward other persons by allowing himself to come under their sway.

¹⁹ For more on this, see Josef Pieper, *Divine Madness: Plato's Case against Secular Humanism*, trans. L. Krauth (San Francisco: Ignatius, 1989), 37–55.
20 For the Latin text, see note 11 above.

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Human freedom, in other words, consists paradigmatically in self-diffusive activity under the accepted influence of the substantial attractiveness of persons. This is the meaning of freedom in Aquinas's moral world. It manifests itself to some degree in the self-determinative and self-referential activity in which we acquire goods for ourselves, but it is especially manifest in our pursuit of goods for-that is, under the attraction of-other persons. For when we operate under such attraction, we recognize and accept the discrepancy between the primary object of our love-another person-and the means of demonstrating our love. Hence the substantial attractiveness of persons "overdetermines" our willing, insofar as persons can always be affirmed more than we have already affirmed them, and insofar as more can be willed for persons than has already been willed. And so this gives rise to our experience of true freedom, namely, the ability to pursue this rather than that, as well as the prior ability to act or not to act, chiefly in response to the intrinsic goodness of others whom we can always affirm more and for whom we can always will greater good. In Aquinas's account of the moral world, therefore, persons are not "limiting conditions" of freedom, as Kant maintains. Rather, they ground human freedom and provide it with a point or purpose; for human persons inspire action by their substantial attractiveness, and they make freedom meaningful by drawing it to its fulfillment in self-diffusive activity under the accepted influence of others.

In Aquinas's world, therefore, persons share in a special way in the goodness—i.e., the appeal and self-diffusiveness—in which all beings share. And ultimately this is because, as created rational beings, persons can consciously image the Source of being, who gives freely and self-communicatively in the act of creating. The ultimate meaning of human freedom, then, lies in responding to the call to imitate this divine Creator in a manner fitting to a free creature, by the predilective affirmation of persons embodied in self-giving activity. We saw above that Aquinas suggests that all human beings participate in love of friendship to some degree or another, because deep down all of us are "not of this world." To be excellent in Aquinas's moral world, then, perhaps all we need to do is to realize this and to acquiesce to what we are, that is, images of a freely self-diffusive Creator. In so doing we would be, as Paul commends, $å\lambda$ ηθεύοντες . . . έν \dot{a} γ \dot{a} πη, "manifesting-truth [or: "truthing"] ... in love" (Eph 4:15). The deep and underlying truth at issue is stated straightforwardly and with deceptive simplicity by the Psalmist when he proclaims, "The earth is full of the goodness of the Lord" (Ps 33:5). And the deepest goodness in the world is that of intrinsically good persons capable of pouring themselves out for the sake of others. As persons, then, we would do well to respond fully to the personal goodness of everyone whom we encounter, a goodness that ought to make its appeal to us, to draw us out of ourselves and into the fullness of our existence as a community of moral beings who are ultimately constituted as not merely a "kingdom of ends," but, more precisely, a "kingdom of friends."

THE PROTO-GOSPEL OF "SHE": HOW JEROME WAS RIGHT ABOUT

GENESIS 3:15

Nathan Schmiedicke

I set enmity between thee and the woman, between her seed and your seed. [S]he shall crush your head...

(*Gen* 3:15)

Paradoxically, Christian tradition bestowed on this declaration of war the name *protoevangelium*—the first gospel. For most of the history of Christendom, the second part of the verse did as Hebrew poetry often does, intensifying and particularizing the first part: the enmity between the serpent and the woman begins the declaration, the serpent's utter defeat by the woman ends it. In biblical versions, the most influential illustration of this feminine intensification came through St. Jerome's translation of the Hebrew pronoun (π) with a Latin feminine: *she (ipsa)* would

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As it turns out, putting she first and last in the proto-gospel fit a similar but much larger pattern within the Bible. In the pre-Reformation Old Testament, Eve's faith that Seth is the proto-martyr Abel redivivus-"another seed" whom "the Lord has set for me"-matched the faith of the last woman portrayed there-the Mother of the Maccabeean martyrs-who initiates her sons into their martyrdom in the hope of the resurrection (2 Maccabees 7). With Mary, the good news at the beginning of the New Testament era was likewise set on she who would offer her martyr-son (Lk 1:28; 2:34) and initiate him into his hour of battle (John 2:4), which is also "her hour" (John 16:21), in which she battles alongside him to the death in the hope of the resurrection (John 19:25). At the other end of the New Testament we then see the "great sign" of the heavenly Mother suffering along with her children, whom, likewise, the dragon seeks to martyr (Rev 12:17). Last of all, the Bible reveals, coming down out of Heaven, the final masterpiece of God, the bride of the Lamb, the perfect *she* (Rev 21:10-22:3), who, like the woman of Revelation 12, and Mary, carries God within her. In this respect at least the God of the West's only truly millennial Bible was nothing if not a consistent feminist. His message, first and last is: she wins.

The Flight from She: The History and Future of the First Gospel And yet, after the thousand years, something was unleashed that did not love this *she*. With the advent of the Reformation,

she began to disappear from the text of the *protoevangelium*. At first, perhaps predictably, this was in Protestant Bibles (which also eventually excised Maccabees). For the next four centuries or so—up into the 1950s—*she* still persisted in many Catholic Bibles, but began soon after that to vanish from them as well. One cannot help but wonder about causes and motives: Why was *she* no longer a viable reading of this biblical mainspring of a text? Was *she* simply an accident of translation history that had persisted for over a thousand years and had finally been weeded out? Did scholars find some new information during the modern era that led to the non-feminine version? Was there some other cause? What factors led to the total excision of *she*?

In current Bibles, when accompanying footnotes explain the anti-she translation decision (Catholic Bibles often feel the need to do so still) one perceives in them a genuine tug between the tradition's translation and the present—a simultaneous embarrassment and nostalgia regarding that old feminine reading, perhaps even a twinge of regret regarding the second half of the fourth commandment—*honor thy mother*. Nevertheless, they all end up saying essentially the same thing: As a *translation*, any third person pronoun of any gender or number is defensible here, but definitely not third person feminine singular, *she*.

Jerome's translation of this gospel in the feminine set the standard for so long in the Latin Church that, prior to the 1960s, and especially prior to the 1560s, one would have been much more inclined to ask a question contrary to the ones asked above. Rather than, "Why can we not have *she* anymore?" the question would have been, "Is it really possible to have anything other than *she*?" And yet, despite the impressive 1500-year hegemony of *she* in the Catholic West, one is hard-pressed to find a current Bible that includes the feminine even as a more-or-less probable secondary option in a footnote, or even buried among the variants of the critical apparatus of scholarly editions, or most

surprisingly, even in the myriad translations and commentaries on Genesis offered by feminist scholars of the last century. When *she* is talked about at all, she is damned with the faint praise that *she* is "interpretive" which, if itself interpreted from Academic into normal speech means something like "Cute, but wrong." Though one can find commentators of all ages and confessions of both the Jewish and Christian heritage who treat this text as a messianic "first gospel" encompassing the whole of salvation history,¹ the question of how this detail of gender plays out in the accomplishment of that primordial good news has been more subdued (or perhaps silenced).

Despite a number of competent recent scholarly works on the importance of the feminine typology in the Bible,² especially as it pertains to the virgin Mary, the current implied answer to

1 From the Jewish tradition of interpretation see Targum Onkelos on Gen 3:15 (trans. Israel Drazin and Stanley M. Wagner; Jerusalem: Gefen, 2006), 19. "He will always remember what you did to him in ancient times; and you will watch for him-to the end of time." Targum Neofiti is even more explicit: "It will come about that when her sons observe the Law and do the commandments . . . they will smite you on the head and kill you. But when they forsake the commandments of the Law you will . . . bite him on his heel and make him ill. For her sons, however, there will be a remedy, since they are to make appeasement in the end, in the day of King Messiah" (trans. Martin McNamara, M.S.C. [Collegeville: The Liturgical Press, 1992], 61). From the Protestant tradition of exegesis, one need look no further than Matthew Henry's treatment of this passage in his popular Commentary on the Whole Bible, originally published in 1708 (Grand Rapids: Zondervan, 1961), 10. Fr. T. Gallus's work on the mariological interpretation of the protoevangelium likewise shows that Matthew Henry's interpretation is very much in the mainstream of Protestant exegesis of this passage, going back to Luther, Zwingli, and Calvin; Der Nachkomme der Frau in der altlutheranischen Schriftauslegung. Ein betrag zur Geschichte der Exegese von Gen 3, 15, vols. 1-2 (Klagenfurt, 1964, 1973). See also Stephano Manelli, All Generations Shall Call Me Blessed: Biblical Mariology, trans. Peter Damian Fehlner, F.F.I. (Massachusetts, 1995), 23, note 3.

2 Edward Sri, *Rethinking Mary in the New Testament: What the Bible Tells Us About the Mother of the Messiah* (San Francisco: Ignatius Press, 2018); Brant Pitre, *Jesus and the Jewish Roots of Mary: Unveiling the Mother of the Messiah* (New York: Image, 2018).

the gender question is still characterized exclusively by the flight from the feminine and, I find, too timid—far more so than God is-in attributing the victory straightforwardly to she. This has bequeathed to the billion or so Catholics in the Latin Church of today something of a conundrum. Enough remnants of the wreckage persist to say that despite the 1960s, the Latin church still proclaims the gospel of *she*: in liturgy, magisterial teaching, sculpture, painting, approved private revelation-not to mention the Marian holy card stuffed in between the pages of our Bibles or the miraculous medal hanging around our necks that regale us with the straightforward image of a woman standing on a serpent's head. All of these give considerable imaginative life, devotional energy, and even a certain amount of dogmatic weight to she. But our Bibles and commentaries tell us that only something other than she will serve here. If we are reminded of the feminine option from our tradition at all, it is generally to say that *she* is not a defensible translation of this text, but at best a piously fitting, but still externally imposed, "reading into" the text rather than a valid "reading of" the text.

Setting aside for the moment the question of critical defense of the translation, what does seem immediately defensible is that this detail of gender affects how one interprets the drama presented in the rest of the Bible, of which this Dominical utterance against the serpent is arguably the sole font. As already pointed out, woman attacked by the serpent-dragon is both the first and the final great dramatic tension presented to Christian readers of the Bible, forming the bookends of the two-testament revelation (Genesis 3, Revelation 12), regardless of which translation one reads. If the seed of the woman (her son-offspring) is the primary object of the serpent's attack, this suggests a markedly different picture than if the woman herself becomes the serpent's hated focus (as she clearly does in both Genesis 3 and Rev 12:13–15). Likewise, if the woman's seed deals the deadly

head-blow to the serpent, this expresses a different aspect of reality than if the woman herself does. Once the question is posed, one cannot help but wonder which one it is, or whether we can know.

I suggest that we can know, and even, in a sense, that we already do know—at least intuitively. Corroborating this intuition requires, ultimately, that we expand the methods employed on this question in the past to include something much more approachable and available to the common reader, namely, what the rest of the Bible has to say about the matter. Nevertheless, the only doorway into this larger arena is the initial question of all scriptural inquiry: What does the text have to say for itself?

Part I: The Text of Genesis 3:15

This is not as simple a question as scholars sometimes imply. Even an abbreviated survey of the issues surrounding the Hebrew text of Gen 3:15 requires several stops back in time, just to begin to appreciate the lexical complications at stake in the English translation of this Hebrew text: the Vatican during WWII, England just after the Reformation, Bethlehem around 400 AD, and Alexandria, Egypt about 300 BC, with a final note on the work of the Hebrew scribes, the Masoretes, whose work was accomplished around 1100 AD. Looking at the history, what do we find at each of these stops?

The Vatican, 1943

During WWII, Pope Pius XII took time away from the burden of the war to write an encyclical on biblical interpretation, *Divino Afflante Spiritu*. The definitive turn away from *she* in Catholic Bibles is probably correlated in some way with Pius XII's tacit encouragement for Catholic interpreters to go back to "the original text" rather than to rely as heavily as they had for over a millennium on the Latin Vulgate:

In like manner therefore ought we to explain the original text which, having been written by the inspired author himself, has more authority and greater weight than any even the very best translation, whether ancient or modern.³

Of course, Pius XII reveals his awareness that, practically speaking, "the original text" is something of a scholar's fantasy. He reminds his readers that the purpose of the critical study of texts and manuscripts is

to ensure that the sacred text be restored, *as perfectly as possible*, be purified from the corruptions due to the carelessness of the copyists, and be freed, *as far as may be done*, from glosses and omissions, from the interchange and repetition of words and from all other kinds of mistakes, which are wont to make their way gradually into writings handed down through many centuries.⁴

It is a sobering truth: we do not have an original of any biblical book of either testament. What we have are myriads of more or less ancient, more or less complete, and more or less accurate handwritten copies in various languages. An "original text" even of Hebrew or Greek—can only be reconstructed in a more or less probable fashion from collation and comparison of the various manuscript families and variants that exist, and a lot of educated guessing. Though the uncertainty regarding variations should not be overstated, neither should it be understated. No two ancient biblical manuscripts of any biblical text are the same in every particular. Nevertheless, this turn to "the original text" for Catholic scholars seems to have been certain enough in its conclusions to eliminate *she* from every English translation of

³ Divino Afflante Spiritu (Boston: Daughters of St. Paul, 1943), par. 16.

⁴ Ibid., par. 17; emphasis added.

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Gen 3:15 published after that point.⁵ Why did that happen?

England, 1600

The answer to that is in England of the early 1600s. This is the time following the Protestant Reformation when the King James Version (KJV) and the Douay-Rheims (DR) Bible were the Bibles of the English-speaking Protestant and Catholic churches, respectively. One might suspect that it was merely a distaste for anything that smacked of papist Mariology that kept the KJV translators away from putting she on the very first pages of their Bible. One might also suppose that the DR translators retained she for the same reason-its enormous importance for Catholic piety regarding the Blessed Virgin Mary. In other words, the respective traditions (and religious reactions) of the translators could have played a decisive role in the translation produced in either case. To what extent these considerations actually entered into the decision-making of the translators would be hard to say. If pressed, each side could also have made a more critically-minded argument for its case based on the original text.

⁵ The Douay Bible (still published by TAN publishing and others) continues to be a witness to this aspect of translation history with its Reformation era translation of the Vulgate. Aside from this, Monsignor Ronald Knox's translation is the only exception. Though in part this was because he was translating from the Clementine Vulgate as his basic text, Knox nevertheless defends his translation not on the authority of the Vulgate, but on the poetic and metrical parallelism of Gen 3:15 in Hebrew, which, he thinks, when rendered with *she*, "plainly gives a better balance to the passage" (*The Holy Bible*, trans. Ronald Knox [New York: Sheed and Ward, 1956], Gen 3:15, note 1). Rudolf Kittel's *Biblia Hebraica* of 1905, for example, retains St. Jerome's *ipsa* variant in the critical apparatus of Gen 3:15. By the 1929 edition it had been removed, and is also absent from the *Biblia Hebraica Stuttgartensia*. Thereafter it began to disappear from English Catholic Bibles also. The Catholic versions still frequently retain footnotes explaining why *she* is not a tenable translation but they sometimes attempt to salvage *she* as a valid interpretation based perhaps on Gen 3:15a.

Bethlehem, 400 AD

The Catholic translators could have defended their translation precisely because it was a translation based on the Latin Vulgate. This was the translation St. Jerome had composed in his monk's cell in Bethlehem around 400 AD, at the request of Pope Damasus. Although his work was a translation, the Hebrew manuscripts he used as his base text were over a thousand years older than anything the KJV translators would have been able to get their hands on in post-Elizabethan England, and thus an important witness to a text much closer in time and space to the original.

The manuscript history of the Vulgate itself, however, is not without its own twists. In his earlier versions of the Vulgate, Jerome translated the text in question with *he*, but then, apparently, changed it to *she* in his final version that became normative. Why? One (unproved) theory is that he did so on the advice of the Jewish Rabbis from whom he was learning Hebrew and whom he consulted on questions of translation.⁶ In other words, Jerome's *she* was not solely Jerome's, but was rather a variant rabbinical reading of the Hebrew text contemporary with him.⁷

Another point that Jerome makes clear, both by his own

⁶ The modern account of this discrepancy between Jerome's earlier and later translation is that the later *ipsa* was a copyist's error, due either to simple inattention regarding the change from "the woman" (feminine) to "her seed" (masculine or neuter) or to the lingering influence of the Old Latin versions based on the Septuagint, some of which likewise witness to the feminine reading. See Bonifatius Fischer, *Vetus Latina, Die Reste der altlateinischen Bibel*, vol. 2, Genesis (Freiburg: 1951–1954), 68.

⁷ In his *Liber Hebraicarum Quaestionum in Genesim* Jerome did use the masculine reading, but his *Quaestionum* preceded and led to his later work of translating the whole Old Testament from Hebrew and thus does not help to clarify whether *ipsa* is a later copyist mistake or a new translation decision on the part of Jerome. Also, his immediate discussion in the *Quaestionum* is about the verbs of Gen 3:15, not the pronoun. See Migne, *Patrologia Latina*, vol. 23 (Paris: 1845), 943. See also Fr. Settimo Manelli, "Genesis 3:15 and the Immaculate Coredemptrix" in *Mary at the Foot of the Cross* (Massachusetts: Academy of the Immaculate, 2004), 313.

testimony and by his concrete practice, is that his general intention as a Bible translator is to be as word-for-word literal as possible. He is often content to abandon style (occasionally even sense) in order to have his Latin remain as clear a window as possible onto the actual words on the Hebrew manuscript in front of him and the tradition of reading them then current. The man who asserts "Hebrew Verity" as his philosophy of translating the Old Testament, since "in the Scriptures, even the arrangement of the words is mysterious,"⁸ is not likely to have made this innovation without reasons founded in the Hebrew. Thus, from the Catholic side, the reasons for respecting the Vulgate's *ipsa* included concrete concerns about the original text.

Alexandria, 300 BC

The Protestant translators, however, could also have presented cogent arguments for their translation. First, they could go even further back in time, two or three centuries before Christ to Alexandria, Egypt (and thus about seven centuries before Jerome). Beginning during that time, Jewish Rabbis (traditionally, seventy of them) had translated the Pentateuch from Hebrew manuscripts they had into a Greek version, ever after called the Septuagint ("the seventy," LXX) which later became the Old Testament for the Christian church, and the base text of the Latin Old Testament translations until the time of Jerome. The Septuagint renders the pronoun as *he* ($\alpha\dot{\nu}\tau\dot{0}\varsigma$) and thus

⁸ Jerome, Letter 57.5 (*To Pammachius, On the Best Method of Translating*). The recent work of Michael Graves on Jerome's Hebrew philology makes it unlikely that Jerome would have abandoned his commitment to "Hebrew verity" and his demonstrable independence of thought—even when Christian tradition (not to mention the LXX) was against him—to change Gen 3:15b, pronouns, verbs, suffixes and all, for the sake of a Marian foothold already there in Gen 3:15a. Michael Graves, *Jerome's Hebrew Philology: A Study Based on his Commentary on Jeremiah*, Vigiliae Christianae Supplement vol. 90 (Boston: Brill, 2007), 193–199.

provides an ancient Jewish reading coming out of the Jewish diaspora, perhaps from an even more ancient Hebrew manuscript tradition. The Septuagint, and hence this particular part of it, was normative in Christianity long before Jerome.

The Catholics would interject at this point to say that Jerome also had the Septuagint with him, and he *still* decided to go against it, a remarkable decision indeed. This, in turn, is what has led the modern Catholic scholars into the necessity of saying that *she* must have been the error of a copyist of Jerome's original Latin.⁹ Nevertheless, some Old Latin translations prior to Jerome, based on whatever Septuagint manuscript of Genesis *they* had, also had "she" (*ipsa* or *illa*), which would seem to suggest a feminine reading that existed even within the Septuagint tradition itself. This is corroborated by the occasional appearance of the *she* reading in the Greek tradition of interpretation, both Jewish and Christian, prior to Jerome.¹⁰

⁹ Otherwise, there is no denying that it was a conscious decision on Jerome's part to follow the Hebrew he had *against* what the Greek indicated.

¹⁰ From the Alexandrian Jewish tradition, Philo in Legum Allegoria III (Loeb, vol. I, Cambridge, MA: 1962), 429: "The sentence, 'He shall watch thy head, and thou shalt watch his heel' is a barbarism, but has a perfectly correct meaning. It is addressed to the serpent concerning the woman, but the woman is not 'he' but rather 'she.' What is to be said then?" His offhand comment that the Greek rendering of this text in the masculine (autos) is "a barbarism" and ought to be "she" (autē) because it refers to the woman is particularly interesting, since he takes the same track that many modern Catholic commentators on Jerome's ipsa do, but with the opposite outcome. The Septuagint's "he" is, according to Philo, technically a false translation, but it is nevertheless capable of a true interpretation, which he then proceeds to give in detail. From the Christian Greek tradition (though maintained only in a Latin translation which uses "illa" rather than "ipsa"), St. John Chrysostom: "Illa tuum observavit caput, et tu observavis eius calcaneum." He then goes on to clarify his feminine understanding of the passage by adding that this great war is between the woman and the serpent: Magnum inter mulierem et serpentem certamen attendo, magnum bellum ... "(Patrologia Latina Supplementum IV, 673: Collectio Escurialensis, Homilia 3: Sermo divi Ioannis Chrisostomi super illud Geneseos, Inimicitias ponam inter te et mulierem). See also the second century The

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The Masoretes, 1100 AD

Although, *she* was not the majority reading, there were other grammatical considerations to take into account. Among these is that biblical manuscript Hebrew does not use vowels. The word in question consists of the three juxtaposed consonants—*Heh*, *Vav*, *Aleph* (הוא). About a thousand years after Christ, a group of Jewish scribes, called the Masoretes, did add vowel-markings (the *masora*) to the biblical text so that later generations of lectors in synagogue would pronounce and chant it properly according to their tradition. They added the vowel-mark (in this case a single dot) which determined Gen 3:15 as *he* (אוֹד).

Even though, for Christians, the Masoretic markings as such do not have a claim to divine inspiration, the Masoretes were, nevertheless, a hyper-conservative bunch when it came to biblical texts, and thus an important witness to very early manuscripts and readings. And so, although they were doing their work quite late, their manuscripts record in writing a tradition of pronunciation that went back probably to the first centuries of the Christian Era, and possibly further. Their witness to the non-feminine reading seems to have clinched the matter for all Protestant scholars, and apparently most Catholic scholars after the 1960s.¹¹

But the most notable aspect of this pronoun is that the Masorete's dot, if moved one letter to the right, would make the

Passion of SS. Perpetua and Felicity, trans. Walter H. Shewring (London: Sheed and Ward, 1931) ch. 1.3, 26. Perpetua describes how, in a vision, she was prevented by a great serpent from climbing a ladder that went to heaven—so she steps on his head. Perpetua uses the same imagery of the head of her "Egyptian" enemy in 3.2 and 6.1.

¹¹ Some in Catholic scholarship were also going in that direction well before 1960. See, for example, the 1912 Catholic Encyclopedia article, "The Immaculate Conception" (ed. Charles G. Herbermann *et al.*; New York: The Encyclopedia Press, 1912, vol. 7), 675, which states flatly that "The translation 'she' of the Vulgate is interpretive; it originated after the fourth century."

word she instead of he [she (הָוא) versus he (הָוא)], as it does in verses on either side of this one (Gen 3:12, 20). It is an awkward but well-known grammatical truth for those who study the Hebrew of the Pentateuch: though the Hebrew outside of the Pentateuch distinguishes in spelling between the masculine and feminine third person pronoun, the Hebrew within the Pentateuch does not (he = הוא = she). This grammatical anomaly opens a window onto an earlier Hebrew that may not have distinguished as clearly, or perhaps not at all on the vocal level, between the masculine and the feminine third person singular pronoun. Apparently, context was enough to discern the difference. In this case normal contextual discernment leads straightforwardly to the masculine reading since the closest antecedent for this pronoun is the masculine "seed." However, the seed is the unique "her seed" a masculine noun with an attached feminine suffix that appears nowhere else in the Hebrew Bible, though its Greek equivalent does appear once, notably, in Rev 12:17.12 The KJV translators, following the Masoretes, were aware enough of the difficulties to shy away from both *she* and *he*, hedging their bet on *it* for their final choice.

Thus, though it does not settle the issue, this brief trek through history and ancient languages and manuscripts does help to clarify a few things. First, the most noteworthy indication we have from extant Hebrew manuscripts regarding the word in question is that *he* and *she* looked identical, and may even have sounded so in an early form of the language. Second, this pentateuchal phenomenon regarding the third person masculine and feminine pronoun was considered important enough

¹² זרְעָה I; LXX = τοῦ σπέρματος αὐτῆς, "her-sperm/seed," appears only in LXX Gen 3:15 and Rev 12:17. Though Hagar and Rebecca are other examples from Genesis of feminine subjects whose "seed" (גרְעָה) (Gen 16:10; 24:60) is spoken of, neither of these are spoken of in the third person as in Gen 3:15 which differs therefore not only in vowel vocalization, but also in spelling from the very frequently used masculine (גרַעָה).

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for it to be preserved "as is" in the manuscript tradition.¹³ Third, if you were a translator translating into a language that does make a distinction in spelling or pronunciation between the masculine and feminine third person singular pronoun, you would have to pick one or the other, or the neuter, for your translation, or your oral vocalization. Fourth, both he and she may be ancient readings of this text: he preserved most prominently in the diaspora Septuagint Greek (and the Masoretic text), and she, retained in some Old Latin versions and perhaps also a reading of Palestinian origins preserved by the Vulgate. Finally, though there are many other historical and philological concerns that could be taken into account,¹⁴ even the abridged history we have sketched is enough to justify two conclusions: 1. hesitancy regarding the universal flight from *she* in reference to this passage in Catholic scholarship and translations of the last century, and 2. an openness to the possibility that the ambiguity of the pronoun in question is not merely unavoidable, but rather intentional.

How can it be seen as intentional? First, there was no absolute need to use the pronoun at all, since Hebrew verbs, like Latin, already supply the subject by means of inflected endings, and this is the normal mode of operation. In other words, the pronoun, by its mere presence, draws attention to itself, just as it does in verses on either side of this one, both of which are clearly "she" (Gen 3:12, 20).¹⁵ Second, and more specifically, its use here seems intentionally charged with the gender question from the

¹³ And this, despite there being eleven exceptions within the Pentateuch itself that do distinguish the feminine by spelling (Gen 14:2; 20:5; 38:25; Lv 11:39; 13:10, 21; 16:31; 20:17; 21:9; Nm 5:13, 14).

¹⁴ See Nathanael Schmiedicke (forthcoming), *The Gospel of She: Genesis 3:15 as Militant Queen Mother of the Bible.*

¹⁵ Interestingly, both are also the seventh word in their respective sentence. "Her-seed" is the seventh word in Gen 3:15, followed three words later by the pronoun in question.

way that the text of Genesis has already treated it prior to this. Genesis 2 highlighted our author's delight in connecting the related significance of things by means of similar spelling and sound in their names, the first clear example being adam, man, made from *adamah*, ground (Gen 2:7). Speech does not merely give name-tags to reality, rather, in the mode of onomatopoeia, speech mirrors reality (Gen 2:19). Though this technique is so ubiquitous later in Genesis as to constitute an objective signal of authorial intention, its most famous and explicit use is in Adam's first reported speech just prior to Genesis 3: "She shall be called woman (*ishah*), for she was taken from man (*ish*)" (Gen 2:23). Genesis 3:15, then, may be taking this tendency one step further because the similarity of spelling has now intensified to identity: "he" and "she" are one word, just as Adam had prophetically declared them one flesh (Gen 2:24). In the protoevangelium, therefore, the Lord's declaration, just as in Adam's prophecy, is that the two shall be one. Even more poignantly, this would be indicating that out of what is straightforwardly and patently he will come a surprising completion, namely, she, at the very moment when the Lord is declaring that from *she* (the woman) will come a new he (her seed). Exploiting the unique feature of Pentateuchal Hebrew's "he" to mean also, or even especially, "she" in the exceptional instance of the all-weighty words of the proto-gospel could plausibly be understood as an intentional authorial decision, one which the implied reader is intended to catch.¹⁶

¹⁶ There are some textual indications of the unique or exceptional use of the pronoun in Genesis 3:15. In a text notably fond of seven, the seventh time it is used in Genesis is in 3:12 ("*she* gave it to me"), which is also the first time that it has been used of a person. Prior to this it has only indicated the four rivers of Eden (Gen 2:11, 13, 14[x2]), the animals named by the Man (2:19), and the tree of the knowledge of good and evil (Gen 3:6). After the protoevangelium it appears in Gen 3:20, again referring to the woman, but now as Mother: "He called his wife's name Eve for *she* became Mother of all living."

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There are signs that Jerome did catch it. His rendering of the verse-Ipsa conteret caput tuum, et tu insidiaberis calcaneo eius (Gen 3:15b)—indicates two aspects of this. First, there seems to be an intentional insistence on "she herself" in his choice of the emphatic reflexive demonstrative *ipsa*, when ea would have served (or *illa* as in some Old Latin mss), or, again, when he could have avoided the pronoun altogether, since the verb conteret by itself would potentially cover all grammatical genders. Second, Jerome seems attentive to the obviously masculine pronominal suffix that ends the Hebrew verb "strike him." Technically, his Latin could render the Lord's words as "She shall crush your head while you lie in wait for his heel," since eius in Latin covers all three grammatical genders. Jerome's vision for the verse would then be this: while the serpent is busy striking at the heel of the woman's seed, the woman herself will come from behind, as it were, and strike the serpent's head. On this reading, Jerome's ipsa follows the potential feminine of the indistinguishable-by-spelling Hebrew pronoun, but his eius follows the clearly masculine suffix of the Hebrew verb.

Our Current Conundrum

With this in mind, we come again to our own peculiar situation. It is no secret that the tradition of the Latin rite of the Catholic church magnifies the feminine reading—so much so that when I tell non-scholars about the origins of this idea they often do not understand why I am bothering, since they have the common sense to continue to ignore what is printed in their Bible and to take the *she* reading for granted. And yet, scholars, translators, and publishers of the Bible, even Catholic ones, appear strangely content with the footnote in their Bibles that says that the feminine reading "could be due originally to a copyist's mistake, which was then seen to contain a genuine meaning—namely,

that Mary, too, would have her share in the victory. . . . ^{"17} Or, in plain English: The best explanation for our feminine and Marian understanding of this text is that it comes from a mistake. One is left, however, with the queasy feeling that the *felix culpa* of a sloppy copyist is not really an adequate scriptural basis for the whole Marian-Ecclesial tradition of the woman victorious over the head of the archenemy of mankind, founded upon this text.

Both?

One wonders whether the inherent ambiguity of the passage itself caused the whole problem in the first place, if it really is a problem. Because *he* and *she* look identical in written form, the passage is not so much opaque as it is inherently open to more than one possibility. Likewise, the parallelism of the passage straightforwardly connects the primary action with the woman ("I will put enmity between you and *the woman*"), but then goes on to use verbs with masculine endings. Or again, the woman is clearly enlisted as the primary protagonist, but then, just before the infamous pronoun, her masculine "seed" is enlisted as well. One begins to see how ambiguities of this sort could have led to the existence of both masculine and feminine understandings of this passage in the later manuscript, translation, and interpretive traditions. And here let us be clear, *none* of these understandings need be mistaken necessarily, even as a translation.

One might interject at this point: "Who cares? The serpent's head is going to get crushed and it is at least *through* the woman in either case. What does it matter who precisely does the head-crushing?"¹⁸ In some ways, this question indicates a good, Catholic position: we should accept various possible

¹⁷ Genesis 3:15 note in RSV-CE.

¹⁸ This, for example, is the position taken in the Challoner notes to the Douay Gen 3:15 when it considers *ipsa* versus *ipsum*: "The sense is the same: for it is by her seed, Jesus Christ, that the woman crushes the serpent's head."

interpretations of a passage so long as they are not contradictory of each other, or of the faith, or of the obvious sense of the passage.¹⁹ As Aquinas realistically put it: the meaning of a word in Scripture is not limited to one thing, *even on the literal level*.²⁰

But notice first of all that this is not the route that has actually been taken, practically speaking, in the translation and annotation of the Bible. If *she* is given a voice at all it is only to say that *she* is, at best, based ultimately on a mistake or a (more or less) fanciful interpretation. A truly inclusive position would give each reading the dignity of being, at least, not necessarily mistaken. I was inclined to take this position myself, for a while. After all, once you have said "both" to what appears to be an either-or proposition, and made the necessary distinctions, what more is there to say?

But there is more to say. A lot more. It was the traditional, liturgical, and devotional reading of this first gospel in the Latin rite that alerted me to an aspect of the text itself that seems to have been left out of the discussion, something specifically about the gender issues of this *protoevangelium*. If the Bible is essentially one book, and if this is truly the first gospel in that book, and the gospel is what the whole thing is really about, then it does not stop in Genesis 3. "The New is in the Old concealed; the Old is in the New revealed," as the medieval rhyme has it. Nor does this first gospel disappear within the Old Testament only to reappear magically with Jesus, *Deus ex femina*. This is

¹⁹ This is the position of Cornelius a Lapide, whose comprehensive commentary from the 1600s presents textual, grammatical, and theological justification for masculine, feminine, and neuter readings, saying that all ought to be retained (*Commentaria in Scripturam Sacram*, Larousse, Paris, 1848).

²⁰ Thomas Aquinas, *Summa Theologiae*, I, q. 1, a. 10: "Since the literal sense is that which the author intends, and since the author of Holy Writ is God, Who by one act comprehends all things by His intellect, it is not unfitting, as Augustine says (Confess. xii), if, even according to the literal sense, one word in Holy Writ should have several senses."

true notwithstanding the inability of scholars who have treated the question to see it.²¹ The main problem is that when they fail to find the words of Gen 3:15 again, they assume that the *protoevangelium* is no longer operative in later texts of the Bible. But biblical narrative very often prefers to show rather than tell. As in real speech, what the words say (or do not say) is often far less, or even far other, than what they mean. And the literal sense of a text is what the words *mean*.

Thus, our question requires an exegesis of the inspired text that is attentive to the fully human mode in which it was written, an exegesis open and alert to figural, symbolic, dramatic, and pictorial realities, along with the verbal—that is, an exegesis that can pass the "prove you are not a robot" test we have all become familiar with in recent years. One must be able to see similarities between apparently unlike things, to see the perfect form within an obscure or partial image. It also requires us to regain that sense of biblical epic that underlies almost everything the Rabbis (including Jesus) and the Church Fathers had to say about Scripture, the sense that allowed them to read the books of the Bible as chapters of a coherent and unified opus Dei, its semiotics so sophisticated, intertextual, and super-historical that "Divinely Inspired" as a description says too little ("inerrant" says even less).

Such exegesis, when applied to our question, reveals that this profound prophecy marking the beginning of man's divinely revealed history has an equally profound and consistently developed future, recorded within every major part of the Bible after that point. And the gender question, or rather, the Bible's own gendered answer, makes startlingly forceful appearances in that future. *She* is the Bible's own epic focus. Adam's story is essential

²¹ Jack P. Lewis's detailed and erudite treatment is typical in this regard; "The Woman's Seed (Gen 3:15)," *Journal of the Evangelical Theological Society* 34/3 (September, 1991): 299–319.

as image of the pre-history of God before He had a creation with which to become one flesh, but the crisis of the tested woman is where the drama begins, and, as we already saw, she is also where it ends.

To clarify, it is not that the "both" position is untrue or undesirable; it is, rather, that more can be said than just that. If we take one Marian understanding of the protoevangelium for granted for the moment, it is both Mary and Jesus who, each in their own way of cooperating with the will of God the Father, bring about the demise of the Serpent's dominion. It is also true, however, that of the two, Jesus, the seed of the woman and the Word made flesh, is obviously the more important, and anything attributable to Mary is, as Mary herself puts it, only because "the Almighty has done great things for me" (Lk 1:49). So, if anything, from a logical point of view, the Protestant scholars seem to have it best: the significance of the seed of the woman (he or it) far outweighs whatever importance she has, and thus makes more sense as the primary focus of any translation and interpretation. Mary is, at most, a mediating cause of Christ's incarnation whereas Christ as God is the one absolute mediator (1 Tim 2:5). *He* is therefore primary.

While this is logical, it moves in a direction different than the scriptural evidence as a whole indicates. Our mode of understanding "primary" (and logical) in this question ought to be determined by the scriptural mode of presentation and revelation rather than by *a priori* philosophical considerations regarding absolute causality. There is more than one way of being "primary" and if written revelation focuses our attention on ways in which *she* is primary, then we would do well to pay attention.

So, I modified my position on this "both" approach. The attempt to avoid the question as insoluble, or only soluble anti-*she*, because of an ambiguous original text or because of a (perhaps over-reverent) feeling of obligation toward scholarly

authority is understandable. Yet a counter-obligation comes to us in some extraordinary words that Jesus said in Matthew's Gospel about interpreting the Torah:

Amen I say unto you, till heaven and earth pass away, not one letter, or even one part of a letter shall pass of the law, till all be fulfilled. He therefore that shall break one of these least commandments, and shall so teach men, shall be called least in the kingdom of heaven. But he that shall do and teach, he shall be called great in the kingdom of heaven. (Mat 5:18–19)

In other words, teaching the *details* of God's revelation, even down to one stroke of a letter, matters more than we might suppose at first.²² As we saw earlier, on the textual level, one can appreciate the importance of just one part of one letter in this case.²³ In the Bible, the least details are bound up, as Jesus indicates, with the very fabric of the reality God created and is leading toward its fulfillment, and also bound up with the final destiny of those who teach about them.

So as one who teaches, I would like to get this right. It will not do simply to give up on *she* and to capitulate to the flight-from-woman readings or to annotate Catholic Bibles with

23 My students joke about their teacher who is writing "a book about a dot." My rejoinder is to remind them that an "F" and an "A" are both three strokes of a pen, and differ only a little on the page.

²² This focus on the Law, and within it, Genesis, and within that, the protoevangelium, is still an important enough principle in Catholic teaching that it merited an explicit paragraph in the most recent *Cathechism of the Catholic Church* #289: "Among all the Scriptural texts about creation, the first three chapters of Genesis occupy a unique place . . . The inspired authors have placed them at the beginning of Scripture to express in their solemn language the truths of creation—its origin and its end in God, its order and goodness, the vocation of man, and finally the drama of sin and the hope of salvation. Read in the light of Christ, within the unity of Sacred Scripture and in the living Tradition of the Church, these texts remain the principal source for catechesis on the mysteries of the 'beginning': creation, fall, and promise of salvation."

footnotes that equate false translation with true piety. The point of Christ's saying is clear: to teach the details of Scripture rightly is to teach what really is God's command; to falter on those details is to fail. So, presumably, we should clarify this detail of the woman if we can. The last "great sign" in the Bible is of a dragon who rejects the divine maternity of *she*, and thereby casts himself and a third of the angels out of heaven. Details matter.

It is also true, nevertheless, that having assurance that small details matter cosmically is not the same thing as having assurance that we have understood every detail as it is "fulfilled." How then, to proceed? One way the Catholic interpretive tradition has been able to remain faithful to the details of Scripture is disarmingly modest in approach (though more complicated in application): one accepts various possible renderings, even among the earliest manuscripts, so long as they are not mutually exclusive, or contradictory of the faith, or clearly a copyist error, with an openness to whatever further determination on the matter may come later from those who have authority to declare on such things.²⁴ Though the word of God is one, the words of manuscripts transmitting that word may be multiple. In certain cases, it may be necessary to rest in ambiguity and obscurity because, as St. Augustine taught, sometimes God wills that too.²⁵ Unless there is something to settle the matter definitively, then each of multiple manuscript readings can be allowed to stand in potentia, even as the word of God, which, as St. Thomas so aptly reminds us, can encompass many realities with a single, literal word, and various aspects of those many realities may be what

²⁴ This seems to be the position of the Church, for example, regarding the notorious case of the "Johannine Comma." See Heinrich Denzinger, ed., *The Sources of Catholic Dogma* (St. Louis: B. Herder Book Co., 1954), 569–70.

²⁵ Augustine, *De Doctrina Christiana*, II.6: "I doubt not that this situation [i.e., obscurity in Scripture] was provided by God to conquer pride by work and to combat disdain in our minds, to which those things which are easily discovered seem frequently to be held worthless."

the variety of manuscript traditions manifest.

A second way is likewise unassuming—one reads unclear parts in light of clearer parts, and in light of the whole Bible. Because Scripture is a unified whole, no part is without a very large context, a context that can help to clarify difficulties in any individual text. The more support we find in the whole increases our certainty regarding our reading of the part.

A third way is simply a consequence of the belief in the inspired status of the Scriptures: though it has many human authors, it also has one divine Author, who, in and through (sometimes, despite [John 11:51]) the many human narratives and voices, is telling His own, one, divine epic, in His own mode. Thus, our task is to pay attention to the Bible's own per se voice,²⁶ the "language of divine scriptures,"²⁷ as Augustine called it, the language which is not Hebrew or Greek or any particular human language, but which is ultimately God's peculiar mode of revelation through the history of His people and through inspired human narration of that divinely orchestrated but freely lived history in the Bible. Thomas Aquinas proposed this aspect of Scripture as the uniquely divine mode of God's revelation: not that he intends meaning by words or even symbols (for we humans can do that as well) but that he intends significance by means of really existing things that He created and orchestrated to be that way, so that they could signify as He wanted them to signify-times, places, events, actions, objects, buildings, people, institutions, and, particularly important for our purpose, genders-two of them (Gen 1:27).²⁸ Providence is poetry, and

²⁶ I borrow this happy phrase from Gary Anderson's *Christian Doctrine in the Old Testament: Theology in the Service of Biblical Exegesis* (Grand Rapids: Baker Academic, 2017).

²⁷ Augustine, De Doctrina Christiana, II.9.

²⁸ Summa Theologiae I, q. 1, a. 10. The idea that gender is what it is (or even that it is anything definite at all), so that it can signify something that God intends, might, without my intending it, end up being the most controversial

God is its author. Writing it down as Scripture, aside from telling us more than creation says of itself and its Creator, simply makes what creation does say more democratic and open for those of us human and common enough to be better at reading stories than reading stars.

Our main pursuit, then, will only be to make more explicit the already present feminine current of God's answer to the question throughout the rest of the Bible, and to do as God does, allowing *she* to speak for herself.

Part II: The Gospel of She

What, then, do the rest of the Scriptures tell us about this fundamental part (Gen 3:15)? There is far too much to say here, so I will only summarize the most apparent phenomena and then look more closely at a less apparent example as a test case (from the book of Exodus) applicable to other examples that come later in the Bible.

First, the apparent phenomena. It can hardly be inconsequential when the Bible presents numerous stories of women portrayed as God's secret weapon saving the day during some very bad situations for God's people. Nor does it seem accidental that the stories reveal a similar form: the enemy, in the very act of trying to destroy the people of God (the seed of the woman), is himself destroyed by the woman. Significantly, the woman consistently does so in one mode—she strikes at his head. Biblical men have many ways to kill; women have one. This feminine

claim I make. In unsympathetic hands this will doubtless be interpreted as a politically motivated hegemonic truth-claim on my part, or on the part of the authors of Scripture, or both. My preemptive response is that when I see that St. Paul or Moses unmasked these sorts of reactions to the providence *in* gendered beings two thousand years and more ago, and that for them these reactions were the obvious path of those guilty of hate-crimes against nature and its supernatural meaning, such objections tend to reveal themselves for the toothless serpents they are (Rom 1:20–28; Gen 19:5).
modality is so prevalent in the Bible that the head-striking shows up not only with the heroines destroying evil men, but also when bad women, in a sort of demonic parody of God's ways (this is war, after all), murder the good men who are their enemies. Though there are many lethal women, not one of them kills in a way other than some dramatic narrative contrivance that ends up involving this strange focus on the *head*.²⁹ This ought to give us pause for thought.

Rather than considering this as the Bible's appropriation of some broader literary or cultural convention of head-hunting women (though it might be that too), and beginning a search for similar extra-biblical texts showing how unoriginal and contextualized in a cultural history the Bible is, it seems wisest to learn from the history of scholarship of the last half-century or so which is slowly but surely arriving at the truth that we already knew: the Bible is always original, especially when it appropriates material from the surrounding culture. As T. S. Eliot intuited, "Immature poets imitate; mature poets steal."³⁰ God is *il miglior fabbro* bar none, his inspired scriptural allies come next, even when we think (like Augustine did at one point) that they

²⁹ Two seeming exceptions—the unnamed mothers who eat the son during the siege of Samaria (2 Kgs 6:29), and queen Athaliah who "destroyed all the royal seed" in Jerusalem (it does not say how, 2 Kgs 11:1)—ultimately tend to prove the rule. To the woman who confesses her deed, the king responds in retaliation that since Elisha had allowed the Syrians now besieging Samaria to escape, "May God do so to me and more also if the *head* of Elisha the son of Shaphat remains on his shoulders today!" (2 Kgs 6:31). As for Athaliah's murder of the "royal seed" in Jerusalem, in context this act is clearly revenge for Jehu's having *beheaded* all the seventy sons of her father, king Ahab (2 Kgs 10:7), and thus, without saying so, strongly suggests beheading. Another seeming exception—Jezebel's machinations to murder Naboth by stoning (1 Kgs 21:10)—rebounds upon her as the inverted gospel of *she* would demand: when she dies after being thrown out of an upper window, the dogs that eat her body significantly leave behind her skull in token of her defeat (2 Kgs 9:35).

³⁰ Eliot, T.S., "Philip Massinger," in *The Sacred Wood*, (London: Methuen and Co., 1920), 125.

limp as human poets. Of course, God has the advantage of having created the cultural context from which He inspired his human authors to steal in the first place, but this is always God's will for Israel at its best—taking pagan-Egyptian gold and making the ark of the covenant. And so, to understand *she* as the ark of the covenant in this case we should seek its source not outside, but primarily inside its biblical presentation, which reveals the pre-existing feminine understanding of the reality recorded in God's first gospel.

The historian's and poet's most important decision is editorial—to include or exclude details. For it to be accurate history, there was no absolute need to know that Jael dispatched Sisera with a spike through his *head*, or that Abimelech died from a millstone that a woman dropped on his *head*, or that Sheba's *head* was removed from his shoulders at the instigation of a woman, or even that John the Baptist's *head* ended up on a platter because of a female conspiracy.³¹

These details were kept and reported as an expansive biblical litany of *she* for some reason beyond mere curious fact-telling. The point for our purpose is not simply the historical dimension but the inspired literary artistry that told and shaped the history as it did, and that these artfully presented histories were kept, written, codified, and canonized as they were into one collection we now know as the Bible. This cross-historical artful coherence necessitates some agent that transcends the particular historical moment of each story.

I reverence the insight that would refer to this agent as Divine Providence but we could also be more inclusive, as God also seems to prefer. The main instrument of Divine Providence in history is human beings (especially Israelites), and the only means by which humans, at any rate, can transcend their

³¹ Luke, for example, will leave the women out of his story entirely, though both Matthew and Mark include them (Lk 9:9 and parallels).

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particular location in history is tradition-handing on something to the next generation. The widespread presence of these stories, in history and in the canon of Scripture, plus their mutual coherence of form, looks much less like a coincidence and much more like a conspiracy, indicating the existence of just such a tradition. Once one has done the comparisons, the manifest aspect of this tradition is that it held on tightly to the feminine reading of Genesis 3:15. But here is the key: the guardians of this tradition adhered to *she* not because these stories recorded in the rest of the Bible happened to support that reading. Rather, it is the other way around: they recorded and canonized these stories in the way that they did in the first place because they were inspired to see in them a confirmation and fulfillment of their already existing feminine understanding of the reality recorded in the Bible's first gospel. In short, God kept beating them (and their enemies) over the head with *she*, so they kept writing that way.

Thus, say what we may about the grammatical gender issues of Gen 3:15, this tradition, the major proof of which *is* these stories, predates by centuries anything Jerome and the Rabbis of his day may have done with or discovered in their particular Hebrew manuscript of Genesis, and of which they may simply have served as yet another set of spokesmen. It also predates the Septuagint, and helps to explain its inclusion in the canon of several other stories that clearly fit the same pattern: Judith, Susanna, Tobit, and the mother of the seven martyrs followed by Nicanor's decapitation in 2 Maccabees. While the Septuagint's masculine rendering of Gen 3:15 makes patent that other traditions about Gen 3:15 existed, this only serves to intensify the question regarding the Hebrew Bible's inclusion of these stories, and the Septuagint's inclusion of several more stories of the same form. Why did they do it as they did?

Supposing *she* was an original, perhaps even an understood (albeit awkward, minority, exceptional, and grammatically edgy) possibility of this first gospel, such as, for example, would be the case if one were to write in English letters: "(s)he". And what if the real point of this unresolved duality was ultimately to reveal an obvious but hidden potential for a woman hidden within the man? What if the thing-to-be-revealed, hidden within *he*, was *she*? What if, inside *he* (both grammatically and physically) was everything needed to make *she*, lacking only the special intervention of the Divine intention and touch? What if, in short, the Lord were to make a woman out of a man? But then, of course, He did.

If all these ifs mean anything, then what would we expect to find? Just what we do in fact find-that within the Bible there is a veritable litany of fulfillment-stories portraying, not he, but she (or if you like, [s]he) as the victor over the enemy. As we will see, a dozen specific and fairly obvious biblical instances present themselves. Closer analysis of these texts reveal that their authors seem interested in something beyond a mere preference for *she*. Rather, in the choices they make as inspired authors, they work more in the mode of active promotion, indeed, propagandafor she. Why? For the simple reason that in so doing, they were faithfully promulgating that a prophecy of hope-the Bible's first and therefore most determinative-had been fulfilled, again and again in the life of Israel and the Church. This thing we call "hope" did not exist prior to the protoevangelium, but now it did, and the form of hope was feminine, and these authors had proof. Much, if not most, of the rest of the Bible, in narratives, characters, personifications, institutions, objects, symbolism, and even its final canonical order, would go into making this point.

To gather momentarily together in one place some of the more apparent manifestos of this congregation for the propagation of the feminine, we can refer to the following list:

1. Jael kills Sisera with a tent spike	(Judges 4-5)
through his head	
2. A woman drops a millstone, crushing	(Judges 9)
the traitor Abimelech's skull	
3. Goliath's head displayed outside the	(1 Sam 17:54)
Mother-city, Jerusalem	
4. A woman orchestrates the beheading of	(2 Sam 20)
the rebel Sheba	
5. Judith beheads Holofernes with his own	(Judith 13)
sword	
6. Esther brings about the death of Haman	(Esther 7)
by hanging	
7. The sin of Susanna's false accusers	(Daniel 13)
requited "upon their heads"	
8. The Mother's martyr-sons vs. Nicanor's	(2 Mac 7, 12)
head set up in the Mother-city	
9. Elizabeth/Mary's martyr-sons vs.	(Mt, Mk 6; Lk 1-2)
Herodias/Salome behead John	
10. The Mother of Jesus standing on	(John 19)
"skull-place"	
11. The Roman Church with Satan "under	(Rom 16:20)
your feet"	
12. The Woman with the ruler of the	(Revelation 12)
darkness (= moon) "under her feet"	

Many other texts that belong to the litany yield fruit under further scrutiny, but even the list makes half of them rather obviously of a piece. In each one a woman (or that which is symbolized by a woman) saves the people by striking the enemy's head, or, in the case of Paul's saying in Romans, or John's in Revelation, by explicitly crushing Satan/the ruler of the darkness under her feet. The remaining half, though more subtle, work within the same framework of imagery and ideas to offer nuanced developments on the same theme. These latter also provide an opportunity to see just how much the history has been molded by its telling so that it maintains and develops the feminine reading of the proto-gospel.

Though they differ significantly in details and in emphasis, each story has several common features which could be listed sequentially thus:

1. Some larger group or whole within the people of God is in danger of death from . . .

2. Their enemy—generally a man or men, occasionally, a serpent or his symbolic correlative . . .

3. Who intends widespread death (or worse) to God's people.

4. Then, a surprise woman (or someone/something portrayed in a feminine mode) . . .

5. Who orchestrates and/or occasions a surprise counter-attack against the enemy . . .

6. Whom she kills (or whom she orchestrates/is the occasion of killing) . . .

7. Focused on the head.

So, (1) the people, (2) their enemy, (3) the threat of death, (4) a woman, (5) a surprise counter-attack, (6) the death of the enemy, (7) the head, to which we should add (8), salvation.

Other stories and images likewise make use of the basic form, though not every one of its parts, or with equal emphasis or clarity. The basic material is, after all, history. The partial forms nevertheless, belong just as clearly to the litany as the rest. The following test case from the book of Exodus will illustrate both the depth to which this "gospel of *she*" modality underlies biblical narrative and presentation, and also the way in which

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even a partial picture is still worth a thousand words.

Wives of the Patriarchs: Background to Exodus

After the primeval history springing from the *protoevangelium*, the biblical narrative focuses on the patriarchal narratives of Abraham, Isaac, and Jacob. But each of these stories, particularly as regards the wives of these patriarchs, retains the slender thread of hope of the first gospel upon which hangs the hope of the first woman, voiced in her prophetic reinstatement of Seth as Abel redivivus in words that echo the vocabulary of the proto-gospel: "The Lord has set for me another seed in place of Abel who Cain slew" (Gen 4:25). Her hope is also the hope of mankind, for victory over the serpent. More particularly, each of the patriarchs' wives expresses the same concern. The intense desire for a child highlighted in the stories of Sarah and Rebecca, Rachel and Leah, is much more than natural anxiety regarding the ancient near eastern cultural stigma attached to the childless woman (or the "hated wife" Gen 29:31). Rather, the social and historical realism of their distress over children is the bearer of a larger concern. As narratives flowing from Gen 3:15, the suffering of the matriarchs and their desire for children continues to voice in the narrative of salvation history Eve's solicitude for the fulfillment of the first gospel—for the seed that the Lord is going to send for her victory.

My Wife is My Sister

While the immediate historical and dramatic concern of the women is for children, we see the complementary truth on the patriarchs' side, in their concern for protecting themselves and their women from foreign men. The notoriously baffling and recurrent stories of mental subterfuge in which the patriarch on three separate occasions—passes his wife off as his sister in

order to avoid being killed by foreign men (Gen 12:10ff; 20:1ff; 26:6ff), become less perplexing when looked at in this light. Gen 3:15 was the answer to the drama of the tested woman, and it delineated the woman as primary opponent to the serpent in her capacity for being "Life" as bearer of the promised seed (Hebrew "Eve" = Chavah; LXX = *Zoe*, both meaning Life). Thus, the wife of the patriarch, as potential mother of the promised seed, is repentant Eve redivivus in history and in the ongoing narrative conflict between woman and serpent. These stories reveal that God, by bringing woman into the fight, has at least doubled His chances of losing his bet against the serpent. In God's self-imposed binary sexual scheme, either the Bridegroom/giver of the seed can be killed, or the bride/mother of the seed can be defiled. To lose him would be to lose the seed; to lose her would be to lose "her seed" because she is the only bearer of his seed. This is why God intervenes miraculously in each of these three cases to reveal her true identity and her covenant relationship with her bridegroom, and to protect her when she is given over to the power of evil men. She is God's ward, given only to the patriarch, to bear his seed alone. With this as background, we are now ready to look at Exodus as our test case.

The Gospel of She in the Book of Exodus

What happens to Sarah and Rebekah on a personal level, when taken into the house of foreign men, is magnified to a national level when Israel goes down to Egypt and becomes a super-fecund people (Ex 1:7–12). No barren Israelite women here, but until the nation has been set free to worship the Lord without fear, they are bearing sons for slavery and death. Abraham and Isaac had both been afraid, when encountering the foreign leaders, that they would be killed and their wife taken by the heathens (Gen 12:12; 20:11; 26:7). This fear of the men on a personal

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level—*they will kill me and take her*—whatever one thinks about it in the narrative of Genesis, is shown to be a prophetic premonition on the national level in the book of Exodus. Pharaoh, at the beginning of Exodus says to the Hebrew midwives: "When you serve as midwife to the Hebrew women . . . if it is a son, you shall kill him, but if it is a daughter she shall live." When that fails (because the women save the sons) he commands all of his people, "Every son born to the Hebrews you shall cast into the Nile, but you shall let every daughter live" (Exod 1:16, 22). In other words—*kill him; take her.*

What Abraham and Isaac had feared personally has become communal reality for the sons of Jacob-Israel. Nor is this mere re-historicization of the fears of the patriarchs in the lives of their descendants. The battle is not really about the boys but about the girls. The enmity God had set between the woman and the serpent was also between "her seed and your seed" and the question is, once again: Whose seed will these girls be bearing when they become Eve, that is, Mother? The serpent, in destroying the boys, is destroying the seed promised to the woman by God. The Egyptians (at best) want the girls for mere natural maternity, bearing sons for slaves, which is why Pharaoh works so hard to murder any chances these girls might have for being the bearers of the divine maternity of God's holy seed. For, as God so forcefully reminded Moses to warn Pharaoh, "Israel is my firstborn son" (Ex 4:22), and from these girls will come the mothers of Israel.

So much for the woman; now for the Serpent. The narrative of Exodus specifies the Nile as the intended mass-grave of the Hebrew boys precisely because the Nile is the natural symbol for the power of Egypt, and the power of Pharaoh himself, and the power of his gods behind him—the power that oppresses and persecutes and kills the seed of the woman. What Pharaoh begins in the Nile with the Hebrew boys ends at the Red Sea with all of the Israelites. The later prophets of Israel gave the definitive interpretation of these two images, the Nile and the Sea. For Ezekiel, the Pharaoh of his time is "the serpent that lives in the Nile" (Ezek 29:3), while the prophet Isaiah applies a similar symbolism to the Red Sea, which he personifies as a serpent or dragon (Isa 27:1; 51:9–10). Thus, the narrative and geographic bookends of the exodus from Egypt are both bodies of water personified in later biblical tradition as a serpent.

Even within the book of Exodus, however, the presence and symbolism of the serpent is readily apparent. The first sign God gives Moses is, of all things, also the first appearance of a live serpent in the biblical narrative since Genesis 3. Moses is to be "as God to Pharaoh" (Exod 7:1) and Pharaoh himself is the representative of the gods of Egypt, since the Lord, in sending plagues on Pharaoh, is executing "judgment on all the gods of Egypt" (Exod 12:12). So, the battle between the God of Israel and the gods of the Egyptians is played out in visible, miniature format between Moses and Pharaoh. But these two likewise disclose their battle in the even more condensed symbol of the serpent when God tells Moses, "Take your staff and cast it down before Pharaoh that it may become a serpent" (Exod 7:10).

Like all biblical signs, this is no mere eye-catcher, but a sophisticated symbolic complex of what is, of what is to come, and of what it means. The serpent, as the staff-in-hand, is nothing more than a tool in God's power that will be used to accomplish his own plans. Do what he may, the serpent cannot escape the curse of Gen 3:15 and God's ordination that he will be cast down ("on your belly you must go"). In fact, his efforts to circumvent that curse by killing the seed of the woman will be the very means of bringing it about. When Moses' staff-turned-serpent eats the staffs-turned-serpents of Pharaoh's magicians, it signals that the serpent—as the power behind Egypt—will really only be able to eat his own servants—Pharaoh and company, imaged in

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the smaller serpents of Pharaoh's magicians. Pharaoh's attempts to hurl the baby boy Hebrews first into the serpent-Nile, and finally, the mature Hebrews into the serpent-Red Sea, ends with Pharaoh's own army "eaten" by the serpent/sea. The very attempt of the Nile/Red Sea-serpent to eat the seed of the woman will end up in self-defeat and even self-cannibalism—the serpent eating his own seed. This is also why the first of the plagues God commands Moses to inflict on Egypt is the turning of the Nile into blood, by striking the water of the Nile with the serpent-staff. The serpent is forced to reveal in visible form how his power has been at work in the Nile, eating the seed of the woman, the blood of the Hebrew boys, which has called out to God for revenge, just as the earth did in the case of Cain and Abel (Gen 4). The cosmos—the earth and the waters—are ultimately under the power of God, not the serpent.

How noteworthy in this context, then, that Exodus puts so many women in the forefront of this narrative. There are, first of all, the "robust" Hebrew wives whose commitment to becoming mothers is both the power of Israel and the reason Egypt oppresses them. This culture whose women wage divine-maternity is destined to win the war no matter who or how powerful their oppressors are. And, while this may seem the Bible's own version of "the hand that rocks the cradle rules the world," Exodus, like the rest of the Bible, goes on to show that the women really do mean war, and that God is on their side. The humble hand that rocks the cradle rules not the world, but the Lord himself.

Second, there are the Hebrew midwives who cleverly sidestep Pharaoh's population control orders, and who are rewarded by God with large families of their own as a result, thereby doubly frustrating Pharaoh's program (Ex 1:21). There is also Moses' mother, whose civil disobedience to the culture that encourages sex-selective infanticide likewise gains her son's life, and thereby the eventual rescue of Israel from Egypt. There is Pharaoh's own daughter (perhaps symbolic of the Egyptian women as a whole not without motherly feelings but, unlike the "robust" Hebrew women, too delicate for the warfare of personal motherhood), who rescues, adopts, and names Moses as "drawn out" from the waters of the Nile that were killing the other Hebrew boys. Later, the wife of Moses, Zipporah, will likewise save him from certain death by wielding her own kind of sword (Exod 4:20). Finally, assimilating all of these roles of mother, wife, midwife, guardian, and warrior is Moses' older sister, "the virgin" (*ha'almah*) Miriam.³² The importance of Miriam's character is seen in that she surrounds the entire event of the exodus, appearing at the side of the Nile at the beginning of Moses' life, and then again on the far side of the Red Sea after Israel has passed through safely.

Miriam is first the great catalyst of all the unexpected good that comes to baby Moses. She watches over him floating in his little "ark" near where Pharaoh's daughter bathes, not simply to see what will happen to him, but, as becomes clear as the drama unfolds, to make sure *that* it happens. Before Pharaoh's daughter has a chance to hesitate over the crying baby discovered in the reeds, just at the moment when her first flush of womanly sympathy is on her and while everyone is watching, Miriam steps forward to offer her help, and to steer events in the best direction. She deftly secures her little brother's life and safety, restores him to his own mother as nurse-maid, manages

32 That Miriam was and remained unmarried seems fairly clear from the texts of the Pentateuch and the text from Micah 6:4 in which she appears, consistently, as a prophetic leader (Exod 15:20–21) under no husbandly authority. Rather, she is always portrayed together with her two brothers and almost on a parity with them. This is so much the case that God has to intervene at one point to put her and her brother Aaron in their subordinate places with respect to their younger brother Moses (see Num 12:1–5; 26:59). Notably, Miriam shares the designation "ha'almah" with only two other biblical women: the wife of the beloved, sacrificed son, Isaac, and the mysterious queen mother of Emmanuel in Isa 7:14. to get her mother paid wages for nursing her own (illegal) male child, and pulls all of this off in open contradiction of Pharaoh's explicit orders to kill the Hebrew boys (Exod 2:1–8). A remarkable piece of work for a young woman.

Miriam surpasses even her own rescue of Moses from the waters of the Nile, however, when she leads all the women of Israel in the great song of victory after their own iconic rescue from Pharaoh and the waters of the Red Sea (Exod 15:20-21). The sons of Israel sing with Moses, but then the women sing with Miriam. Only the first lines of her song are recorded, and they echo the opening lines of the song of Moses and the men (Exod 15:1), a song all about the victory of God over his (and their) enemies. The different singers, however, imply different realities: With Moses and "the sons of Israel," it is the ones "drawn out of the water" who sing, for it is the boys, not the girls, whom the Egyptians were throwing into the water in the beginning (Exod 1:22). With Miriam and the women, the group of those who sing is those who did the drawing out, those numerous individual mothers who bore sons, who worked to save the Hebrew boys from the waters, and those who did successfully draw out Moses-the one whom God would appoint to draw them all out definitively. And although Moses was God's chosen savior, Miriam, as leader of all the prophesying women, is thus singled out as the unique savior of the Lord's appointed savior.

Because Miriam is described at the beginning of her song as "prophetess," her singing also bears the character of both fulfilled and future-looking prophesy. The song's refrain of the Egyptians thrown into the *sea*, covered in the *sea*, sinking in the *sea* (Exod 15:1, 4–5, 9–10, 19), accents the prophetic fulfillment of Moses' first signs to Pharaoh—the serpent eats the serpents and the serpent-staff turns the water into blood. These three that give testimony—the serpent, the water, and the blood had prophesied that the watery serpent would be defeated by his own bloody aggressions. The Egyptians threw the Hebrew boys into the water—feeding the insatiable serpent. In the very act of trying to throw the whole nation into the Red Sea (a sea fittingly shaped like a serpent/dragon with its mouth open), the Egyptians are themselves thrown back into the waters by God's bait-and-switch, which thereby, at the last moment, hurls the minions of the serpent into the belly of the beast they serve. Satan is divided against himself and his kingdom will not stand; the Serpent has eaten his own serpents, and God's firstborn son goes free (Exod 4:22).

Star of the Sea

Although all victory is the Lord's, God and the narrative prefer to share, parceling out praise to God first, to Moses next, and then to the sons of Israel. But the last word on this defeat of the Serpent is given to the women of Israel and to Miriam in particular. And the very last word in Miriam's summarily reported song is a word that has occurred almost thirty times in the immediately preceding narrative (Exodus 14–15), and which is linked etymologically to her name, and therefore to her mission-the word for sea. Although we have used her name freely in telling the story throughout, the narrative of Exodus notably withholds her name entirely. Up to this point she is only "his sister" or "the maiden" (ha'almah) (Exod 2:4, 7, 8), but now at this climactic moment of victory over the sea she is Miriam. In Hebrew the verbal link between the one who sang-Mir-yam-and the theme of the song-the yam (= sea) (Exod 15:21) is no accident. Though it is the song of Moses and the song of all Israel, the song about the yam is uniquely the song of Mir-yam. Her name has given rise to many possible etymologies based on yam: Meor-yam: Luminary/Star over the Sea; Mari-yam: Mistress over

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the Sea; or even *Mar-yam: Bitterness [for] the Sea*,³³ any or all of which, on this reading, mean one veiled but fundamental reality: the victory of the exodus was, in a special way, the victory of *she* over the serpent of the sea.

This young virgin who saves the savior from death through her link with the daughter of Pharaoh, and who leads the women in praise to God for her victory is, with one exception, the only one to bear her name in the Old Testament.³⁴ The prophet Micah develops the meaning of her personality in the Old Testament, surprisingly, by indicating Miriam as a co-redemptrix alongside her law-giver and high-priest brothers whom God sent before the people to free them from Egypt. "I brought you up from the land of Egypt and redeemed you from the house of bondage, sending before you Moses, Aaron, and Miriam" (Mic 6:4). This final appearance of the name Miriam in the Old Testament may have played a part in making Micah the point-man for prophecy of the coming redeemer, since Micah is the one the scribes immediately turn to in Matthew's Gospel when Herod demands to know where the king of the Jews will be born. If we expand the passage the scribes read to Herod to include its context, the links to Miriam and the divine plan for the gospel of *she* become clearer:

O Bethlehem, Ephrathah, who are too little to be among the clans of Judah, from you shall come forth for me one who is to be ruler in Israel, whose origin if from of old, from ancient days. Therefore, he shall give them up until the time when she who is in travail has brought forth; then the rest of his brethren shall return to the people of Israel. (Mic 5:2-3)

³³ See, for example, the name "Mary" in the 1912 Catholic Encyclopedia. 34 The exception is an obscure Miriam buried in a genealogy of Judah by the Chronicler. She tends to support the rule, however, insofar as the Chronicler, as the iconography demands (nothing else does), links this Miriam likewise to the daughter of Pharaoh (1 Chron 4:17–18).

Directly after this formula citation from the prophet Micah, Matthew, as his inherited tradition of iconography requires, also makes sure you know that this first New Testament Miriam (M α pi α µ) relates to Egypt, carrying her savior down to Egypt, but this time inversely, to protect him from those in Israel who would kill him. Thus, this Miriam will likewise have the honor of helping to save her own savior from the powers of evil that seek to kill him. She goes to Egypt with him; she will draw him out again; she will go with him to Israel (Mat 2:15–21). Luke completes the portrait of the virgin Miriam victorious on the other side of the Sea when he shows us the virgin-mother of Jesus, the New Testament Miriam, being first to lead all the women of the new covenant in a prophetic hymn of praise to God her savior (Luke 1:47).

Conclusion: She is Wisdom

The additional members of the biblical litany of *she* yield similar fruit under similar scrutiny. Comparing it to a litany, however, is not to imply that it is a mere list, the members of which individually bear meaning and beauty.³⁵ Rather, as stories that

³⁵ Among other biblical women than those already named or alluded to above, there are Rahab, Ruth, the Levite's concubine (cf. Judges 19:27; 1 Sam 5:4), Hannah, and Tobit's Sarah, whose stories all add to this central biblical portraiture of the woman victorious over the serpent. Among significant objects, metaphors, and personifications used for their portrayal in the history of Israel, special importance is given to the ark of the covenant, the temple, and the city of Jerusalem, each of which, in some way "carry" God and, in the case of Jerusalem, are explicitly both mother (Psalm 87) and "virgin daughter Zion" (Lam 2:13) and frequently involved or personified in battle (e.g., 1 Samuel 5). Among prophetic intimations we find Isaial's great sign of "ha'almah," who births Emmanuel (Isa 7:14), and later, the virgin daughter Zion, who laughs Sennecharib to scorn as he is forced (by his head) away from his attack on her seed in Jerusalem (Isa 37:22, 29). Jeremiah's new-covenant "female encompassing Mighty-He" (Jer 31:22) likewise is she who is the true "queen of the heavens" (Jer 7:18; 44:17). Ezekiel's new visionary temple with its sealed gate, open

flow from the proto-gospel, they are all mothers, daughters, and sisters—responding to and developing that first good news. She and the Serpent are everywhere, the Bible is their one long battle, and she wins by crushing his head.

In closing, I will simply point out a final biblical iteration of this reality-Lady Wisdom-ubiquitous in the wisdom literature as the secret *she*, present with God before the material creation (Proverbs 8), who evades those not open to God's most creative idea, yet who is always behind the scenes saving her devotees from death (Wis 10:1-15; Sirach 24). Regarding this Lady, Charles DeKoninck's collection of essays entitled "Ego Sapientia: The Wisdom that is Mary"³⁶ illustrates this point Thomistically. For my purpose, little more need be said than simply reiterating what is meant by DeKoninck's chosen title: God's deepest wisdom, planned before creation (Eph 1:4), revealed before all time to his angels (Rev 12:1), then declared at the beginning of time to the head fallen angel (Gen 3:15), then realized in the fullness of time when "God brought forth his son made of a woman" to the song of the angels (Gal 4:4; Lk 2:13), is she. DeKoninck brings this trajectory from before the beginning to its logical, biblical, militant, maternal conclusion:

For him who is the very head of all evils, she who has received the fullness of power is *terrible as an army*

only for the prince to sit within eating divine bread, is linked with the image of Ezekiel's wife (cf. Ezek 24:16, 21; 44:1-3).

³⁶ Charles DeKoninck, "*Ego Sapientia*: The Wisdom that is Mary" in *The Writings of Charles DeKoninck*, vol 2, trans. and ed. Ralph McInerny (Notre Dame: University of Notre Dame Press, 2009), 1–48. It was a gratifying confirmation to find this work only after I had mapped out the entire Bible and written my way through from Genesis into the prophets Ezekiel and Daniel following the trail of the proto-gospel of *she*. I discovered that he had seen from the vantage point of Thomistic Philosophy, exercised on the Church's liturgical and devotional attributions about Mary, substantially the same truths I had discovered in the biblical data.

THE PROTO-GOSPEL OF "SHE"

drawn up for battle. "God has made and formed but one enmity," says St. Louis Marie Grignion de Montfort, "but irreconcilable, which will endure and grow even to the end." And in this enmity, it is the most humble Virgin, the sweetest of mothers, who will conquer. *She will crush your head.*³⁷

³⁷ DeKoninck, "Ego Sapientia," 41.

ST. THOMAS AQUINAS ON THE PLURALITY OF FORMS

David Arias

The principal question which I intend to address in this essay is this: How many forms are there in a man? Owing to the fact, however, that the name "form" has a number of meanings, it is possible to take this question in a number of ways. For example, since one of the meanings of "form" is shape, we might understand this question to be asking, "How many shapes are there in a man?" Taken thus, this question is relatively easy to answer. For while it is true that a given human person, such as Mr. Smith, can suffer certain changes in his overall shape by gaining or losing fifty pounds or by lifting weights, it is nonetheless plain that at any given moment he has only one overall shape. Further, while we may attend solely to the snubness in Mr. Smith's nose or to the curious roundness in his head and, in so doing, consider these to be different shapes, it is not difficult to see that here we are doing nothing more than dividing in our minds parts of an

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But the name "form" is not trapped in the fourth species of quality, for there is another more general meaning of this name that is inclusive of other kinds of qualities as well. By way of illustration, when we speak of Mr. Smith's whiteness, heaviness, health, and justice as "forms," we have this more general meaning in mind. In addition, this more general meaning of the name even includes within its universality accidents that are other than qualities. For we can speak of Mr. Smith's dimensive quantity and his fatherhood as "forms" that belong to him. If we are pressed to articulate what we have in mind when we say "form" of all of these different accidents in Mr. Smith, we can answer that here "form" means "that by which something is such" or "that by which a substance is in a certain respect." If we have this meaning of "form" in mind when we think of the question, "How many forms are there in a man?" then, again, the answer to this question is straightforward. For since we understand that all the aforesaid accidents can exist in Mr. Smith at the same time (and, moreover, since we see that some of these presuppose others, just as Mr. Smith's whiteness depends on his dimensive quantity), with this more general meaning in mind we must say that there are indeed many forms in a man at any given time. So, depending on our meaning of the name "form," we may respond to the question that we began with either with the answer "one" or with the answer "many."

Yet, in addition to the meanings of "form" just mentioned, the perennial philosophy teaches that one of the intrinsic principles and causes of natural substances, such as men, merits the general name "form" and the more specific name "substantial form." Accordingly, we can understand our question, "How many forms are there in a man?" to mean "How many substantial

forms are there in a man?" And it is precisely this understanding of the question which I will attempt to address here.

To inquire into the number of substantial forms present in a man is at once a more worthwhile pursuit and a more difficult one than to inquire into how many shapes or accidents there are in a man. It is more worthwhile since it is an inquiry which investigates the principles that constitute the very essence of the human person. As such, this inquiry goes well beyond the accidental order. This inquiry is also more difficult since, on the one hand, it must be settled by demonstrative arguments that have to do with the nature of man as such and since, on the other hand, there are a host of impediments to our answering this question correctly, some of which stem from our intellectual customs, and some of which stem from things themselves.

In what follows I will defend as true St. Thomas Aquinas' teaching that the essence of man cannot have more than one substantial form in it as a composing part and, thus, that every man under the sun has only one substantial form in him. To this end, this essay has four main parts. First, I will briefly review what a substantial form is and distinguish it from accidental form. Second, I will set forth several arguments that might incline us to think that there must be many substantial forms in a man. Third, I will present one of the arguments whereby the Angelic Doctor demonstrates that there is only one substantial form in man. And fourth, I will come back to the objections raised against St. Thomas's position and try to resolve them. Thereafter, I will conclude by offering some very brief reflections on a certain plurality of forms that can aid us in understanding the ultimate importance of this topic.

Part I: Two Kinds of Form

No adult human being who is in full possession of his

natural faculties can fail to understand that change is something real (Parmenides, Melissus, and Zeno notwithstanding). Additionally, none of us can fail to distinguish, at least in a confused way, between certain general kinds of change. To help us put our minds on two of the general kinds of change that we are all familiar with, let us recall the scene from the *Odyssey* wherein Odysseus, having arrived home disguised as a beggar, is accosted by the real beggar, Iros. Once it becomes clear to Odysseus that this confrontation is destined to end in blows, the "man of many ways" deliberates about precisely how much damage to inflict on his opponent:

At that time, much-enduring great Odysseus pondered whether to hit him so that the life would go out of him, as he went down, or only to stretch him out by hitting him lightly. And in the division of his heart this way seemed best to him, to hit him lightly, so the Achaians would not be suspicious.

(Odyssey, XVIII.90-94)¹

Here we see Odysseus deliberating about whether he should induce a substantial change in his opponent or merely an accidental change. The former would entail Iros's transformation into a corpse, while the latter would only entail Iros's temporary incapacitation for one reason or another. Notice too that each of these changes deliberated about is in some way two-fold. For the corpse of Iros cannot come to be without the man Iros ceasing to be. Likewise, Iros's face cannot come to be shaped in new way, as in fact happens in the story, without simultaneously ceasing to have its old shape.

We have just distinguished two different kinds of becoming, or coming to be. Let us briefly think about them in order

¹ Homer, *The Odyssey*, tr. Richmond Lattimore (New York: Harper Collins, 1975), 272.

to see what they have in common as well as to see some ways in which they differ. At this point I am going to change the examples so that we can have our minds on things that are at once more helpful and more edifying. As our example of becoming in the accidental order (which I shall henceforth term "accidental becoming") let us imagine a cube of clay which, by being rolled on a flat surface, becomes a clay sphere. And let's take as our example of becoming in the order of substance (what I will hereafter call "substantial becoming") the case of human reproductive cells becoming a man.

Now, whenever a clay cube becomes a clay sphere, a substance (i.e., clay) changes from lacking the form of a sphere to having that same form in itself. But if we think about accidental becoming in general and bear in mind that the name "form" is also predicable of accidents outside of the fourth species of quality, then it is not too difficult to understand that in every accidental becoming some substance changes from lacking a certain form to having that same form in itself. The converse of this statement is true as well. That is, whenever some substance changes from lacking a certain kind of form (i.e., an accident of some kind) to having that same form in itself, the change in question is an accidental becoming.

In the case of human reproductive cells becoming a man, we observe, as we did in the case of the clay, that there must be some subject or material which undergoes this change. In other words, when the reproductive cells become a man, some subject, or material, changes from lacking what we might call "the form of a man" to having that same form in itself. That there is some subject or material is manifest from the fact that human reproductive cells are required in order for a man to come to be. But what exactly is this subject or material that becomes a man?

Certainly this subject cannot be an actually existing substance. For if it were, then the substantial becoming that we are considering would not be substantial in nature. Yet, if the subject were nothing at all, then our substantial becoming would not be a becoming, since every becoming is a change and every change requires a subject that is changing. Now, the only thing that stands midway between an actually existing substance and the non-being thereof is the ability, or potential, to be a substance. In order to explain the reality of substantial becoming, then, we must hold with Aristotle and St. Thomas that the subject or material in this sort of becoming is nothing other than the ability or potential to be a substance. Now, this strange creature that we are presently thinking about often goes by the name "first matter," because, as St. Thomas says, "there is no other matter before it."²

It is apparent, then, that when a man comes to be from human reproductive cells, first matter changes from lacking the form of a man to having that same form in itself. And generally, we can say that in every substantial becoming first matter changes from lacking the form of a certain substance to having that same form in itself.

At this point, one profound difference between accidental becoming and substantial becoming is already manifest. For the subject of the former is always some actually existing substance, while the subject of the latter is nothing other than the ability or potential to be a substance (a.k.a. first matter). But a second profound difference goes along with this first one. We observed above that the form at which every accidental becoming terminates is an accident, or what we may now call an "accidental form." By contrast, the form at which every substantial becoming terminates cannot be an accident, since accidents can be only in substances and, as we just saw, the subject of substantial becoming is not a substance. Rather, the form that terminates a substantial becoming must be a more fundamental kind of

² St. Thomas Aquinas, De principiis naturae, chapter 2.

formal principle than an accidental form. For it must be a formal principle whereby a substance is made to be a substance in act simply speaking. Naturally, this kind of form, which together with first matter constitutes an actually existing substance, is what is traditionally known as a "substantial form."

St. Thomas summarizes well some of these points in the following text:

But just as everything that is in potency can be called "matter," so everything by which something has being, whatever being it be, whether substantial or accidental, can be called "form." Thus, when a man is white in potency, he becomes white in act through whiteness, and a sperm, when it is a man in potency, becomes a man in act through the soul. And because form makes [some-thing] to be in act, therefore, form is called "act." But that which makes substantial being to be in act is "substantial form," and what makes accidental being in act is called "accidental form."³

In addition to reinforcing what we have established, this text also helps us to grasp more distinctly that each of the two kinds of form stands to its respective subject or matter as act stands to passive ability, or passive potency. Thus, we can say that as substantial form is to first matter so is act to potency, and as accidental form is to substance so is act to potency. At the same time, we should bear in mind that the act-potency composition of substantial form and first matter is a more fundamental composition and is in fact presupposed by the act-potency composition of any accident and the material substance in which it inheres.

Part II: Three Arguments in Favor of Pluriformism Insofar as we conceive of man as the product of substantial

³ Ibid., chapter 1.

becoming, we must likewise conceive of him as a substance composed of a substantial form and first matter. Now as good scientists, we know that we are prohibited from multiplying causes without necessity. This admonition, of course, applies to every genus of cause. Accordingly, we must not think that there are many substantial forms in the essence of man unless there is enough evidence to force us to this conclusion. Yet, as I shall attempt to show presently, there are many things that are studied at Thomas Aquinas College that, if thought about in certain ways, might incline us to think that pluriformism is in fact true, that is, that more than one substantial form is needed to constitute what man is. Here are three arguments in favor of pluriformism that take their beginnings from various things studied at Thomas Aquinas College:

Argument #1: Pluriformism is Implied by Cell Theory

If we think of certain wholes that are put together from their parts, such as basketball teams and armies, what unites them or causes them to be undivided in themselves is a certain order existing amongst their parts. There is an order existing amongst the players on the basketball team insofar as they play different positions, and all the players are together ordered to their coach as to their leader. In a similar way, the soldiers in the army are ordered both to each other and to their general. The kind of undividedness by which these sorts of entities are called one is commonly called "the unity of order." It differs somewhat from what is called "the unity of order and composition." Chairs and bicycles are two examples of things having this latter kind of unity. For in addition to their parts having a certain order to each other, these same parts are physically joined or interlocked somehow. Now according to two of the pioneers of cell theory, namely, Theodor Schwann and Rudolf Virchow, multicellular

organisms such as men have either a unity of order or, at best, a unity of order and composition. Schwann puts before our minds this proportion: as a single bee is to a swarm of bees, so is a single cell to the whole organism of which it is a part.⁴ And Virchow has this to say: "the structural composition of a body of considerable size, a so-called individual, always represents a kind of social arrangement of parts, an arrangement of a social kind, in which a number of individual existences are mutually dependent "⁵

Now, it is important to understand that these cell theorists do not hold to this conclusion without reason. For they observe through experimentation that when individual cells are separated from an organism, such as a man, these cells have their own individual lives, as well as certain activities that are proper to them. Put more formally, their argument seems to be as follows: whatever belongs to each of the cells of an organism when separated from the organism also belongs to the same cells when they are part of the organism. But independent life belongs to each of the cells of an organism when separated from the organism. Thus, independent life belongs to each of the cells of an organism when they are part of the organism. Now, if this syllogism is sound, then, since the cells which compose an organism, such as a man, are themselves generable and corruptible, each cell which composes an organism, such as a man, must have its own substantial form. Thus, there must be in a man as many substantial forms as there are cells and, therefore, it is evident

⁴ See Theodor Schwann, "The General Cell Theory," from *Mikroskopische Untersuchungen über die Übereinstimmung in der Struktur und dem Wachstum der Thiere Und Pflanzen* (Berlin, 1839), translated by H. Smith as *Microscopical Researches into the Accordance in the Structure and Growth of Animals and Plants* (London, 1847); taken from *A Source Book in Animal Biology*, ed. T. Hall (New York: Hafner Publishing, 1964), 443–447.

⁵ Rudulf Virchow, "Cells and the Cellular Theory," in *Cellular Pathology* (Pathological Institute of Berlin, 1858; available from Andesite Press, 2017).

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that cell theory implies that pluriformism is true.

Argument #2: Pluriformism is Implied by the Definition of the Soul

From what was established in the first section it seems to follow that every matter is really distinct from any form which is in it. Think back to the clay example. The clay is really distinct from both the form of a cube and the form of a sphere, since it is separable, in turn, from each of them. But the same could be said regarding any other shape that can be in the clay. Hence, the clay is really distinct from any shape that is in it. And perhaps one could argue similarly regarding any other substance and the accidental forms that inhere in it. But the same is also clearly true of first matter and substantial form. For, from our considerations above, it is evident that first matter is really distinct both from the substantial forms of the human reproductive cells and from the substantial form of a man, since it is separable, in turn, from each of them. And first matter could similarly be shown to be distinct from any other substantial form that can be in it. Therefore, since substance and first matter are the only kinds of matter that there are, we can say universally that every matter is really distinct from any form that is in it.

Now, we learn from the first two chapters of the second book of Aristotle's work, *On the Soul*, that the definition of soul in general is the first actuality of an organized natural body having life potentially.⁶ Furthermore, we learn from these chapters not only that the soul is the substantial form of the organized natural body that it vivifies, but also that it stands to this same body as form stands to matter. Therefore, given what was just established above, it follows that the organized natural body, which is the matter in which the soul exists, is really distinct

⁶ See especially On the Soul 2.1, 412a20-b5.

from the substantial form, which we call the soul. But if this is so, then just as clay has its nature as clay apart from the cubicalness or sphericalness that is in it, and just as first matter has its purely potential nature apart from any substantial form in it, so too the organized natural body, which is the subject or matter in which the soul inheres, has its nature as an organized natural body apart from the substantial form that is the soul. But if this is so, then there must be in man at least two substantial forms, one that is his soul and one whereby his body is an organized natural body. Therefore, the definition of the soul implies that pluriformism is true.

Argument #3: Pluriformism is Implied by the Coming to Be of a Man

If there is only one substantial form in man, then whenever a man comes to be from human reproductive cells first matter must be stripped of every form in it in order that the human substantial form may be introduced immediately into first matter. This consequence of St. Thomas's teaching on substantial form is referred to by the great Thomistic commentators as the *resolutio seu denudatio omnis formae usque ad materiam primam* (that is, the resolution or stripping of every form all the way to first matter). Further, St. Thomas himself recognizes that this is a consequence of his teaching on substantial form. For he writes,

I say that with the coming of the human soul the substantial form that was in the matter beforehand is destroyed; otherwise generation would be without the corruption of another, which is impossible. . . . And the accidental forms that were in matter beforehand disposing it to the reception of the soul are indeed corrupted, not *per se*, but *per accidens* with the corruption of their subject.⁷

⁷ Quaestiones quodlibetales I, q. 4, a. 1.

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However, it is manifestly contrary both to our sense experience and to what we know by reason that such a resolution of every form takes place when human reproductive cells become a man. To see that such a resolution of form is contrary to our sense experience, let us recall what we do and do not observe under the microscope when we witness the unification of sea urchin reproductive cells and the first cell division. Assuming that the sea urchin reproductive cells become a little sea urchin at some point before the first cell division, no one claims, to my knowledge at least, that during this time he witnessed any resolutio usque ad materiam primam. On the contrary, most who have witnessed the fertilization of a sea urchin egg seem to be struck by how much remains constant during the transition from the unfertilized egg stage to the zygote stage. Indeed, the same basic bodily dimensions and structure seem manifestly to perdure from the one stage to the next. Thus, it seems plain to the senses that the sea urchin substantial form must simply be superadded to a subject or matter that is already formed by some other substantial form or forms. But the same case from sense experience could be made regarding a man's coming to be from human reproductive cells. Thus, it seems that in man as well there must be a plurality of substantial forms.

In addition, it also seems contrary to reason that the aforesaid resolution should take place when the substantial form of a man is introduced into first matter. For let it be that such a resolution of every form does take place. From this it follows that the substantial form of a man is introduced into first matter despoiled of every form. But, as St. Thomas explicitly teaches, first matter considered in this way "has itself indifferently to all forms."⁸ As a result, when the substantial forms of the human reproductive cells are expelled from first matter, there is no more reason why the substantial form of a man should be introduced

⁸ Quaestiones disputatae de spiritualibus creaturis, a. 3, ad 20.

into first matter than the substantial form of a horse or of an oak tree. Yet this consequence is clearly absurd. For this matter consistently becomes a human person, not a horse, oak tree, or any other kind of substance. Thus, we must reject the claim that a *resolutio usque ad materiam primam* takes place whenever human reproductive cells become a man. But if no such resolution takes place, then the substantial form of a man informs a subject or matter still formed by some other substantial form or forms. Therefore, the coming to be of man implies that pluriformism is true.

Part III: St. Thomas Aquinas's Teaching on the Unicity of Man's Substantial Form

In this section I shall present one of the many arguments whereby St. Thomas demonstrates that there cannot be more than one substantial form in a man. Thereafter, I shall attempt to explain and defend as true some of the premises that might seem somewhat questionable. The argument I would like to focus on is from the *Summa contra gentiles* and it runs thus:

Something has being and unity from the same [principle], for one follows being. Since, therefore, each thing has its being from form, it will also have its unity from form. Thus, if many souls are posited in man as diverse forms, man will not be one being, but many beings. Nor will an order of forms be enough to bring about the unity of man. For to be one according to order is not to be one simply, since the unity of order is the least of unities.⁹

9 Summa contra gentiles, Bk. 2, ch. 58, n. 5: "Ab eodem aliquid habet esse et unitatem: unum enim consequitur ad ens. Cum igitur a forma unaquaeque res habeat esse, a forma etiam habebit unitatem. Si igitur ponantur in homine plures animae sicut diversae formae, homo non erit unum ens, sed plura. Nec ad unitatem hominis ordo formarum sufficiet. Quia esse unum secundum ordinem non est esse unum simpliciter: cum unitas ordinis sit minima unitatum."

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Now in order to make completely explicit some of the statements that St. Thomas has left implicit here, I believe it is possible to reformulate this argument, or series of arguments, as follows:

- 1. Whatever is a principle of being is also a principle of unity (for one follows being).
- 2. But substantial form is a principle of being.
- 3. Hence, substantial form is also a principle of unity.
- 4. So, whatever has many substantial forms in itself has many principles of being and of unity in itself.
- 5. But whatever has many principles of being and of unity in itself is not one being, but many beings.
- 6. Hence, whatever has many substantial forms in itself is not one being, but many beings.
- 7. Thus, if man has many substantial forms in himself, he is not one being, but many beings.
- 8. But man is one being.
- 9. Therefore, man does not have many substantial forms in himself.

After arriving at this final conclusion, St. Thomas seems to bring up an implicit objection and then responds to it. The objection seems to go something like this: If we posit that the many substantial forms in man are ordered (e.g., such that one is subordinated to another), then man would be one being insofar as he would have the unity of order within himself. In response to this, St. Thomas points out that this is insufficient to account for the unity proper to man. For whatever merely has the unity of order, such as a basketball team, has the least sort of unity, whereas man is one simply speaking.

It seems to me that there are two premises in this reformulated version of St. Thomas's argument that merit our attention. The first is the claim that whatever has many substantial forms in itself is not one being, but many beings (line 6), and the second is the statement that man is one being (line 8).

The first of these premises (i.e., line 6) might not seem necessarily true. For just as one might have a thousand thin fibers each of which is insufficient for pulling a car, but all of which united together in one strong rope constitute something that is able to pull a car, so too it seems conceivable for there to be many very imperfect substantial forms in a thing that could come together in their causality to jointly constitute one complete and perfect principle of the being and unity in the thing in question. Now, if this is a real possibility, then perhaps one could posit a plurality of substantial forms in man without the unhappy consequence of him becoming a bundle of beings accidentally united to each other.

While this objection might initially sound plausible, it ultimately fails to understand what the name "substantial form" means when it is used in the aforesaid premise. In the following text St. Thomas himself helps us to understand more distinctly the nature of the principle that the name "substantial form" signifies:

Substantial form differs from accidental form in this: a substantial form makes a "this something" to be simply, but an accidental form comes to what already is a "this something" and makes it to be such, or how much, or having itself somehow. If, therefore, there were many substantial forms of one and the same thing, either the first of these would make a "this something" or not. If it does not make a "this something," then it is not a substantial form. But if it does make a "this something," then all of the consequent forms will come to what already is

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a "this something." Thus, none of the consequent forms will be a substantial form, but rather [all will be] accidental forms.¹⁰

From this we see that every substantial form, no matter how lowly or imperfect, is as such a formal principle whereby a 'this something' has substantial being. Put differently, every substantial form is of itself sufficient, when united to first matter, to constitute some essence or nature through which something subsists. But given this understanding of substantial form, it must be true that whatever has many substantial forms in itself is not one being, but many beings, since whatever has two or more substantial forms in itself also is two or more "these somethings," each of which subsists through its own distinct essence or nature. Thus, the above objection fails.

Now, the other premise from St. Thomas's demonstration that merits our attention holds that man is one being as opposed to many beings (line 8). Perhaps this premise, more than any of the others, appears questionable, if not downright false. For have not the biologists, such as the cell theorists mentioned above, conclusively shown that man is nothing more than a swarm of living substances that we commonly call "cells"? Or worse, have not the physicists conclusively shown that man is nothing more than a swarm of sub-atomic particles, kind of like a bundle of billions of microscopic fireflies, rushing about at great speeds in the darkness of empty space? Despite what some think the biologists and physicists have established, I maintain that we

10 *Compendium theologiae*, chapter 90: "Forma enim substantialis in hoc differt ab accidentali, quia forma substantialis facit esse hoc aliquid simpliciter; forma autem accidentalis advenit ei quod iam est hoc aliquid, et facit ipsum esse quale vel quantum, vel qualiter se habens. Si igitur plures formae substantiales sint unius et eiusdem rei, aut prima earum facit hoc aliquid, aut non. Si non facit hoc aliquid, non est forma substantialis. Si autem facit hoc aliquid, ergo omnes formae consequentes adveniunt ei quod iam est hoc aliquid. Nulla igitur consequentium erit forma substantialis, sed accidentalis."

can know with certitude that man is one being and not many beings. In order to help defend this claim, I shall enlist the help of Charles De Koninck, a well-known disciple of St. Thomas.

In "The Lifeless World of Biology,"¹¹ and other essays as well, De Koninck makes the all-important point that we would be incapable of distinguishing the living from the non-living were it not for our reflective awareness of ourselves as beings that touch, taste, smell, hear, see, move ourselves from here to there, and so on. But the very same point must be made as regards our ability to distinguish a genuine individual substance from a multitude of substances having merely a unity of composition and/ or order. In other words, it is through my reflective awareness of myself as subsistent being who, despite having many different kinds of parts, am undivided in myself *and* divided off from other things around me, that I am able to know with certitude that each other human person whom I encounter is an individual substance and not merely a huge pile of swarming cells or, worse, a massive swarm of lifeless subatomic particles.

In another text De Koninck points out that it is in large part through our most basic, yet most certain sense—namely, that of touch—that each man experiences his undividedness in himself and division from other things:

Touch is the sense of substance. I do not mean by this that substance is *per se* sensible, but if there is a sense by which we feel ourselves within ourselves and distinct from other things about us, surely it is the sense of touch. I begin down there and end up here. It is because of touch that I feel my hand belongs to me. Of the parts of myself that I could merely see, I cannot "feel" with equal certitude that they belong to me, though I am confident that

¹¹ Charles De Koninck, *The Hollow Universe* (Quebec: Les Presses De L'Université Laval, 1964), 79–114.

they may be quite essential.¹²

Further, De Koninck has this to say regarding how every man comes to recognize in his neighbor a unitary being like himself:

I am conscious of my vital activities: I think, I will, I sense, I raise my arm, I speak, I walk, etc. These activities are mine, I am the principle. But these activities involve objectively observable signs which I connect directly with the activities. But when I find elsewhere similar signs quite independent of the observable signs of my own activities, I attribute them—for they are signs—to a life other than mine, to another subject.¹³

Now, if it is so easy to know that every man is one being and not many beings, why would anyone, especially scientists, fail to grant what is evident from experience? A brief partial answer is simply that some students of nature have some bad intellectual habits or customs that inhibit them from listening to what nature would teach them. Some, for example, are in the habit of attending more to certain imaginary models of natural things than to natural things themselves. Some habitually fail to understand that our reflective awareness of ourselves and our operations puts us in contact with real objects just as much as do our sensations of objects outside of ourselves. Along these

¹² *Idem*, "Sedeo, ergo sum," *Laval Théologique et Philosophique* 6 (1950): 346. 13 *Idem*, "The Cosmos," *The Writings of Charles De Koninck*, vol. 1, tr. and ed. Ralph McInerny (Notre Dame, IN: University of Notre Dame Press, 2008), 270–271. The following text from St. Thomas is also relevant here: "Quantum ... ad actualem cognitionem, qua aliquis se in actu considerat animam habere, sic dico, quod anima cognoscitur per actus suos. In hoc enim aliquis percipit se animam habere, et vivere, et esse, quod percipit se sentire et intelligere, et alia huiusmodi vitae opera exercere. .. Nullus autem percipit se intelligere nisi ex hoc quod aliquid intelligit: quia prius est intelligere aliquid quam intelligere se intelligere; et ideo anima pervenit ad actualiter percipiendum se esse, per illud quod intelligit, vel sentit" (*De veritate*, q. 10, a. 8).
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same lines, Marcus Berquist, one of the late founders of Thomas Aquinas College, makes the following comment:

The imagination can only represent a complex (explicitly) as an actually divided multitude, and cannot at once also represent it (if indeed it ever can) as a single being with its own unique integrity. To the extent, then, that the naturalist resolves his arguments to the picture in his imagination, he can never regard the composite as anything other than an arrangement of distinct entities.

But if one looks back beyond these imaginary representations, and consults the direct experiences which stand at the beginning of natural philosophy, quite a different reality comes into view. We then see that the very concept of individuality arises from our internal experience of unity. (In ordinary usage, "an individual" means "an individual man".) This experience does not arise in spite of the distinction and spatial separation of our bodily parts, but in our very experience (i.e., sensation) of these bodily parts. For they are perceived as parts, as we experience various passions within them. And this internal experience of them as parts fits with our external experience that they come to be as parts. There is a perfect harmony between what one experiences in oneself (and in others, by signs) and what one observes in the coming to be and passing away of others.¹⁴

Now, in claiming here that the cell theorists and others like them labor under some bad intellectual customs, I am in no way denying that the biologists, physicists, and other experimental scientists have many worthwhile things to say about the kind of heterogeneous whole that man is. Quite the contrary. For

¹⁴ Marcus R. Berquist, "Regarding Substance and Substantial Form," in *Learning and Discipleship: The Collected Papers of Marcus R. Berquist*, ed. Anne Forsyth (Santa Paula, CA: Thomas Aquinas College, 2019), 359–360.

despite the great certitude that, thanks to our common experience, we all have our own unity and that of our fellow men, this same common experience also leaves us in profound ignorance about many details of the heterogeneity of our own bodies. In addition, although every man grasps quite readily that his stomach is in him the way a part is in a whole while his dinner is in his stomach the way a thing is in a place, no man would ever know, were it not for the experimental sciences, about the many different kinds of microscopic living beings that make their home in him. As one Stanford University microbiologist puts it, "[e]ach of us is . . . both an organism and a densely populated ecosystem, with habitats harboring species as different from one another as the animals in a jungle and a desert. Even the resident microbes in the gum pockets of your teeth can vary greatly ... "15 My main point here, then, is this: just as we know for sure that the principle, "every whole is greater than its part," can only be supported by, and never falsified by discoveries that are yet to be made about the constitution of bodies in the Alpha Centauri system, so too we know for sure that every genuine discovery of the experimental sciences can only verify and never falsify those things that are truly given to us from our common experience, such as our understanding that every man is one being and not many beings.

Returning now to St. Thomas's argument from the *Summa* contra gentiles, we have seen that the premise "whatever has many substantial forms in itself is not one being, but many beings" is true. But from this it follows that if man has many substantial forms in himself, then he is not one being, but many beings. But, as we have just observed, it is manifest that the other premise, "man is one being," is also true. Therefore, St. Thomas's conclusion that "man does not have many substantial forms in

¹⁵ Nathan Wolfe, "Small, Small World," *National Geographic* 223, no. 1 (January 2013): 140.

himself" must be true.

Having arrived at this point, we should briefly note that our understanding of what man's substantial form effects in him has increased considerably. For before we spoke of man's substantial form as that formal principle in him whereby he is a substance in act. But knowing now that there is and can be only one substantial form in man, we must maintain with St. Thomas that

through the substantial form that is the human form this individual is not only a man, but also an animal, a living thing, a body, a substance, and a being. And, thus, no other substantial form in this man precedes the human soul and, consequently neither does any accident. For then it would be necessary to say that matter is perfected by an accidental form before a substantial form, which is impossible, since every accident is founded in substance.¹⁶

Part IV: Replies to the Arguments in Favor of Pluriformism

#1: Reply to the Objection from Cell Theory

Schwann and Virchow inferred the conclusion that organisms such as men are merely aggregates of many independently living cells from the fact that these same cells manifest independent lives when they are separated from the said organism. But this is no necessary inference. For if a man with the proper skill and tools were to derive fifty oaken two-by-fours from a large oak tree, no one would reasonably conclude that there were fifty distinct two-by-fours actually present inside the oak tree prior to their removal. Rather, since we all naturally judge the oak tree to be one being, we also all naturally think that the said two-byfours are only potentially present in the oak tree prior to it being up divided into them.

¹⁶ Quaestiones disputatae de spiritualibus creaturis, a. 3.

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Now, what applies to the oak tree applies *a fortiori* to the case of man. For we saw above that every man is one being from head to toe and that there is only one formal principle in every man by which he has both his substantial and specific being. Adding to this, the Angelic Doctor teaches,

substantial form is not only the perfection of the whole body, but also of every part of the body. For, since the whole body consists of its parts, a form of the whole body that does not give being to the individual parts is a form that is composition and order, as is the form of a house. And such a form is accidental.¹⁷

Thus, we must maintain that, prior to its separation from him, every cell in a man is one in being with him and has both its substantial and specific being from his single substantial form just as do his macroscopic parts, such as his heart, lungs, and hands. From this we readily see that whenever a cell is separated from a man, it thereby becomes its own substance and, hence, acquires its own substantial form. Yet, unlike the way in which the twoby-fours potentially exist in the oak tree, the living substances that we call "separated human cells," and their corresponding substantial forms, pre-exist in a man, as St. Thomas sometimes puts it, *in potentia propinqua actui* (i.e., in potency close to act), and it is for this reason that a fewer number of steps are needed to separate cells from a man than to derive two-by-fours from an oak tree.¹⁸ But be that as it may, these remarks suffice to show

¹⁷ Summa theologiae, I, q. 76, a. 8.

¹⁸ See, for example, the following text: "Quamvis enim omnes partes sint in potentia, tamen maxime poterit aliquis opinari partes animatorum et partes animae esse propinquas, ut fiant actu et potentia, idest ut sint in potentia propinqua actui. Et hoc ideo, quia corpora animata sunt corpora organica habentia partes distinctas secundum formam; unde maxime sunt propinqua ad hoc quod sint actu. Et hoc ideo quia habent principium motus ab aliquo determinato, cum una pars moveat aliam. Sicut patet in iuncturis, in quibus

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that the actual experimental findings of cell theory in no way require pluriformism.

#2: Reply to the Objection from the Definition of the Soul

From the above it is clear that it is through man's substantial form uniting with first matter that man's being is constituted. This effect of the union of man's two essential principles is one in reality. Nonetheless, this same effect, namely man's being, is often divided by the mind into diverse levels of substantial perfection (i.e., being substance, being body, being alive, being sentient, and being rational). Accordingly, man's one substantial form can be viewed either as the formal principle that gives man's being to the composite *or* as the formal principle that gives many diverse levels of substantial perfection to the composite in a certain order. Considering man's substantial form in this second way, St. Thomas writes, "in a certain way one and the same form, insofar as it constitutes matter in act at a lower level, is between matter and itself, insofar as it constitutes matter in act at a higher level."¹⁹

Now if something similar to this can be said about every substantial form that can rightfully bear the name "soul," then St. Thomas's teaching enables us to make the following two points

videtur esse principium motus alterius partium coniunctarum, cum contingat unam moveri, alia quiescente, ut dicitur in libro de motibus animalium" (*Sententia Metaphysicae*, bk. 7, lec. 16, n. 4). This text too is instructive on the point at hand: "Hic philosophus manifestat quod superius sub dubitatione reliquit: scilicet quomodo aliqua substantia componatur ex partibus; cum supra ostenderit, quod substantia non potest componi neque ex passionibus, neque ex substantiis actu existentibus. Et ideo hic ostendit, quod partes, ex quibus componuntur substantiae, non sunt substantiae actu existentes, sed potentia; dicens, quod cum supra dictum sit, quod quaedam sunt quae ab omnibus existimantur substantiae esse, scilicet substantiae sensibiles, et partes earum, manifestum est, quod plurimae huiusmodi substantiarum sunt in potentia, et non in actu; ut patet de partibus animalium, et de omnibus aliis partibus" (*Ibid.*, n. 1). 19 *Quaestiones disputatae de anima*, a. 9.

about how to understand the definition of soul. First, when we state that the soul is the first actuality of an organized natural body having life potentially, we must hold not only that the soul is the principle of certain vital operations, such as seeing, hearing, growing, and the like, to which it stands as first actuality to second actuality, but also that it is the one substantial form through which its proper matter is a natural body, is organized, and is capable of life.

Second, the definitions of actualities and forms admit of two kinds. Sometimes these definitions contain the subject of the actuality or form, but the subject is understood as unformed by the actuality or form being defined. Examples of this would be when we say that motion is the act of the potential as such, or when we say that heat is the act of what is able to be hot. Other times definitions of these things contain the subject of the actuality or form, but the subject is understood as already formed in some way by the actuality or form being defined. In this way we sometimes define motion as the act of the mobile, or heat as the act of the hot body. With this second way of defining a form in mind, we can say not only that it is through heat that the hot body is hot, but also that it is through the soul that the organized natural body having life potentially is such.²⁰

Accordingly, the second objection in favor of pluriformism does not make its case, since it fails to understand that one and the same substantial form can be conceived of as giving diverse levels of substantial perfection to first matter in such a way that each lower level is understood to be material with

²⁰ On this distinction, see St. Thomas's *Quaestiones disputatae de anima*, a. 1, ad 15: "Ad decimumquintum dicendum quod in definitionibus formarum aliquando ponitur subiectum ut informe, sicut cum dicitur: motus est actus existentis in potentia. Aliquando autem ponitur subiectum formatum, sicut cum dicitur: motus est actus mobilis, lumen est actus lucidi. Et hoc modo dicitur anima actus corporis organici physici, quia anima facit ipsum esse corpus organicum, sicut lumen facit aliquid esse lucidum."

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respect to the one directly above it. And, thus, the proper matter or subject in which the soul inheres has its formation from the substantial form, which is none other than the soul itself.

#3: Reply to the Objection from the Coming to be of a Man

This objection denied that a resolution of every form all the way to first matter takes place whenever a man comes to be, on the grounds that such a resolution is contrary both to our sense experience and to reason. Regarding the former, recall that the objector noted that during in-vitro fertilization the unfertilized egg and the zygote immediately after fertilization have perceptibly the same basic bodily dimensions and structure. Yet, this objection fails to make a necessary and key distinction. To make this clear, let us look to the other end of life.²¹ If a Russian videographer were to videotape the death of Ivan Ilvich, he would tell us that Ivan and his corpse immediately after death have perceptibly the same basic bodily dimensions and structure. But then a most important question arises: Are Ivan's dimensions and shape numerically the same or only specifically the same with those of his corpse? Clearly, they cannot be numerically the same, since numerically distinct substances have numerically distinct accidents, and Ivan and his corpse are numerically distinct substances. Just as Mr. Smith's paleness must differ in number from Mrs. Smith's paleness, even if their distinct palenesses have exactly the same hue, so too with Ivan's accidents and those of his corpse.

Accordingly, if the transformation of the unfertilized egg into the zygote is really a substantial becoming, as the objector himself grants, then we must maintain that the bodily dimensions, and the structure of the substance that ceases to be, truly

²¹ Here we focus on the other end of life because the death of a human person is easier for us to experience, and, accordingly, is in some sense more known to us than the coming to be of a human person.

differ in number from those of the substance that comes to be. For the dimensions and structure of the unfertilized egg flow from its substantial form just as those of the zygote flow from its substantial form. Further, just as no violence is done to what we are given in sense experience when we recognize that Ivan's accidents and those of his corpse are only specifically the same, the same is true of this other case as well. Indeed, it should not surprise us that here the understanding, informed by sense experience, grasps a difference that the senses by themselves are unable to detect.

Turning to the second part of the objection, there is nothing against reason in positing, on the one hand, that the substantial form of a man is introduced into first matter despoiled of every form and, on the other hand, that first matter thus conceived can be said to be more receptive of one substantial form than of another. To make this clear, two points will have to suffice here.

The first point is that when we think about the instant in which a human substantial form is introduced into first matter. it is easy for us to be led astray by our imaginations. For we may easily imagine that in one instant first matter is stripped of the substantial forms of the human reproductive cells, and that in the very next instant first matter receives the substantial form of a man. But if we imagine things thus, we commit at least two errors. First, we posit that one instant, or "now," of time can be contiguous with another, which is impossible. Second, we posit that first matter can exist at least for an instant without a substantial form. But this too is impossible. In contrast to this, then, we must hold that it is in the very same instant that man's substantial form is introduced into first matter and that the forms of the human reproductive cells cease being in first matter. Thus, one and the same instant is both the first instant of the being of the man and the first instant of the non-being of the human reproductive cells.

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Second, we can add to this by noting, with various disciples of St. Thomas, that it is one thing to speak of first matter stripped of every form absolutely, and quite another to speak of first matter in the very instant in which the human substantial form is introduced into it, inasmuch as it is now despoiled of every form that was in it during the time prior to that instant. When St. Thomas states that first matter stripped of every form "has itself indifferently to all forms," he is speaking only of the former, not of the latter. For to conceive of first matter stripped of every form absolutely is to leave out of one's consideration everything except the bare essence of first matter. And, so, first matter conceived of in this way is no more disposed to receive the substantial form of a man than the substantial form of a horse or of an oak tree. On the contrary, to conceive of first matter in the very instant in which the human substantial form is introduced into it inasmuch as it is now despoiled of every form that was in it during the time prior to that instant, is to conceive of first matter insofar as it is fully disposed both by some natural agency and by the human substantial form itself, to receive a level of substantial perfection that it did not have prior to this instant. Whence, immediately after stating that first matter stripped of every form "has itself indifferently to all forms," the Angelic Doctor adds, "but first matter is determined to specific forms through the power of the moving cause."²² And, so, from the foregoing, we see that there is nothing contrary either to our sense experience or to reason in maintaining that the substantial becoming of a man involves a resolutio omnis formae usque ad materiam primam.

Although much more could be said in response to each of these objections, it seems to me that what has been said is sufficient to show that none of these objections, as stated, succeeds in

²² *Quaestiones disputatae de spiritualibus creaturis*, a. 3, ad 20.

showing that pluriformism is in fact true. Rather, the fact that St. Thomas's teaching on substantial form is rich enough to enable us to undo all these objections is perhaps a further sign of the truth of this teaching.

Conclusion: Another Plurality of Forms

At the outset of this essay, I observed that the name "form" is first said of accidents and is only later said of that intrinsic principle and cause that, together with first matter, constitutes the "what it was to be" of material substances. But this is not the end of the trajectory of the name "form." For, as St. Thomas makes clear, this name can also be said of those substances that have no matter in themselves and that can never be in matter the way man's form can be. These separated substances are none other than the angels. Lastly, "form" can even be said of the Uncreated One, that is, God Himself. And it is through understanding what we have been considering here in light of *this* plurality of forms, that is, in light of the angels subordinated to God, that we can see something of the ultimate importance of the unicity of man's substantial form.

It is obvious to all of us that the natural world in which we live is hierarchically ordered. But what is not so obvious is that this hierarchy of material or natural substances that we are a part of depends on a causally prior hierarchy of forms. Under the Glorious Eternal One in Whom there is no distinction between form and existence, there live the unspeakably luminous nine choirs of angelic forms. Under them, one then finds the world of material substances. Brute animals, because of their substantial forms, are sentient, alive, and subsistent. The plants, in turn, because of their forms, are alive and subsistent. Under the plants, we encounter the non-living bodies. Through their substantial forms they subsist. And it is in this realm that one

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finds the elements, the lowliest of material substances. Below the elements there remains only first matter, which, considered in itself, has no form at all. But even here there is some divine likeness. For, as St. Thomas puts it, "matter is its own passive potency, just as God is His own active potency."²³

Now, between the brute animals and the angels stands man. As we have seen here, it is because of his one substantial form that man is at once intelligent, sentient, alive, and subsistent. So special is man's substantial form that, in the words of St. Thomas, it is "said to be like a certain horizon and boundary of corporeal things and incorporeal things insofar as it is an incorporeal substance that is also the form of a body."²⁴ Accordingly, it is through this one substantial form in man, that is, the intellectual or rational soul, that both the hierarchy of forms and the hierarchy of material or natural substances find their respective completions. For as the lowest of incorporeal substances, the intellectual soul is the remote principle by which the humblest of knowers understands reality. At the same time, as the highest of all substantial forms, the intellectual soul's union with matter constitutes a material substance that is more noble than all other material substances. As a result, if it were not for the unicity of man's substantial form, both the hierarchy of forms and the hierarchy of material substances would remain fundamentally incomplete.

I end here with the words of the Psalmist whose meditation on man's nature leads him to glorify the one true God, the Creator of all things:

For I will behold thy heavens, the works of thy fingers: the moon and the stars which though hast founded. What is man that thou art mindful of him? or the son of man that thou visitest him?

²³ In I Sent., d. 3, q. 4, a. 2, ad 4.

²⁴ Summa contra gentiles, bk. 2, ch. 68.

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Thou hast made him little less than the angels, thou has crowned him with glory and honor; and hast set him over the works of thy hands.
Thou hast subjected all things under his feet, all sheep and oxen; moreover the beasts also of the fields.
The birds of the air, and the fishes of the sea, that pass through the paths of the sea.
O Lord our Lord, how admirable is thy name in all the earth!

(Psalm 8:4-10)

A HEARING OF THE WASTE LAND

John Francis Nieto

Many years ago, I almost completed the draft of a book I described as "comments and commentary" on T. S. Eliot's *The Waste Land*. The editor who first asked me for the book never responded (perhaps encouraged by my own diffidence) and I was relieved to avoid the grueling re-writes I believed necessary. Some colleagues read the draft now and then and I was surprised to hear that they found it profitable. Recently, one of them—the current editor of this review—asked if I would submit some part of the draft for its use, if I no longer intended to publish the whole. I was as surprised by his request as by my remaining hope that I would return to complete the book someday.

Since I also felt sure that such a return to the draft will not occur very soon, I decided that publication of several of the "comments" that formed the first part of the draft might be useful. I have brought these comments together under this title for various reasons. First, I think *The Waste Land* is a poem that suffers from "silent reading." I want to encourage others to read it aloud and to listen to it. Second, I am always conscious of the fact that almost no one comes to appreciate the poem without

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putting it on trial.

Most important, the title for these comments implieseven if it does not make perfectly clear-that I am (merely) expressing how the poem sounds to me, how it falls on my ears. Sometimes people speak as if one can choose to hear a poem as one pleases. Perhaps those with a will strong enough can do so. I cannot. I have even changed words in my own poems-in one case a word I treasured-merely because I heard something else alongside them (what I sometimes call an "echo") and feared that others might do so too. This power poetry has to move each of us in different ways makes it impossible for anyone to have the definitive hearing of a poem. But it does not make all readings equally sound. I know that my own hearing of The Waste Land has great power from its effect on me and others have suggested they find it useful to their own hearing of the poem. I hope that readers of these comments will hear more in the poem and hear what they already hear more beautifully.

The six comments I have included here fall into three kinds of attention. The first two look at aspects of the poem itself: its genre and its plan. The next three comments involve the notes in one way or another. One comment is on the notes themselves. Another is on what Eliot describes as the substance of the poem in his note on Tireseus. Yet one more examines Eliot's statement about the characters in the poem and proposes to distinguish and identify these characters. A final note considers the reader's experience of the poem by attending to the emotions it evokes.

I have inserted line numbers in references to *The Waste Land* itself (just numbers), and page numbers to the "Facsimile and Transcript of the Original Drafts Including the Annotations of Ezra Pound" (F), to the Norton Critical Edition of *The Waste Land* (N), to Eliot's *On Poetry and Poets* (PP), *The Tempest* (T), and to the second edition of the Oxford English Dictionary (O).

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The Genre "Just a rhythmical piece of grumbling" (N112)

Without attempting to settle any great questions, I propose that poetry (literature, for that matter) is most fundamentally divided into epic, dramatic, and lyric. Epic has as its subject some event belonging to a city or a people, caused by some great power, like the gods. Dramatic poetry is concerned with action proper to one man (often a woman) and of a sort that makes for happiness or breaks it. Lyric, however, does not rise to the level of story—or it barely does, as in the ballad. The affinity to music implied by reference to the lyre in its name makes lyric poetry more apt to present passions and characters than plots.

Now, some poems are *sui generis*. Dante's *Divine Comedy* is a poem that defies classification and perhaps *The Waste Land* is another such. Though it does not have the scope of the *Commedia*, it does, like Dante, include elements of many genres. We find dramatic dialogue and soliloquy, a cast of characters, the panorama expected of epic, prophetic utterance, narrative descriptions, even dance tunes. Still I think that it is most reasonable to conceive it as a work of lyric poetry with dramatic elements and a touch of the epic.

Size alone prevents the development of its epic elements. The city is addressed and observed (60-8). It degenerates (207-14). It undergoes some catastrophe (366-76). But these scenes never dominate the poem. They provide backdrop to a more personal journey.

The lyric elements are rather clear. We find "songs" throughout *The Waste Land*. Some of them everyone is aware of. "*Frisch weht der Wind*" (31-4) in the first part, together with lines from "songs" at 42 and 48. The second part quotes one of these lines again (125), then breaks into a "rag" (128-30) that almost turns the lines before and after it (126, 131) into comedy: "Is there nothing in your head?" "What shall I do now? What shall I do?" In this home we also hear the song of Philomel, "Jug Jug" (103).

"The Fire Sermon" is full of song. The opening refers to itself as song (176, 183–4). It melts into a song (199–201). It reports a song (202–6). Perhaps the music dies down for the "substance of the poem," but then the gramophone picks up (256). Music "creeps by." It is imagined (261), then heard (266–306). The fourth part, as a whole, is a parody of a song, Shakespeare's "Full fathom five" from *The Tempest*.

The music of the fifth part becomes frightening: the "whisper music" of 377–8 and the "voices singing out of empty cisterns" at 384; the crow of the rooster (341–2) another line from a song by Shakespeare; the eerily innocent nursery rhyme at 426. But this part also has the "water dripping song" of the hermitthrush (356– 7), itself part of the most lyric verse ever written by T. S. Eliot, what he once described as the "thirty good lines," lines 331–358.

This calls attention to the musical, singing character of many other sections. Almost the whole of the fifth part is lyric. The fourth part is a song. The music of the third part ends with mention of Mr. Eugenides (209) and begins again when the typist says, "I'm glad it's over" (252). The second part is certainly the least lyric. Nonetheless it begins with the strictest meter. And its whole closing section, from 139 to 172, is composed of lines that each bear a full thought, like lines from a popular ballad. To the songs of the first part, I would add the opening seven lines, probably 35 to 41, and certainly the description of "Unreal City," until Stetson is recognized (60–8). Thus, the "epic touches" are also taken into the lyric of *The Waste Land*.

The remaining passages of the poem are the most dramatic parts. In the first part, these are Marie's monologue, the prophet's warning, the visit with Madame Sosostris, and the "conversation" with Stetson. The second part over-all, but especially the couple "talking" and the woman in the pub. In the third part,

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three scenes: Mr. Eugenides' proposition, the tryst between the typist and her "young man," the typist alone. Here one might add the Thames-daughters' individual speeches (instead of songs?) and the voice of St. Augustine. In the fifth part, a dramatic pitch is realized in the arrival at the Chapel Perilous (385–94). The thunder is then heard "speaking" rather than singing.

Perhaps the reports of conversation are most telling. In *The Waste Land* all conversation is one-directional. This is clearest in the pub. One woman is talking. They pay no attention to the publican announcing closing time, until they say goodbye. Nonetheless, this is also the one case in which a real conversation is reported. Stetson says nothing when he is addressed. Nor does Marie's audience. No one responds to the prophet. We only hear a report of Mr. Eugenides' proposition. The "young man carbuncular" never speaks, and the typist says nothing until he is gone. In the first section of "A Game of Chess," it is rather clear that the Ferdinand does not respond out loud to Miranda, though this comes closest to an immediate conversation.

These, and several other passages not mentioned, all report some interaction with others. But none of them involves any real response or character development. All these characters seem caught in some moment of action: "We think of the key, each in his prison / Thinking of the key, each confirms a prison" (413–414).

Even the romance highlighted with passages from *Tristan und Isolde* presents at most several moments of a romance. Dramatically all these characters and their actions are static, with a slight, but telling, exception. The typist does seem to have two moments to her action. These moments stand to one another as holding one's breath and letting it go. Before her lover comes and while he is there, she displays no feeling or reaction. When he leaves, she can barely express her relief: "I'm glad it's over."

Thus, the dramatic elements to *The Waste Land* never give the poem its character as a whole. My reading of Eliot's

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plays suggests to me that he is not a poet of action and plot. Nonetheless, the various moments of this work do form a whole, a plan, if you will, in which all these characters exist, always feeling and acting as they do. It gives one almost the sense of eternity suggested by the reference to Dante's *Inferno*. Even here, however, there must be room for the *Purgatory*.

The Plan of The Waste Land

The titles to *The Waste Land*'s five parts are helpful in uncovering its plan. By "plan" here I mean the understanding that unites the many paragraphs and songs within each part and the parts to one another. I will pass from one part to another and offer my grasp of its role in this plan.

The title to the first part, "The Burial of the Dead," suggests the words of Jesus, "Let the dead bury the dead" (Matt 8:22). We therefore suspect its characters are dead in the spiritual sense Jesus has principally in mind. This is confirmed in two ways in the final paragraph. The paragraph begins with observation of a crowd described in terms used by Dante as he entered hell (62–5). A friend is recognized there, Stetson, who buried a corpse "last year" (69), and the section closes with the threat of unearthing the corpse, "he'll dig it up again!" (75) This comes to a threat to unbury what the dead have buried.

Yet the corpse was first seen in the opening lines in another guise: the dull roots under earth covered with snow (3-6). This description dissolves into Marie's chatter where one may sense that she has buried something (15-18). The prophet accuses the speaker or reader of his ignorance. He invites him "under this red rock," but threatens to reveal "fear" buried "in a handful of dust" (30).

The following paragraph presents a "romance." It begins with the lover's song (31-4), then the response of the beloved (35-6). But something has interrupted—a rape, a refusal,

inability to propose, perhaps even too high an ideal of love (37–41). The paragraph closes with an empty sea.

Someone visits a psychic reader, perhaps to understand the romance just described. He is identified with someone drowned (47). The hanged man (who may take on his death sentence?) is not found and the client is threatened with drowning, a sea burial (55). Note this paragraph introduces water to the waste land, but only as it threatens to kill. Perhaps this serves to emphasize the fact that this waste land is above all a dead land, as suggested by the title to the part. At the same time it provides a distinct link to the fourth part, "Death by Water."

The title "A Game of Chess," apart from various literary associations, reminds anyone who has played the game of its object, to mate the king, and its favorite means, constant attack on the queen. Each of the two sections presents these aspects of the game. The rape of Philomel is the "sylvan scene" (98) that the husband and wife of the first section always look upon. One suspects this is the history of their own courtship. The man, Ferdinand (now King of Naples?), unable to speak to his wife, seems cornered, in or very near checkmate. The woman speaking in the pub (Louise or May?) is certainly attacking Lil and out to mate Albert. Note that the perfumes that "drowned the sense" (89) in the midst of this "stifling" verse (77–106) suggest the drowning (and therefore burial) prophesied by Madame Sosostris and so unite this part to the first.

The scenes in "The Fire Sermon" are spoken principally by the Fisher King, Tiresias, and some composite of St. Augustine and the Buddha. It "preaches" against the rape and fornication that have produced the waste land. Its various scenes present these acts as they are, sordid and unsatisfying, incapable of producing a stable ordered life. The typist's flat is slovenly (222–227), the river has been polluted (177–179), the beach is noisy (197), the realm has passed through three kings now, two "wrecked" and one who will rule "not long" (191–192). While the first two sections observed the effects and causes of the waste land (in that order), the third offers an emotional experience of the waste land. It does so merely by looking at the sterility of these relations as they are stripped of the glamour that attends them in daily life.

"Death by Water" presents the execution of the death sentence. Phlebas the Phoenician lies at the bottom of the sea. Once "handsome and tall" (321), he serves as a type of "young man carbuncular," who, though small (231), seems to imagine himself handsome and tall. Phlebas has lived for nothing more than "profit and loss" and what he gained from such concerns dies with him. We are not told how he got where he is, but it is tempting to think that he sank on a mercenary voyage—another form of the young man carbuncular's lust. The association with Ferdinand suggests the voyage from Tunis or Carthage. (T2.1.82)

For quite some time I have heard this section as if the rain has come for Phlebas, but it was too late. He could only be destroyed by it. That rain has not come for the rest of us is beside the point. As the section's closing lines (and Madame Sosostris' reading) suggest, this is a warning to the rest of us. Hearing the section this way, the section offers, in some sense, one of two alternate endings to the poem.

In the last few years, however, I have heard this section in another way, though not opposed to the one just offered. The first glimpse of this view I had from Helen Gardner. I have often heard what she calls the "ineffable peace" in this section. I have also sympathized with suggestions that "death by water" names the baptism that Madame Sosostris, the psychic, finds dangerous. Only as I have come to see Phlebas as the old man who dies (or begins to die) in baptism have I been able to hear this section as implying the readiness of the hero, renewed in baptism but still very weak, to enter into the trial found in the final section.

This final section, "What the Thunder Said," should be

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divided into three main sections: the paragraphs describing the journey to Emmaus and to the Chapel Perilous (322–394), the description of the thunder (385–422), and the final image of the Fisher King (423–432). For many years, I have heard these sections as offering an alternative to "Death by Water," not an optimistic alternative, though one in which hope remains insofar as desire for water does. To the extent that this part encourages that desire for water it is distinguished from the first four parts as "purgatorial." Now I also hear—alongside and integrated with what I have just described—the death by water as transforming the "dull roots" underlying the waste land so that they now experience the desire for water that will bring about their growth into complete living bodies—bodies ripe for reproduction.

The first section describes the journey demanded for the survival of the king and land. But the knight who journeys is not a "knight of faith." He cannot see Christ walking alongside him (359–365). But neither is he sure that he is not there. He is at once filled with the disappointment of the Passion (328–330) and the longing for life and rebirth that water would offer (331–358). The uncertainty felt about Christ is the beginning of the horror that must be faced to reach the Chapel. The emotional climax provided in arriving there is momentary (388), because of the Chapel's disrepair (388–393). Completing this task offers only a sense—very welcome but insufficient—that rain and relief are imminent (393–394).

In the second of these sections, we still do not feel the rain. It is coming, but we step back from it and hear the thunder that precedes it. This thunder informs us of the changes necessary to the soul, if it will feel the rain. Each clap (400, 410, 417) announces another way in which we must be unlike Phlebas and Tereus and the young man carbuncular, if we will thrive when the rain comes.

The last section steps yet further back. We are again with

the Fisher King at the banks of the Thames, still hoping that the rain will come. He is now at the last stage of purification (427) and explains that the poem has been formed of fragments fished from the river (430), perhaps as the remedy for his (and his kingdom's) illness, that is, as the ritual that will restore health.

The Notes to The Waste Land

I first (and angrily) imagined *The Waste Land* to be a crossword puzzle. The poem was an array of "blanks" I must fill in and the notes were clues to help me. This image was enhanced by the belief that Eliot wrote notes to *The Waste Land* to fill out a 24-page book. He did not want to add another poem, so—I thought—he took the hard parts and provided clues. But there is evidence he intended notes before such a demand arose. (N21, fn. 1)

Some may have historical concerns with this question about the notes. For me the concerns are poetical. Suppose these notes are not an accident and Eliot at some time conceived this poem as having them. Why should this poem have notes? Where is the poetry of the notes?

This question is aggravated by the fact that, while some of the notes are invaluable, many are (obviously) useless. Again, some lines need notes that have not been provided. The notes offered in Ezra Pound's works of this time name characters or circumstances necessary to understand the poem. One reads them and thinks no more about them. But Eliot's notes have become part of the difficulty, and, to this extent, part of the poem.

The notion that notes were intended for *The Waste Land* from early on first suggested to me that perhaps they really are "part of the poem." The idea of writing a poem about a poem with notes reminded me that poems *do* have notes, at least old poems do, to the extent that they present difficulties. These notes, as Eliot knew far better than I, are sometimes useful, sometimes

worthless, sometimes missing.

Chaucer and Shakespeare cannot be found, and to some extent cannot be understood, without notes. Except for "London Bridge" and a few others, the works Eliot quotes cannot be read without notes. Did Eliot merely decide to write notes to his poem before anyone else added them to it? Or did he complete his imitation of these works by appending the notes now essential to them? That is to say, with the notes essential to our experience of poetry? The notes give the poem the look of literature preserved from the obscurity that follows the developments of language and culture.

Among the notes that do seem useful, none is as interesting or important as that on line 218. Here Tiresias is named "the most important personage in the poem," with comments on his role in the pageant of characters and the nature of this pageant. (See *Characters*, below.) The following statement seems to suggest the whole burden of the notes: "What Tiresias *sees*, in fact, is the substance of the poem." After this, a long passage from Ovid's *Metamorphoses* is quoted with the remark that it is of "anthropological interest." This may be so. It is more to the point, however, to note that it is of topical interest. For it provides a comment on the "substance of the poem." (See *The Substance of the Poem*, below.)

The introduction to the notes has had, it seems, the greatest influence. Those desiring "elucidation of the poem" have turned to the two works mentioned there with great enthusiasm. The results garnered from these books hardly seem proportioned to the effort. I think this occurs because readers approach these works with the wrong (that is, the crossword puzzle) spirit. Miss Weston's book is cited for its influence on the title, the plan, and the incidental symbolism. The title itself involves no mystery, and the incidental symbolism is just that, incidental. But readers rarely, in my experience, attend to the plan of the work or its dependence upon material found in From Ritual to Romance.

Again, Eliot's debt to *The Golden Bough* is admittedly general. I do not find any "answers" there. The work was at one time very highly regarded, but it is a very big book. Passages of particular interest are imbedded in a tremendous amount of information.

Eliot concludes the introduction to the notes with a comment about "certain references to vegetation ceremonies." It does not follow that the poem is *about* vegetation ceremonies. It does suggest that such ceremonies have had an influence on the poem.

The introduction to the notes on the fifth section, "What the Thunder Said," in which the "themes" of the section are mentioned, is of obvious use in understanding that section and therefore the work's plan. The omission of the Vedic theme is curious. Perhaps (if the omission is intended) the section from "Ganga was sunken" is already an epilogue of sorts.

Much has been written on the note on the Tarot. General agreement holds that its immediate interest is as a "cast of characters." There is, further, the suggestion (by Miss Weston) that "the original use of the 'Tarot' would seem to have been, not to foretell the future in general, but to predict the rise and fall of the waters which brought fertility to the land" (N₃₇₋₃₈). This may seem quite pregnant. But I think it should be understood as "incidental symbolism."

There are no notes on the first eighteen lines, but there might have been. Reference to Chaucer is most prominent (and even definitive, as almost all the characters of this poem are *not* on a pilgrimage seeking remission of their sins). On the other hand, the lack of notes to the second part of the second section "When Lil's husband" are telling. We have to hear that we are in a pub at closing time at the end of the war. And we must hear the entrance—which is an exit—of Ophelia without a nudge in the notes from the author.

The notes on the last lines of "The Fire Sermon" help in

understanding the title of this part and the sense or passion that dominates it. But the final statement, "The collocation of these two representatives of eastern and western asceticism, as the culmination of this part of the poem, is not an accident," may suggest good reason for Eliot's claim that the notes were "bogus scholarship" (N113). The statement may seem pretentious and this appearance may not be an accident. Nonetheless, the "collocation" or fusion of the two "asceticisms" is consistent with (and supportive of) the deliberate vagueness of character description in the poem. We see this fusion most in "What the Thunder Said," where the images taken from the Western romance-ritual tradition encounters the Ganges river and the sound of Thunder in the East.

Of worthwhile notes, the least noticed may be that on 366-76. (The citation of Hesse in German does nothing to help. But I suppose Eliot was certain that if the poem worked, there would be notes with translation.) Attention to context of the passage cited (N60-62) is helpful.

The notes on line 411 add some pathos to the reading of the line itself: "I have heard the key / Turn in the door and turn once only." The first makes reference to Count Ugolino near the very bottom of hell. He describes the moment he heard the door to the tower in which he was held (with his "sons") nailed shut. The quotation from the philosopher F. H. Bradley presents the opinion that each one of us is "nailed shut" in his own complex of sensations, thoughts, and feelings. For even the experience of an outside world is "no less private to myself than are my thoughts or my feelings."

The *Upanishad* references (401, 433) are great interest in understanding the work's plan. They also provide the structure of this final part. To my mind, the three hearings of the thunder suggest the causes and remedies to the infertility experienced in the poem. Perhaps it also suggests the possibility that many can listen to the poem itself and each can hear what is necessary to his own transformation. I take this as central to the notion of ritual as embodied in the work.

'The Substance of the Poem'

The most helpful of Eliot's notes to *The Waste Land*, the one on line 218, states that "What Tiresias *sees*, in fact, is the substance of the poem." A reference to Ovid's *Metamorphoses* follows. I will briefly discuss the significance of this remark and the reference that follows it.

The "substance of the poem" is not a great mystery. Tiresias' speech from 215 to 248 is the description of a tawdry act of fornication. There is nothing romantic, beautiful, or even glamorous about the act (236–8). The absence of violence (239–40) prevents us from feeling pity toward the young woman, as in the case of Philomel (99–100) or the "Thames-daughters" (292–305). Introductory description of the office worker (typist or clerk) as a "human engine," "Like a taxi throbbing waiting" to escape from work (215–217), adds to the sense that union of the typist and the young man carbuncular is nothing more than the satisfaction of animal passion (216–7).

Why should this image be the "substance of the poem"? Most obviously, such sterile sexual relations are a waste land. The seeds and roots offered by nature for generation and growth remain undeveloped. New life and growth are resisted, as in the poem's opening seven lines. Everywhere we see couples without children and the land without vegetation. Perhaps homosexuality "blossoms" (209–14). The only children in *The Waste Land* are Lil's five, one of whom nearly brought about her death. (Mrs. Porter's daughter is rather sophisticated, 201.) These children are Lil's reason or excuse for an abortion.

Another sort of attention reveals the cause of the sterility of these relations. Lil and Albert have no difficulty conceiving, and we see no lack of health on the part of typist or clerk. Rather, the dearth of children results from limiting sexual relations to animal satisfaction. The woman moving in on Albert will have no children by him (164). Nor will Mrs. Porter by Sweeney. Nor Elizabeth by Leicester. The impediment is something human, some sterility in the heart and will. An emptiness painted most poignantly in these lines:

—Yet when we came back, late, from the Hyacinth garden, Your arms full, and your hair wet, I could not Speak, and my eyes failed, I was neither Living nor dead, and I knew nothing, Looking into the heart of light, the silence. *Od' und leer das Meer*. (37–41)

The last line, "Wide and empty is the sea," is the (false) report made to Tristan as he lay dying. He is told, and dies believing, that Isolde (the Fair) is not coming to him, that she does not love him. Whatever the reasons, this fear and false belief cause the inability to feel, express, and enjoy the love that will make the land fertile.

Finally, the source of this infertility is identified many times in the poem as rape, taken in its broader sense. There is the "sylvan scene" of Philomel outraged by Tereus (97–103). Now she fills the "desert," the waste land, with the inviolable voice we hear in both parts of "A Game of Chess." The "nymphs" may frolic with men in line for position (179–81), but one expects their present state to be only slightly different from the working class "Thames-daughters" (292–305). They will probably end like Mrs. Porter (196–201). One does not know what happened with Marie or the Hyacinth Girl. One wonders about the corpse that Stetson "planted."

Eliot's note demands that we consider Tiresias, who sees the

"substance of the poem," as he is described Ovid's story. There Tiresias is the judge of a "jesting quarrel" between Jove (Jupiter) and Juno. Each claims that the other sex enjoys the marital act more. Only Tiresias can speak from experience as man *and* woman, and he "confirmed what Jove said." This decision is the origin of both his blindness and his prophecy.

Tiresias "knows" that the woman enjoys the sexual act more than the man. But this is not what he "sees." The typist is "Hardly aware of her departed lover" (250) and "glad it's over" (252). Nor does any other woman say or suggest that she enjoys lovemaking in *The Waste Land*. Even the woman "on the make" for Albert appears to do so for love of power and possession (153–4).

The waste land of marital relations seems, therefore, to consist immediately in a woman's inability to enjoy an act in which she should receive love and fertility, an act which she in fact experiences as rape.

Characters and Character

Among the various "eccentricities" of *The Waste Land*, the one most peculiar to it and the most successful (whether one likes it is another question) is its "character." I say this with two senses of the word in mind: the particular character who dominates the poem—Tiresias, if you will—and the sort of character this is, "characterization." By "sort" I do not refer to his moral or emotional qualities, but to his literary quality, the way in which the poem makes him a "character" and "one" character. The truth of my claim depends upon both senses of "character," because the sort of character is essential to this particular character.

To make this "character" clear, I must identify the poem's "other" characters and discuss Eliot's use of the Tarot. The characters will be mentioned "in order of appearance." I will give some of them names. But the identity and distinction of characters depends to some extent upon how one hears the poem.

Though they are not "in" the poem, it is perhaps worth mentioning the **Cumean Sybil**, despairing her long life without youth, and the **boys** who question, or perhaps taunt, her.

"The Burial of the Dead" begins with someone speaking who later becomes determinately Marie (15), pure German, she says (12), and cousin to "the archduke." She has wandered from one subject to another by free-association, which gives her a superficial but also an unhappy air. The fear she felt when sleighing with her cousin seems to be her dominant passion. This is clear from several things: she does not feel free (17), she suffers from insomnia (18), and she migrates in winter (18).

This fear is the accusation (30) of a **prophet** who speaks after her monologue (19–30). He seems to address not only her, but others, perhaps the reader, and most likely every "Son of man" (20), though it does not seem that the reader is yet a "character" of the poem. The prophet is both assured and threatening, and for the same reason. He knows what we do not. To the extent that he is (already) Tiresias, he sees the substance of this waste land.

Suddenly we hear **Tristan** singing (31-34) and the **Hyacinth Girl** responds (35-36). His words are pure song. He is a lover. His beloved, the hyacinth girl, seems to feel a love that springs from gratitude for his romantic attention. It is unclear who speaks lines 37-41 and whether line 42 is part of this speech. For some time I heard it, as do others, as the girl, but was later convinced that it is her lover, probably Tristan. I am not certain it matters much which it is.

In these lines the attitude is not the same. At first, perhaps the anniversary of their first date, one was faced with the other's love (41) and "could not Speak" (38–39). He or she feels not dead, but "neither / Living nor dead." As if in response to the prophet, the speaker confesses, "and I knew nothing" (39). If the hair of the woman spoken to is wet, she may have been "raped" by Tristan. There does not seem any need to establish a distinct character who speaks line 42. It brings us back, after the assurance of the prophet and the amorous tone of Tristan, to the despair of the Sybil and Marie's terror before growth and change (1-4).

Suddenly we are at the premises of Madame Sosostris (43-59), the psychic, who reads the Tarot for her client. Her initial appearance is comic, which masks, to some extent, something sinister. She sees what she does not understand (52-56) and does so for money (57). Her opposition to the prophet is suggested by the fact that, while he threatens to reveal fear, she is not only dominated by this emotion (59), but also counsels it (55). Her client is not named, though he is directly identified by her with the "drowned Phoenician Sailor" (46-47) and indirectly with the *Tempest*'s hero, Ferdinand (by singing the "ditty" that Ariel sings to him at 48). She also associates him with a threatening woman (49-50).

His own fear is not felt. His dabbling in the occult does suggest that he afraid of something, and the "fortune" read to him suggests he has things to fear. But his emotions and temper are absent. As he leaves, the clairvoyant mentions **Mrs. Equitone** (57). Is this his wife? If so, then he is Mr. Equitone, which, I assume, means monotone. This might explain why he is himself such a blank.

Outside her establishment, someone, perhaps the client Mr. Equitone, walks the crowded London streets. He is despondent, though this is not made clear directly by what he says but by what he perceives ($6_{3}-6_{6}$). He runs into **Stetson** (6_{9}), apparently a fellow soldier in the Second Punic War between Rome and Carthage (7_{0}). In the guise of a chat about gardening, he threatens Stetson. He speaks menacingly about the uncovering of a corpse ($7_{1}-7_{5}$). He thus appears as an anti-type to the prophet, who also threatens. For the one does so from knowledge and

in judgment (20–22), the other from contempt, most apparent when he reveals that he is speaking to the reader, **you** (76), who is thereby identified with Stetson. You, Stetson, the reader, should fear this poem will dig up what you have buried. He accuses the reader of hypocrisy but considers (hypocritically?) this a reason for comradery and brotherhood.

The second part, "A Game of Chess," begins with a seated woman, although she is not seen directly for thirty-one lines (77-107). In fact, the suffocating luxury that surrounds her stands between her and the reader, who is "put off." Philomel and Tereus, the "barbarous king," her brother-in-law and rapist, are found here (99). Philomel is characterized as a victim by Tereus' epithet, "barbarous," and by her own description, "So rudely forced" (100). The woman appears and then speaks, though we never hear her name. She tells us in words and manner that she is "nervous" (111-114). The violence of her harangue is beautifully presented in the description of her words as emanating with fire from the ends of her hairs as she brushes, followed by the savagery of her silence (108–110). Someone sits with her who does not speak in turn but thinks to himself (115–116). He seems to be her husband. Several things suggest that the couple are Ferdinand and Miranda, especially the section title and his reference to chess. In The Tempest this couple is revealed to the island's inhabitants, while they play this game and "wrangle" (T5.1.171). Again, he recalls the words sung to Ferdinand by Ariel (124–125). The despair heard in his thoughts (115–116, 120, 138) is reinforced by his silence before his wife's nagging (112). He is perhaps a poet, impressed by the beauty of Shakespeare, but only capable of vulgar verse himself (124–5, 128–30). The "footsteps" may belong to the "young man carbuncular" of line 231.

Five (perhaps six) characters can be discerned in the following paragraph (139–172). Two women, **Lou** (Louise, to my ear) and **May**, are in a pub, where the "publican" or bartender seems to be Bill (170). One of these women is telling of Lil and her husband Albert (139). The speaker reveals herself as callous and calculating. By her own account she is "making a move" on Albert, whom she speaks of as "wanting a good time" (148). Her story describes Lil as weak, tired, and dilapidated, driven to abortion. Bill's growing impatience, heard as he announces closing time more frequently (165–169), unwittingly emphasizes the vulnerability of Lil's character. The last line (172) is taken from, perhaps "said by," **Ophelia** (H4.5.70). This may also be an occasion in which we hear the **poet** himself speak.

"The Fire Sermon" introduces many characters. The Fisher King is speaking in the opening paragraphs (173–202), as is clear from lines 189–92. But the two last of these also suggest that he is Ferdinand. He too is despondent, expecting death soon (182-4). He begs the Thames, where he fishes, to run for the little while he lives. He makes reference to the nymphs and "their friends, the loitering heirs of city directors" (175, 180). These "water goddesses" are revealed as "nymphomaniacs," sporting with lovers on the river and leaving garbage there for the Fisher King to remove. Their lovers are men who do not work and wait for position. Again, he mentions his brother and his father, both kings and both failed (191-2). Sweeney, Mrs. Porter, and her daughter appear (198-200) in a passage that describes them as vulgar and licentious. A moment of relief occurs, as he recalls the children singing in the dome (202). But their song (203–6) tells of the Philomel, Procne, and Tereus. Apart from the Fisher King, these characters play no clear role in the poem's "plan."

Lines 207–214 report a (homosexual?) proposition on the part of **Mr. Eugenides**, the Smyrna merchant. He is presented as dirty (210), vulgar (212), and depraved (214). Nothing defines the person propositioned. But the mention of the "Unreal City" and its "brown fog" suggest he (or she) feels oppressed.

Tiresias, the prophet, speaks at least the lines from 215 to

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248. He is blind, but he can see, that is, as shown in what follows, he can see the moral worth of things. Even before he is named, he is describing (and feels) the need at "quitting time" for some relief by "getting away" from the desk (215–8). He describes himself as "throbbing between two lives," that is, his life as a man and his life as a woman: "Old man with wrinkled female breasts" (218–9). That his (female) breasts are wrinkled (and, one would suppose, hanging) makes the hermaphroditic aspect of Tiresias more realistic (old men do have such breasts) but also more repulsive. This is yet more emphatic at line 228.

Tireseus describes an act of fornication by the **typist** (222) and the **young man carbuncular** (231). She is slovenly (222, 226), "bored and tired" (236), indifferent (238–42, 251–2). He is pock-marked (231), vulgar (233–4), vain (241), and "patronising" (247). (I have always heard "carbuncular" as referring to rubies and other jewels described as carbuncles {O.II.883–884}. I assumed him to be quite splendid. Later I realized it more likely refers to his acne and have wondered whether he is Bardolph earlier in his life, when he first met Falstaff. Now, these images merely cluster round one another.) After the clerk's departure, she plays the phonograph, which is heard by **someone walking** outside (257–265) who identifies himself with Ferdinand by quoting him (257). He feels something like nostalgia outside a (perhaps imaginary) fishermen's bar, then awe inside the Church of St. Magnus (259–65). I hear a long pause after these lines.

The mandolin and the church's silence are replaced by the song of the **Thames-daughters** (266–306), which introduces these three women. Each of them speaks of herself in turn, beginning at line 292. These speeches also introduce their "boyfriend-rapists." In one we hear some resentment; in another, indifference; in yet another, defeat. They also speak of **Elizabeth** and **Leicester**, whose "romance" is fruitless at best (279). **St**. Augustine speaks a few lines which allude to his profligacy and desire for release (307, 309–310). The Buddha is finally heard describing the world as "burning," with his characteristic rejection of such a world (308, 311).

The fourth section of the poem tells the story of **Phlebas the Phoenician**. Phlebas' corpse is presented in a manner opposite to the supposed corpse of Alonso, Ferdinand's father. Alonso's corpse becomes "something rich and strange": pearl, coral. The corpse of mercenary (314) Plebas resolves to its elements (317), he has lost his height and beauty (321), and his bones are slowly "picked" (316). The reader is addressed again, directly, as a "Gentile or Jew," as a [Phoenician] sailor, like Plebas, and therefore mercenary (319–321).

"What the Thunder Said" begins as the words of the **disciples on the road to Emmaus** (322). They describe themselves as ready for death (329–30), then describe their longing for water against the certainty that there is none (331–58). This longing and frustration begin to unsettle their mental stability. They experience a delusion described by a "party of explorers, at the extremity of their strength." At the delusion's extreme a **woman** appears, brushing her hair (377). She "fiddled whisper music." Then **Percival** reaches the Chapel Perilous. There is relief, but a hint of terror. He is strong, but unprotected.

It seems to me that the characters from the Vedic text, the *Brihadaranyaka Upanishad*, do not become characters in this work, but this is obviously a matter of judgment. In the speaking of the thunder, we hear of the **lean solicitor** (408), whom I identify with the young man carbuncular, and **Coriolanus** (416), but neither speaks or acts. The Fisher King states the closing lines (423–432). Though uncertain about his strength and sanity (429, 431), he attempts to face the end as a king (425, 430).

One may prefer to find yet more characters. I believe that many of those I have identified are in the poem as scenery and

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color. The characters who form the central "plan" are not so many. They are reduced to some extent through the Tarot reading. This is recognized by many readers as a *dramatis personae* or "cast of characters." Seven cards are mentioned: "the drowned Phoenician Sailor," "Belladonna," "the man with three staves," "the Wheel," "the one-eyed merchant," the blank card, "The Hanged Man."

These are not characters of the same order as those I have been identifying above. Better perhaps to speak of them as archetypes. Although characters of this sort may appear in literature—take as examples, fairy tales (Prince Charming, the Wicked Witch) and (with a bit more fluidity) the Grail legend—they are too static to be characters in the full sense of the word. (They are at best like "character actors.") Here they are a step toward the unification of character that occurs in Tiresias. This is "suggested" by the fortune teller's art. She uses the same cards to tell all her clients' fortunes.

Eliot mentions several of these cards distinctly in his note on line 46. He states that "The Phoenician Sailor and the Merchant appear later," obviously speaking of Phlebas and Mr. Eugenides. It is not entirely clear why these characters are distinct. The Phoenicians were a merchant race with a merchant sailing empire (like the British). Perhaps the "Sailor" is introduced for his bravura with its aura of promiscuity. Mr. Eugenides is promiscuous too, though his lacks any glamour. He is not "handsome and tall" like Phlebas, who might have been a hero, a Perceval, had he not drowned. I therefore suggest the Merchant presents the mercenary archetype becoming sexually depraved in Mr. Eugenides. The "drowned Phoenician Sailor" I then hear as the type of one who aims at something high, like brave deeds or empire, while not ripe for it. Phlebas fails through glorying in himself. Mr. Eugenides, a merchant, just likes things and treats others so.

Eliot associates the man with three staves "quite arbitrarily, with the Fisher King himself." The "staves" (plural of "staff")

designate his authority. As the association is arbitrary, I see nothing in the fact that he has three. The number does make it less likely that they are walking staffs. Though the Fisher King is never so named in the poem, he clearly opens "The Fire Sermon" and closes "What the Thunder Said." He bears responsibility for the land that lies waste. It is he that clears garbage from the river (177–9). He has made (or will make) some attempt to restore order to his realm (425, 430).

The "Hanged Man" is important for his absence, which seems to move the seer to warn, "Fear death by water." Eliot associates him with the "Hanged God" mentioned in *The Golden Bough* (N₃₁₋₄) and "the hooded figure in the passage of the disciples to Emmaus in Part V." The latter is an obvious reference to Christ, but, significantly, a reference to Christ as unrecognized. The disciples do not know whether he is there and that it is him. Again, Eliot mentions his own association of the card with Frazer's Hanged God. But Frazer connects this character to Christ, as, however, a creation of religion. This tension produced by the longing to believe and the fear of deception seems essential to the role of the Hanged Man/Christ in *The Waste Land*.

The Belladonna is also described as "the Lady of the Rocks" and "The lady of situations." These titles suggest shipwreck and a forced marriage, probably as two ways of saying the same thing. This implies an identification between Phlebas and the silent husband whose wife is combing her hair. The card's proper name, Belladonna, is derived from the Italian words for "beautiful" and "lady." But it names a poisonous plant, Deadly Nightshade. I assume Eliot familiar with this explanation of the name's origin: "Belladonna is the name, which the Italians, and particularly the Venetians, apply to this plant; and Mr. Ray observes, that it is so called because the Italian ladies make a cosmetic from the juice" (O.II.91). He says nothing about associations with determinate characters in the poem. The Wheel would seem to be fate. The
blank card is perhaps just the unknown. These cards do not seem to be archetypes of characters, but principles in the poem's plan.

The reduction of the various characters to these archetypes seems to me to have a double and contrary effect in the poem. Immediately it emphasizes the static nature of the "individuals." None is developed through action in any significant way. Their identification with this or that card paralyzes each in a moment of action or feeling. Insofar as they provide a range of characters, however, the cards allow for a change of identification, a movement from one to the other. This makes the absence of the Hanged Man that much more critical. The others can interact with him and they cannot become him. At least Madame Sosostris does not see either possibility.

This movement from one "archetype" to another does not occur in the individuals through action, but at best through feeling. It is consummated in Tiresias, whom Eliot discusses in his note on line 218. He says there that Tiresias is not a "character" but a personage. The latter is what I mean here by "character." Tiresias does not "do" anything, he is not a dramatic character. But he presents a personality in which we experience the poem's passions and emotions.

The first part of this note, after asserting that Tiresias is the most important character (according to the first of the senses mentioned at the beginning of this comment, a particular character), then offers remarks of use in understanding this character and the poem's characterization:

Tiresias, although a mere spectator and not indeed a "character," is yet the most important personage in the poem, uniting all the rest. Just as the one-eyed merchant, seller of currants, melts into the Phoenician Sailor, and the latter is not wholly distinct from Ferdinand Prince of Naples, so all the women are one woman, and the two sexes meet in Tiresias.

The import of the fact that he is "a mere spectator"—and a blind one at that—will be discussed later, in discussing what is peculiar to this character. First, I shall remark on the characterization.

This "personage" is important precisely because he unites "all the rest." This is not accidental. The incident quoted from Ovid relates that Tiresias, unlike anyone else, has been both man and woman. This would be no more than curious outside a poem in which the characters "melt into" and are "not wholly distinct" from one another. To such a poem, Ovid's story is not only useful, but essential. The poem could not exist unless there were someone in whom the sexes could be united.

There are various places where the "melting" of characters is more obvious. The identification by Madame Sosostris of her client with the "drowned Phoenician sailor" also presents him as "not wholly distinct from" Ferdinand, Prince of Naples (46–48). For she "sings" her client a line from the "ditty" sung to Ferdinand by Ariel (T 1.2.397–406). The line is "remembered" by the "silent" man in "A Game of Chess" (124–125). Does this imply that this man is Madame Sosostris' client? Or are these two men: one whom the psychic identifies as Ferdinand and the Phoenician, and the other who (in his "nostalgic" attachment to Shakespeare at 128–130) identifies himself with Ferdinand? Perhaps the latter also betrays here that he is the poem's poet.

The same quotation from *The Tempest* unites these men (or this man) to the Fisher King, who melts into the Prince of Naples at lines 191–192. This part of "The Fire Sermon" passes into Tiresias' speech through the "voices of the children singing" (203–206) and the proposition of Mr. Eugenides (207–214), who is from Smyrna and therefore "Phoenician." We are never sure where one begins speaking and the other leaves off. But at the beginning of the Fisher King's speech (173–202), his description of the bank ("the last fingers of leaf / Clutch and sink into the wet bank") suggests identification with the "prophet" of lines 19–30. He is therefore loosely identified with both prophets. This direction leads to St. Augustine and the Buddha.

Notice a "circle" formed by the proposition itself. Mr. Eugenides is the Phoenician, who is Ferdinand visiting the fortune teller, who sits at home with his wife, although he is the Fisher King, therefore the "prophet" and Tiresias, who receives the proposition. This circle is widened by the identification of both the man at home and the prophet with the poet. Other identifications with men can be made. I shall mention only one here: "the young man carbuncular." Although he is "observed" by Tiresias, it may be his footsteps that the woman combing her hair and her silent husband hear "on the stair" at line 107, as he goes to meet the typist. The alternative, that these footsteps are (also) those of Ferdinand, coming home from his visit to Madame Sosostris, strengthen his identification with the clerk. The relief of Philomel above their mantle suggests that this "Ferdinand" married his wife by a rape or an encounter differing from rape by the fact that it is "unreproved, if undesired" (238). However conscious Eliot was of these associations, the poem is the richer for their multiplication.

The central "melting," however, is that of Tiresias with the typist. Because he was once a woman, he has "foresuffered" what she (not to mention the young man) suffers. Here is where the uniting of the sexes occurs, although they are at odds almost everywhere else in the poem. The identification is especially significant because it occurs in an act of empathy. Tiresias has experienced the same. On the other hand, he has "walked among the lowest of the dead" (246), that is, he has acted as "the young man carbuncular." I quote Eliot on Aeneas' meeting in Hades with his abandoned lover Dido:

But I have always thought the meeting of Aeneas with the shade of Dido, in Book VI [of the *Aeneid*], not only one

of the most poignant, but one of the most civilized passages in poetry. It is complex in meaning and economical in expression, for it not only tells us about the attitude of Aeneas. Dido's behavior appears almost as a projection of Aeneas' own conscience: this, we feel, is the way in which Aeneas' conscience would *expect* Dido to behave to him. The point, it seems to me, is not that Dido is unforgiving—though it is important that, instead of railing at him, she merely snubs him—perhaps the most telling snub in all poetry: what matters most is, that Aeneas does not forgive himself . . . (PP62)

There may also be, therefore, in addition to empathy, feelings of guilt and sympathy on Tiresias' part. He is both actors in this "outrage."

The typist, however, is identified with the other women in the poem primarily by their common suffering. This is most apparent in the "Song of the (three) Thames-daughters" (266-306). After singing of Elizabeth and Leicester on a barge, drifting downriver, each describes her own "date rape." While Elizabeth toys with a fruitless romance, protected by her power, the Thames-daughters are ruined. Extremes to the typist's indifference are the attack on Lil's husband by Lou or May and "Miranda's" harping. She, as the instantiation of Philomel-perhaps another archetype-attempts to relieve her outrage (and protect herself) with her "inviolable voice." The opposition to her husband is brought out more by identifying her as Mrs. Equitone. Other reactions to such abuse are found in Mrs. Porter, Lil, and perhaps Ophelia. The inane monologue of Marie, so like a chat with an analyst, has always brought sexual child abuse to my mind. The Hyacinth Girl may present merely the moment of paralysis in the face of love. Though she too may have been raped. Her response is silence (41). Madame Sosostris is clearly an anti-type of the prophets, the Buddha, perhaps St. Augustine.

Note that the women do not identify themselves with each

other, as the men do, perhaps pointed out by others. They merely express emotions or traits that spring from a common abuse. The men see themselves as one type or another, and this culminates in Tiresias who sees himself as containing all the others.

Note also the range of characters, though I am not suggesting there is an exact order. Among men we pass from Tereus, the rapist, to the Old Testament prophet through the young man carbuncular (and Sweeney), perhaps Tristan, Ferdinand, Madame Sosostris' client, Tiresias, St. Augustine, the disciples, the Fisher King, and the Buddha. (Another might here be the Buddha as the extreme and the prophet as next to him; someone else may identify them with each other.) The range among the women, already suggested, is more limited.

A last comment: Is it "fair" to establish character in a poem by means of a note? Would anyone understand this characterization without Eliot's note on 218? I would not pretend ability to answer these questions. But I see that answers depend upon an understanding of the right balance between a poem's integrity and the value of such a character or personage as Tiresias.

The Emotion

To me it was the relief of a personal and wholly insignificant grouse against life.

- T. S. Eliot, about *The Waste Land* (N112)

Listening to music or watching a play, I sometimes say to myself, "Who is like Bach?" or "Who is like Mozart?" or "Who is like Shakespeare?" as Michael the Archangel once said, "Who is like God?" I never say the like, even when listening to my favorite passages in Stravinsky, Arvo Pärt, or T. S. Eliot. I mean no offense to these artists, and I am sure that Eliot, at least, would understand. It is not merely that there are works or passages by these latter that I do not understand or do not like. Parts of *Titus Andronicus* horrify me beyond anything in *The Waste Land*. Some organ works of Bach leave me cold and mystified. There is simply something great and perfect in those greater masters not achieved by these lesser.

Notwithstanding this, there are moments in Stravinsky, Pärt, and Eliot that touch me more deeply than anything by Mozart, Bach, or Shakespeare. I have sometimes related this to what I suppose to be facts. If Mozart heard Stravinsky or Pärt, he would imagine some mistake had been made. If Shakespeare read *The Waste Land*, he would accept it as nothing more than the collection of fragments that it declares itself to be (430). These moments that move me so would not have been intelligible to those men as works of art.

Differences in time and age do not change human nature. The place held by the supreme artists is evidence of this, if such evidence is necessary. They portray for us with stunning delineation and completeness the inner life we each lead. Nor can I believe these greatest artists to be unfamiliar with the emotions expressed in the passages I so admire in the lesser, yet very great. The greatest have had their opportunities to paint many of the same passions and have done so admirably.

What certainly has changed is public expression of these emotions. Moral and social strictures (which are always present, though not always the same) demand that some emotions cannot be displayed and that others be displayed only in a certain way. To take examples that do not threaten our own limits (and may not mean much): Homer has Achilles cry over the loss of Briseus, a concubine won in war. Aristotle complains of this. Shakespeare offers Lear determined not to weep "unmanly tears" at his betrayal by two daughters. Closer to ourselves, we find Huck Finn, ready to go to hell for helping a runaway slave to escape. Even the most religious of us are ready to approve his sentiment. Only a few will be concerned about his ignorance.

When Ezra Pound portrays the damnable Betrans, we hold the passions at a distance and admire the portraiture. ("Hell blot black forever the word peace.") But when Baudelaire represents Lucifer as exulting in a freedom only possible by revolt against God, I shudder. I think it wrong to present such feelings. And this has nothing to do with modernity. I shudder at the comedy that Aristophanes makes of a man selling his "piglets" (daughters) to buy some food in *The Acharnians*.

There are feelings that could not be publicly expressed (or not sympathetically) by the greatest artists I admire. And perhaps such artists could not have flourished unless such expression were forbidden. And some expressions of emotion are certainly wrong at any time. Amid such thoughts, I reflect upon the emotions in *The Waste Land*, aware that the most intimate and beautiful moments describe a sorrow and a pain not uniquely modern, but characteristically so.

Each of the five parts of *The Waste Land* presents a primary emotion or passion, more or less clear. For example, "The Burial of the Dead" presents fear. In four of the parts, this emotion is presented in several contexts: circumstances or points of view that illuminate or heighten the feeling.

As already stated, the predominant emotion in "The Burial of the Dead" is fear. If this part is divided into five paragraphs or scenes (at 19, 31, 43, and 60), three speak directly of fear: "And I was frightened" (15). "I will show you fear in a handful of dust" (30). "Fear death by water" (55). Of the other two, one makes a clear threat of an undesirable discovery (74–5). The emotion of the other, the third scene, is not presented so directly.

Fear is first presented as the passion of the speaker. In the first seven lines nature itself seems afraid to grow and live. With the surprise of summer, this fear is forgotten. It remains in the "roots." Once Marie tells a coherent story, however, her fear begins to surface (13–6). In the second paragraph the fear presented in the first becomes the object of prophetic wrath and revelation. The answer to the question, "What are these roots?" the "dull roots" of line 4, is "fear in a handful of dust" (30). The prophet is indignant that the speaker, who is now the audience, does not recognize the nature of his (her, our) inclination and resistance to growth. That anything still grows in the waste land is beyond human ken. Relief demands entering the red rock. A second level of fear is introduced, the fear that the original fear will be revealed. And perhaps a third, the fear of entering the red rock.

Lines 31-42 have great lyric force, inverse to their clarity. The love, satisfaction, and gratitude of the first six lines provide respite from the mounting fear of the first two paragraphs. But suddenly, for whatever reasons, lines 37-42 step back from these emotions. The long dash and the word "yet" interrupt. Whatever is romantic in lines 37-8 is destroyed on the negative, "not." This is followed by four more negatives: failed, neither, nor, nothing (38-40). The closing lines (41-42) sum up the emotional force of the paragraph: the "heart of light" opposed perhaps by "silence" and (more certainly) by the "wide and empty sea."

The remaining paragraphs take up again the theme of revelation, each in its own way. They do not reveal fear, but something fearful. That is, the fourth scene reveals (55), the fifth reveals by threatening to do so (71-5). Madame Sosostris is not a prophet but a psychic and astrologer. She is not omniscient, and her power to reveal is limited (54). She fears the things that she reveals (59).

The speaker leaves her establishment to see an oppressive city (62) filled with the "dead" (63-4), those "neither living nor dead" (39-40). The same resistance to life described in the opening lines is seen on their faces (65-6). One of these dead

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men, revealed in the last line as the reader, is threatened. If he is careless, some crime may be revealed. The crime resulted in "planting" a corpse, rather than a seed. Again, we are taken back to the "dying roots," the fear and resistance to life of the opening seven lines.

Part II, "A Game of Chess," is much better named than first appears. Many reasons may be given. The one appropriate to this comment is that the emotion or passion common to its parts is that appetite for attack so essential to the game. The attack involves attention, diligence, and subtlety. Its violence may be quick, but it is considered, or at least practiced. This feeling—the tension from which one mounts an attack—was present in the first part, as the speaker threatened Stetson. But now this feeling and the corresponding feeling in one expecting the attack dominate the poetry.

Each of the two "halves" of this part presents the passion at work. This is less apparent in the first. Exactly thirty lines (77-106) mask this emotion. What we feel is suffocation. We cannot see the true source of suffocation. In the midst of these lines an action becomes clear, the rape of Philomel, and its reaction, her "inviolable voice" (97-103). The three lines that follow resume the confusion and continue the suffocation of the passage:

And other withered stumps of time Were told upon the walls; staring forms Leaned out, leaning, hushing the room enclosed.

The sound of footsteps distracts us from the contents of the room. Then the violent source of suffocation appears. A woman brushing her hair, alternately speaking in anger, sitting silent in anger. We hear her frustrated attempts to force her husband to speak. His fear, refusal or inability to come face to face with her.

The second of these parts is more clear. At line 139 Lou (I hear "Louise") or May describes her attempt to bed Lil's husband.

A HEARING OF THE WASTE LAND

She has been interfering in their life (144–7) with a calculation more and more apparent (149, 153, 162). She barely hides her satisfaction at her success (167). The various interruptions by the publican ("Hurry up please it's time") imitate the sudden, unexpected character of such attacks, intensified in lines 165–9, and serve as interpretation of the main speaker's statement to Lil. The relief felt in the last line (172) serves to introduce the passion of the next section. Pity is felt for the women, especially Lil (and Philomel), but also those on the attack, who, as Ophelia, are committing suicide.

The middle part of *The Waste Land* is the most complex in many ways, including emotion. Its title, "The Fire Sermon," suggests the judgmental attitude found in it. But this is not the judgment of the Old Testament prophet. It does not come directly from God. Rather, it is the judgment of Tiresias, the Fisher King, St. Augustine and the Buddha, a judgment that arises from the immediate experience of what is being judged. Thus, the anger and contempt (mingled with pity) with which we witness the scenes of this part are stimulated by disgust with what is filthy and tawdry.

Immediately a note of sadness is sounded. The river sinks. Vegetation hardly thrives on its banks. The land is empty and dry (173–6). Ugly images then follow one another: "empty bottles, sandwich papers," and so on. This pollution has been cleaned from the river since last summer's lovers have gone (177–81). To the sorrow for the barren land is added revulsion toward those who have dirtied it. After this, a feeling of inevitable loss: "Sweet Thames, run softly, for I speak not loud or long." (184) More or less the same emotions are rehearsed in the second paragraph in a different order: revulsion (187–8), despondency (189–92), revulsion tinged with fear (193–5), revulsion mingled with contempt (196–8), disgust (199–201), and finally, the relief of escape (202).

The relief felt when the Fisher King remembers the

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sound of children singing is short lived. For they are singing of Philomel, Procne, and Tereus, and thus inspire vague feelings of confusion, pity, disgust, perhaps horror. The latter two emotions are elicited more distinctly in the fourth paragraph. The "brown fog" somewhat obscures the scene, but it also introduces a feeling of oppression (208) in which the revulsion at the dirty and mercenary Mr. Eugenides (209–11) becomes outright disgust (214).

In the central section of "The Fire Sermon," such emotions are directed against "the substance of the poem," that is, the waste land itself. This long paragraph opens with a description of the office worker as a machine, tense and anxious to escape (215-7). These feelings are transferred to Tiresias, caught "between two lives" (218-9). The slovenly flat of the typist is described, which gently introduces discomfort (222-7). An obscure moment of judgment occurs, mingled with some revulsion by the description of Tiresias' "wrinkled dugs" (228-30). Her lover "arrives" and the sense of judgment is more and more defined as he is observed (231-42). As the scene turns from the tawdry to the lewd, Tiresias' judgment of the scene is postponed by feelings of empathy (243-4) and guilt (245-6). His judgment is actually made in the next paragraph where the woman feels relief that her lover is gone:

When lovely woman stoops to folly and Paces about her room again, alone, She smoothes her hair with automatic hand, And puts a record on the gramophone. (253–6)

The severity expected from the previous build-up (228-42) has been relieved by the other feelings aroused (243-6), and this allows the "young man carbuncular" to escape (for now) his judgment.

Outside the typist's flat, someone walking by hears her record player and is reminded of various things that comfort him (257-258). But this is interrupted by the song of the

Thames-daughters, inspiring disgust with the now filthy river (266–7) and the veneer that his beautiful memories provide. Three degrees of pity for ruined women (292–5, 296–9, 300–5) are followed by confused feelings of lust, guilt, and desire for release (307–11).

"Death by Water" presents the image of dead Phlebas at the bottom of the sea. It begins clearly with a feeling of loss, tempered with the sense that it is deserved (312-4). This develops into uneasiness as we watch his body corrupt (315-8). Suddenly, attention turns from Phlebas to the reader; the uneasiness congeals into fear of one's own judgment (319-21).

The feelings of longing that characterize the last part of *The Waste Land* should be distinguished according to its main sections. The first six paragraphs or stanzas describe a journey (322–94). Lines 395–422 paint a scene of thunder and imminent storm. The closing lines give us our last view of the Fisher King (423–432).

The longing of the first section begins in sorrow and loss, mixed with fear (322–30). As the journey progresses, the longing springs from the need for water (331-58). First it is touched by fear of the surrounding land (341-5), then a pure gush of desire is felt (345-57), the very desire repressed in the poem's opening lines (1-7). But it is brought to a sudden and desperate end with the recognition: "But there is no water" (358). A haunting fear takes over. Some vague presence haunts the passage, but attempts to discern what (who) it is are futile (359–65). The longing is now a desire to understand. But this is replaced by longing to escape in the next two paragraphs. The traveler is first overwhelmed a terror inspired by scenes of chaos: sounds, mass confusion, fallen cities (366-76). These are followed by series of incoherent images that produce a terror more interior. Perhaps here the force of the epigraph is most felt. The traveler can say with Cumean Sybil: "I want to die" (377-84). (For years, my

flesh would crawl as I read this passage.) The moment of relief in the final paragraph of this section ("There is the empty chapel") is attended by fear (285–7, 390–3). As the water so longed for arrives, the scene is suddenly over (393–4).

The longing for rain is not so intense in the penultimate section. The grand, somewhat hieratic tone of this paragraph slows the pace of the poem. A desire is felt for the cleansing that water provides. The image of "sail and oar" (419) introduce a slight sense of satisfaction.

But the last lines, 423–33, step away from this. They leave the reader with a complex longing for water (424), stability (425–6, 430), purification (427), freedom (428), strength (429), sanity (432), and peace (432–3).

Another, less analytical, approach to the poem's emotion considers the build-up of emotion through the five parts. The emotions will not differ much from those just presented but they take on a different force. They move us in a different direction. Overall we pass from the fear to live in the first part to the hope and free flow of longing for life in communion with others. Between these, we feel sympathy for others—whether victim or attacker, disgust at and guilt over the selfishness of sterile sexual relations, and the sense of loss in the face of death and the uneasiness in the face of our coming judgment.

The first part, "The Burial of the Dead," expresses fear everywhere we turn and it expresses this fear very much as we experience it in daily life. In fact, we feel a fear to grow in our very roots and this appears as we turn back to the past (14-15)or when we turn to the spiritual guidance exemplified by the Old Testament (30). The experience of love suggests a way out but, for one inhabiting the waste land, the impediments to growth choke the movements of love. One encounters the fear to love either in oneself as a lover or in the beloved. This fear gives way to fear of the future, resolved to the fear of death. This fear of death, observed in the citizens of the Unreal City, on their way to work, appears as the triumph of death. The citizens are already dead. But the poet distinguishes one of these citizens, Stetson, from the others and threatens to reveal his corpse.

The second part, "A Game of Chess," as I suggested above, focuses on the appetite for attack. Before we are distinctly aware of this appetite, we feel the suffocating atmosphere of the room in which the first attack will occur. The simplest image supporting this feeling is that of Mr. Equitone-Ferdinand, having left Madame Sosostris and encountered Stetson, still on his way home. He anticipates his welcome in the sitting room where his wife awaits him. Once he enters, the attack begins. We feel her attack and sympathize with him. But we also feel her irritation ("Why do you never speak?") and perhaps we sympathize with her. The second part certainly draws pity from us for Lil and some disgust for Albert and the woman speaking. Perhaps the fear felt in the first part intrudes in the anticipation of an attack on the reader's marriage. But I suspect the deepest level of feeling-easily unnoticed-occurs when the reader identifies with the woman listening to the woman speaking-one is Lou, the other is May-and sees what has become of her friend.

The third part, "The Fire Sermon," has a clear emotional center toward which and from which the emotions in other parts lead or flow. This center (215–256) is the encounter between the clerk and the typist. Further, the various forms of fear in the first part, together with the sympathy, hostility, and wariness felt in the second, constitute a foundation to the sorrow—to give it one name—experienced in the third part. I will examine the feeling that builds up within the third part as ordered to the central section, in the central section, and flowing from the central section.

In the first two paragraphs, we feel disgust at the physical and spiritual filth at the beach underlying the sorrow of the

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Fisher King as he laments the little time left him to purify his realm and then, without the clear sunlight of summer, we feel the underlying corruption of his realm threatening to pollute the beach again. The second part finishes with a satirical ode to Mrs. Porter, presenting her in her vulgar luxury ("They wash their feet in soda water") as drawing Sweeney to the beach. This gives way-probably through an indirect reference to Parsifal as an opposite to Sweeny at line 202-to a boys' choir celebrating, not the hero's chastity, but the rape of Philomel. The beauty of line 202 evokes a momentary expectation of relief not only disappointed by, but horrified by, the song the choir sings. This is followed immediately by a proposition, made on the street somewhere and apparently sexual and commercial in nature, directed at the reader himself (212). This seems to epitomize the selfish, anti-romantic experience of sexual desire and activity that defines this third part of the poem. Its public character—on some corner of the Unreal City-completes the preliminaries to the central section.

In the central section, we move to the interior. Even the sitting room we entered at the beginning of "A Game of Chess" is not as interior as the typist's studio apartment—at once her sitting room and her bedroom. There we feel neither love nor warmth—apart from the friction inseparable from sexual intercourse—but an anesthetized couple fulfilling their animal need for sex without any human bonds between them. The opening lines (215–217) describe the physical urge to escape the office at end of day felt by the typist and probably by her lover, "a small house agent's clerk." Both are workers and do not form a family. Perhaps he is Albert after divorcing Lil. The typist eats from "tins" and does not bother to store her clothes in drawers but piles them on her sofa-bed. We have seen the pair (at least their types) in the first part experiencing the fear of commitment, death, and emotional growth, and in the second part learning

the cynical truth about marital love. They have no illusions—as made clear in her response to the encounter (249–256) and in the narrator and seer, Tireseus. In Tireseus we first experience a judgment of the act, yet a compassionate judgment. He has "foresuffered all" (242), what either partner has suffered here.

The remaining part of the poem's third part looks over the land (surrounding the Thames) and judges it. This judgment proceeds, however, from our observation of the emotional vacuum at the center of the waste land. It begins with attention to the beauty still found in the city: the music of poetry, music played outside a pub, the architectural splendor of its Christian past. The following two-part paragraph offers a look at Elizabeth I and her favorite, Robert Dudley, first Earl of Leicester. The first part, to my ear, sees the Thames "as it really is," sweating "Oil and tar" (267). Then we experience the glamorous procession of the couple along the river-the lovely view of and from the royal barge hides the real state of the river just as the flattery between the couple mask the sterility proceeding from the Virgin Queen's throne into all her kingdom. The three songs of the Thames daughters follow, reporting some form of what we now call date rape at various stages along the river. This is the death of womanhood we felt as imminent at the end of the second part, experienced as pitiful and criminal near the end of the third. What remains confirms, in the line from Saint Augustine, that the sin is within the city dweller himself (307), identifies this sin as flowing from the burning of passion (308), and begs or prophesies divine help (309-310), not yet experienced (311).

The ten lines constituting "Death by Water," the fourth part of *The Waste Land*, maintains the judgmental stance with which the previous part ends, while transforming it in various ways. As a whole its water responds to the third part's fire. The first three lines suggest relief. While judgment has come for Phlebas (and Ferdinand, but not yet for us), he no longer worries over the trivial concerns that dominated his life. The next four lines examine the corruption of his body and imply a return to before he was born. But one must hear *The Tempest*'s "Full Fathom Five" (T1.2.397–403) here, with its implication that things are not as they seem, perhaps even that Phlebas—though he will not really be Phlebas anymore—will experience, as did Ferdinand's father, a purgation and redemption. The three concluding lines make clear this is a universal experience, that the reader should also expect death as the price paid for his sins. A sense that there is a way out, something the reader can do, whether Gentile or Jew, arises to be worked out in the fifth part.

"What the Thunder Said" presents the way out, though not the escape itself. We see the way out in three ways: the journey to the Chapel Perilous (322-394), the thunder speaking (395-422), and the contemplation of the poet-Fisher King as he prepares to "end his song" (176) and die. The journey is quite varied in its images and thus presents in some way the principal emotions that define the effort to escape, that is, to transform, the waste land. This begins (322-330) with facing suffering and death, as these present in some way the road we must travel and make clear the need for "patience," no doubt speaking of the virtue but also of the very act of suffering. Two paragraphs follow (331–35) that express the longing for the water that would transform the waste land so powerfully that we even experience the illusion-in the hermit-thrush's water dripping song-that we can hear the water. I hear each of the repetitions of "drop" at 357 as expressing our readiness to drop as we fail to reach the water. The illusion of the sound of water gives way to what may or may not be a visual illusion, that there is someone walking beside us.

We feel the fear here that our "Western" judgment that Christ walks alongside us may be illusory, yet, if we walk forward, we still sense he is there. The next two paragraphs offer two forms of distraction from the journey. The disintegration and destruction of the external civic order (359–376) and the hallucinatory experience of the interior home life (377–384) present real evils—even if we do not see them as they really are—but evils that distract us from the journey itself. I expect the fact that the interior distraction occurs just before the arrival at the chapel suggests that it is principally in this personal, familial life that we must complete the spiritual journey. The hero arrives at the end of the journey but the poem-ritual that constitutes *The Waste Land* ends with this arrival. We feel relief at the end of the delusions but the transformation of the land cannot occur within the poem. It must occur within our lives.

The poem can, however, help us feel what the spiritual rain that falls in a land of fertility is like. The thunder speaks and each hears what he needs to hear: give, sympathize, control. The gloss on Datta, give (401-409), urges each of us to a complete "surrender" to a spouse—a feeling absent from this poem though it seems to be the preeminently poetical feeling. The feeling was absent from the third part of the poem and we observed and felt its absence at the center of that part. To my ear, we do not feel such a surrender here but the need for it. Dayadhvam, sympathize (411-416), provokes a feeling of sympathy in the reader for those souls in his life-perhaps his spouse-whose feelings of isolation constitute a prison locking each of us away from each other. The answer is to turn the key, to open the door to the other, to become, even if it brings about our death, Coriolanus once again, the protector of his city and not, as Coriolanus had become, its enemy. Damyata, control (418-422), offers a sailing image to suggest the interaction between those living in a fertile land: one directs the vessel in which both sail and the heart of the other responds. They move together toward the end of their voyage. We feel not merely relief here but we sense movement in a direction, something that did not exist in the first four parts, something believed without experience as we journeyed to the

Chapel Perilous (322–394).

The last section, which gives us our last glimpse of the Fisher King, the image of the author of this poem, has two paragraphs. The first (423-425) looks directly at him. His land is still waste (424) but he continues to serve the kingdom by fishing. We feel his refusal to despair as he continues in his service (425). The second paragraph falls on my ears as a recapitulation of the whole poem. We see what he has fished from the river (of the poetry preceding his own) and feel the various passions most proper to the poem. The nursery rhyme (426) suggests the original state of the waste land: the decay of the land is a matter of play to its inhabitants. This is followed by the experience of purgatorial fire (427) and the desire to escape and to be free (428). Next comes a moment of facing the truth, the city's ruin (429) and a reminder of the king-poet's attempt to prevent this ruin. This is followed (431) by the hopeful suggestion that we have been made "fit" or ready to survive together with the fear that such a thought is madness. But we have heard the thunder. The peace, shantih, that we hear at the end is outside the poem.

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