

THE AQUINAS REVIEW
OF
THOMAS AQUINAS COLLEGE

Vol. 23, 2019–2020

ISSN 1076–8319

EDITOR

Christopher Decaen

EDITORIAL BOARD

Michael F. McLean

John J. Goyette

Kevin D. Kolbeck

R. Glen Coughlin

John Francis Nieto

The Aquinas Review is published annually by the Office of the Dean, Thomas Aquinas College, Santa Paula, California; Michael F. McLean, President; John J. Goyette, Dean. Unsolicited articles, reasoned criticisms of articles, and letters are welcome.

Correspondence should be addressed to: Editor, The Aquinas Review, 10,000 Ojai Road, Santa Paula, CA 93060. A subscription form follows the final article.

Editor's Statement

The autumn of 2020 will mark the beginning of the 50th year of the existence of Thomas Aquinas College, which is, and has been consistently, devoted to providing the beginnings of Catholic liberal education. As was stated in its founding document, “this college will explicitly define itself by the Christian Faith and the tradition of the Catholic Church. Thus theology will be both the governing principle of the whole school and that for the sake of which everything is studied.”¹ Given its manifest success in this regard, the College founded *The Aquinas Review* in 1994 to “stimulate a continuing conversation with an every widening audience”² about matters on which our students and faculty, the Church at large, and man as such can meditate, for the betterment of our souls and—most of all—for the greater glory of God.

Ronald P. McArthur, the founding president of Thomas Aquinas College and the founding editor of this journal, had hoped that one of the uses of this journal would be to publish not only original essays of intellectual depth, but also occasionally to put into circulation older essays of great worth that are underappreciated, difficult to obtain, or not available in English. With this in mind, the entirety of the fourth issue of the *Aquinas Review* was devoted to two lengthy essays written by Charles De Koninck, under whom McArthur and others among the College's founders had studied philosophy at Laval University in the mid-twentieth century. In this issue we follow this example by including an original translation of De Koninck's *Introduction à l'étude de l'âme*, published in French in 1947. In future issues we may continue this tradition by providing translations of other works by De Koninck and others.

1 *A Proposal for the Fulfillment of Catholic Liberal Education* (1969), 49.

2 Editor's Statement, *The Aquinas Review*, vol. 1 (1994), iii.

This issue, which will be the last of our double-issues, also includes five other essays. Robert Augros faces head on the claim that philosophy is pointless because philosophers disagree. Marie George addresses the advances in contemporary neuroscience and whether, or to what degree, they affect our understanding of the human soul. Leon Holmes studies the role our founding president's remarkable virtues and his judgment about good government based on his experience as general played in the success of the American founding, and especially in their relation to slavery. Peter Kwasniewski responds to a common criticism that St. Thomas Aquinas's account of the beatific vision is exclusively intellectual, and ignores the love that manifestly should be a part of it. And Andrew Seeley looks at how moral virtue is profoundly transformed, and made more widely available, by the grace that comes with Christian faith.

Also, to facilitate the reading of previous issues, we have included at the end of this volume two indices for the first twenty-three volumes of the *Aquinas Review*—one index divided by the science they concern and organized by topics, and the other alphabetized according to the author's name. All previous issues of this journal are available in pdf form, free of charge, at the website of Thomas Aquinas College: www.thomasaquinas.edu/review.

Christopher A. Decaen
Thomas Aquinas College,
August 2020

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 editor – in collaboration with the editorial board – determines 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

Contents

INTRODUCTION TO THE STUDY OF THE SOUL.....	1
<i>Charles De Koninck</i>	
A RESPONSE TO THE SCANDAL OF DISAGREEMENT	101
<i>Robert M. Augros</i>	
NEUROSCIENCE AND THE HUMAN SOUL	123
<i>Marie I. George</i>	
FROM VALLEY FORGE TO APPOMATTOX: GEORGE WASHINGTON AND THE FORMATION OF THE AMERICAN NATION	153
<i>James Leon Holmes</i>	
ON INTELLECTUALISM AND THE BEATIFIC VISION	189
<i>Peter A. Kwasniewski</i>	
HEROIC VIRTUE AND THE INFUSED VIRTUES	205
<i>Andrew T. Seeley</i>	
INDEX TO VOLUMES 1–23	227

INTRODUCTION TO THE STUDY OF THE SOUL¹

Charles De Koninck

The author of this little treatise has asked me to provide, by way of introduction, some considerations preliminary to the study of the soul. As this work is aimed at young people who take up the subject for the first time, it is to them that I address myself.

1

Study of the Soul and Study of the Living

If one deviates slightly from the truth at the beginning, the gap grows thousand-folds in what follows.² That is why one should not pass lightly over the preliminaries of a doctrine, nor presume that they are sufficiently known; on the contrary, they deserve all our attention. In Edgar Allen Poe's *The Purloined Letter* is found this useful comparison.

Charles De Koninck, who died in 1964, was for many years the Dean of the Faculté de Philosophie at l'Université Laval in Quebec. He was as well a professeur auxiliaire of the Faculté de Théologie of the same university and a visiting professor at the University of Notre Dame. The *Aquinas Review* here reproduces in its entirety a heretofore unpublished translation from the French by David Quackenbush.

1 This introduction was prepared as a preface to Father Stanislas Cantin's *Précis de psychologie thomiste* (Quebec: Laval University, 1948). [It was also published, in the original French, in *Laval Théologique et Philosophique* III.1 (1947): 9-65.]

2 Aristotle, *De Caelo* I, 5, 271b10; St. Thomas, *ibid.*, lect. 9 (Leonine edition), n. 4; *De Ente et Essentia*, Prooemium.

INTRODUCTION TO THE STUDY OF THE SOUL

The principle of the *vis inertiae*, for example, seems to be identical in physics and metaphysics. It is not more true in the former, that a large body is with more difficulty set in motion than a smaller one, and that its subsequent momentum is commensurate with this difficulty, than it is, in the latter, that intellects of the vaster capacity, while more forcible, more constant, and more eventful in their movements than those of inferior grade, are yet the less readily moved, and more embarrassed and full of hesitation in the first few steps of their progress.³

We presume as known the chief problems touching on mobile being in general and in its great divisions: mobility according to place, which is the most common; mobility according to quality, and mobility according to quantity, which is restricted to animate beings. Aristotle has discussed the principles and properties of mobile being and its great divisions, in general, in the book of *Physics. On Heaven and Earth* and *On Generation and Corruption* study in particular the two first species of mobility. These last two works, which treat of subjects whose study demands a very detailed experience, and many of whose theories remain more or less provisional, are in great part obsolete and replaced by physics and chemistry;⁴ whereas the books of the *Physics*, in the measure that they do not resort to phenomena and to theories that depend on the subsequent treatises (and it is not always easy to distinguish what is obsolete), are unaffected by time.

You are beginning now the study of the third species of mobility, that of animate mobile being, the living body. And notice that a first difficulty arises with respect to the very title

³ "The Purloined Letter," in *Selected Tales*, with an introduction by Diane Johnson (New York: Vintage Books, 1984), 206.

⁴ On this subject, see the *Praefatio* of the Leonine edition of Thomas's commentaries on these works of Aristotle.

of this treatise. The word “psychology” signifies that it is indeed the soul, and not the living or animate mobile being, that is the object of this discourse, of this treatise. *Physics* had for its subject mobile being as such; *On the Heavens* treated of mobile body; *On Generation and Corruption*, the things that come to be and perish at the term of a movement according to quality, called alteration. However, the treatise on the soul studies immediately not the animate mobile, the living body, but resolutely that which is in short only a principle of natural living things: their proper and intrinsic principle that we are accustomed to call the soul. Would it not have been fitting to consider and to define in the first place the natural living thing in general, and then show what is the characteristic of its form? The general properties of living bodies as such having once been established, we would in the second place seek those of the soul in particular.

However, it is in the inverse order that we ought to proceed, as St. Thomas expressly maintains. The study of the living ought to begin with the study of the soul in itself, and it is only in the last place that one can begin the general consideration of the living: “*Ultimo autem ordinantur libri qui pertinent ad communem considerationem vivi...*”⁵ Such is the order that must be followed, and for good reason.

From the beginning of his commentary on the *De anima*, St. Thomas says that we must first consider things common to all animate beings; but what is first common to all animate beings is soul: *in hoc enim omnia animata conveniunt*.⁶ And yet, at first

5 *In de Sensu.*, lect. 1 (ed. Pirotta), n. 6. [“**In the last place**, however, are ordered the books that pertain to the common consideration of the living.”]

6 “Sicut docet Philosophus in undecimo *Animalibus*, in quolibet genere rerum necesse est prius considerare communia, et seorsum et postea propria unicuique illius generis: quem quidem modum Aristoteles servat in *Philosophia prima*. In *Metaphysicæ* enim primo tractat et considerat communia entis in quantum entis, postea vero considerat propria unicuique enti. Cujus ratio est quod, nisi hoc fieret, idem diceretur frequenter. Rerum autem animatarum

sight, this reason leaves a doubt. In fact, could one not say just as well, if not better: what all species of living things have in common, is to be living things? Let us not forget, however, that we are here in the philosophy of nature: we are studying natural things. But, among them, “there are some that *are* simply bodies and magnitudes, such as rocks and other inanimate things; others *have* body and magnitude, like plants and animals, and their principal part is the soul—also it is more according to the soul than according to the body that these things are what they are.”⁷

omnium quoddam genus est; et ideo in consideratione rerum animatarum oportet prius considerare ea quae sunt communia omnibus animatis, postmodum vero illa quae sunt propria cuilibet rei animatae. Commune autem omnibus rebus animatis est anima: **in hoc enim omnia animata conveniunt**. Ad tradendum igitur de rebus animatis scientiam, necessarium fuit primo tradere scientiam de anima tamquam communem eis. Aristoteles ergo volens tradere scientiam de ipsis rebus animatis, **primo tradit scientiam de anima**, postmodum vero determinat de propriis singulis animatis in sequentibus libris” (*In I de Anima*, lect. 1 [ed. Pirotta], n. 1). [“As the Philosopher teaches in the eleventh book on Animals, in any genus of things it is necessary first to consider the common things, and separately and afterward the proper things of any genus: which mode Aristotle keeps in first Philosophy. For in *Metaphysics* he first treats and considers the common things of being as being, but afterward considers things proper to any being. Of which the reason is, because if this were not done, the same thing would be said frequently. Moreover, there is a certain genus of all animate things; and therefore in the consideration of animate things it is necessary first to consider those that are common to all animate things, and afterward those that are proper to any animate thing. And the soul is common to all animate things: **for in this all animate things agree**. Therefore, for treating the science concerning animate things, it was necessary first to treat the science concerning the soul just as common to them. So Aristotle, wanting to treat the science concerning those animate things themselves, **first treats of the science of the soul**, and after determines concerning the proper single animated things in the following books.”] The commentary on this first book is a *reportatio* of Thomas’s oral lectures taken down by his secretary and dear friend Reginald of Piperno. See P. Mandonnet, *Sancti Thomae Opuscula Omnia*, Paris, 1927, introduction, pp. iv-vii, xxi-xxii.

7 “Eorum quae sunt secundum naturam, quaedam sunt corpora et magnitudines, sicut lapides et alia inanimata; quaedam habent corpus et magnitudinem, sicut plantae et animalia, quorum principalior pars est anima (unde magis sunt

Therefore, that by which living bodies are what they are, is not the common attribute of living, but that itself in virtue of which they are living bodies, and which is also the reason that we call them, more precisely, animate things.

But here is what increases the difficulty. In order not to be obliged to repeat in the case of each species all that it has in common with the others, science ought very reasonably to treat in the first place what is common—to the degree possible.⁸ “To the degree possible,” we say, because, on the one hand, science ought to begin with what is the most known to us; and, on the other hand, what is the most common is not always the most known. For example, there are without doubt elements common to all natural beings; but everything that the sciences, over the course of history, have taken for the elements (for the ancients, water and earth, air and fire) have always been able to be reduced into more primitive entities, since, in all rigor, by elements must be understood “the ultimate parts into which bodies are divided, parts that cannot be divided into other specifically different bodies.”⁹ On the other hand, this “more common” by which a science begins must also be more known to us. But how could one affirm that, of all living beings, it is the soul that is known first of all, when it has been denied and continues to be by so many persons in whose number are found philosophers and scientists of renown? And would not these worthy people be astounded

id quod sunt secundum animam quam secundum corpus); quaedam vero sunt principia habentium corpus et magnitudinem, sicut anima, et universaliter forma, et materia” (*In I de Caelo*, lect. 1, n. 2). [“Of those things that are according to nature, certain ones are bodies and magnitudes, such as stones and other inanimate things; certain ones have body and magnitude, such as plants and animals, of which the more principal part is the soul (whence they are more that which they are according to the soul than according to the body); but certain ones are principles of those having body and magnitude, such as soul, and universally form, and matter.”]

⁸ *De partibus animalium* I, 1, 639a1-639b1; I, 4.

⁹ *Metaphysics* V, 3, 1014a32-35.

if one told them that the carrot has a soul and that this is not a metaphor?

2

The Experience of Living

There is a first knowledge of the soul, presupposed to any other, that is quite rightly compared to the prose of Monsieur Jourdain: there is difficulty here only with the word, the thing signified being known by all.¹⁰ With the soul it is as with the truth, of which Aristotle said that in a sense knowledge of it is easy, and he cites the proverb: “Who would not put an arrow in a door?”¹¹ But, in a certain case, the target is as large as the door, and near, to the point that one must take a step back. We cannot wholly escape the method of Monsieur Jourdain’s professor.

We ought not make a blank slate of all we know about life and the soul before undertaking their study; but we agree without difficulty that this knowledge is of unequal value and in general rather badly ordered. The ideas that cause the most trouble at the outset are not those of spontaneous knowledge, but those you have gathered randomly in your reading or in certain courses, such as the opinions of philosophers. Thus there is no one among you who has not heard it said that the living has for its characteristic that it moves itself, and you have believed that you knew the truth of this in the comparison of the growth of the tree and the expansion of a gas, or of a horse and the wagon he pulls; and you perhaps you have even received the responses to objections taken from the automobile. You will at least have retained the impression that the accuracy of this definition would be held in suspense so long as one has not taken

10 [Monsieur Jourdain was surprised to learn that he had been speaking prose all his life. - Tr.]

11 *Metaphysics* II, 2, 993b5.

apart a Ford and a horse; that biological experience withholds its approval, and the proper being of the living is found compromised to that extent. And what will then be your sentiment when you learn that in the opinion of a reputable scientist “a solution is satisfying in biology” only in the measure that one has succeeded in dissipating “the apparent abnormality of life” by “reduction to the laws of the inanimate world”?

The common opinion among people in the business is of having arrived at a solution when ‘the biological phenomenon studied is reduced to a series of physico-chemical processes.’ But the perfect proof of such a reduction is the quantitative verification of the laws found in inanimate nature. That is why biology, like the other sciences, seeks to be as quantitative as possible.¹²

And one can find without difficulty physicists of great renown to support this opinion.

Whatever be the value of the testimony of the learned who hold the opposite view, it is not by so slippery a route that we will attain the living as a being that is moved by itself. In truth, life is much closer to us, and the original notion does not await permission from a science that encloses itself in what is customarily called, not without equivocation, purely objective experience. Moreover, the phenomena that lend themselves the better to this kind of experience, and to an explanation in terms of external observation, are also the most remote and the most obscure. Following a repeated remark of St. Thomas, the life of plants is hidden and it is only among animals that it manifestly appears.¹³

12 René Wurmser, *Les lois physico-chimiques et les actions des êtres vivants*, in *Encyclopedie Francaise*, T. IV, La Vie, 4 22-10.

13 “In plantis est vita occulta et latens” (*In II de Anima*, lect. 7, n. 311) [“In plants the life is hidden and obscure”]. – “Vita in plantis est occulta, quia caret motu locali et sensu, quibus animatum ab inanimato maxime distinguitur” (*STh* I, q. 69, a. 2, ad 1) [“The life in plants is hidden, since they lack local

So let us continue the detour we have agreed to take in order to see, in the right perspective, the knowledge immediately presupposed by the study of the living. How can St. Thomas affirm that the life of plants is hidden, and that that of animals is more accessible to us, when the vegetative organism is sensibly more simple than that of living things endowed with sensation? Is it not undeniable that the inorganic world is yet more within our reach, whereas man, of a complexity scarcely foreseen, is of all the beings of nature the unknown *par excellence*? Still we would be wrong to evade the no less undeniable fact that it is this same unknown who knows himself to be such. This is the animal who asks himself who he is and is in quest of the ‘why’ of his being; it is this same animal who knows that he is the most complex of animals; and he knows himself enough to know himself very ignorant of himself.

An embryologist of repute, after having denigrated the eminence of the human species in the Aristotelian classification, was nevertheless constrained to recognize that if man is an ape he is at least the only ape to debate the question of knowing what sort of ape he is.¹⁴ The observation is made as much to the point as with humor: a scientist taking trouble to find the traits profoundly characteristic of man reassures us in invoking an experience that is not customarily considered by scientists. I mean the internal experience of the fact that one puts to oneself a question, the experience that we have of the fact that we ask ourselves what it is for a question to be asked. This conscious operation is an activity as real, a datum as distinct as eating or walking. As little as we may know of the material structure required in the

motion and sensation, by which the animate is most of all distinguished from the inanimate”. “Vita enim apud nos in solis animalibus apparet manifeste” (*In XII Metaph.*, lect. 8, n. 2544) [“For with us, the life is manifestly apparent only in animals”].

¹⁴ George W. Corner, *Ourselves Unborn: An Embryologist's Essay on Man* (New Haven: Yale University Press, 1944), 131.

animal who puts to himself a question and knows that he puts it, be the question wise or foolish, the sure fact that he poses it to himself is there—as much at least as are apes. Even though one should doubt that man is the only animal capable of doing embryology, this would not diminish in the least either the fact or the problem: man does embryology. And it is not plausible that just any organization of body that we might study, especially by external experience, would be able to support such an inquiring return on itself, just as it is not surprising that an airplane should be more complicated than a wheelbarrow.¹⁵

The first notion of life, that to which one must always return, comes to us first and principally from the internal experience of living. To live is to touch, taste, feel, hear, see; to distinguish these sensations from one another, to imagine, to remember, to love, to hate, to move oneself from place to place, to rejoice, to be sad; to understand, to reason, to will. Life is first known by us in the consciousness of the very exercise of these operations; and if the words we use to designate them can signify something for us, it is because we relate them without difficulty to these operations that we experience in ourselves in their exercise. But the activities that are produced in us without being themselves either acts of knowledge, or acts of desire or movement arising from knowledge, are the more obscure and

15 “Anima [humana] quae est nobilissima inter formas inferiores, etsi simplex sit in substantia, est tamen multiplex in potentia et multarum operationum; unde indiget diversis organis ad suas operationes complendas, quorum diversae animae potentiae proprii actus esse dicuntur, sicut visus oculi, auditus aurium, et sic de aliis; propter quod animalia perfecta habent maximam diversitatem in organis, plantae vero minimam” (II *Contra Gentes*, c. 72). [“The human soul which is noblest among lower forms, even if it is simple in substance, is nevertheless manifold, in power and of many operations; whence it needs diverse organs to complete its operations, of which the diverse powers of the soul are said to be the proper acts, such as sight of the eye, hearing of the ears, and this of the others; because of which the perfect animals have the greatest diversity in organs, but plants the least.”]

can raise only external experience. I know that I know in knowing this bread; I know that I want it and move myself toward it in order to eat it, but I do not know that I digest it in digesting; this vegetative activity is not in the reach of internal experience. This is why the life of plants, restricted to nutrition and propagation, is hidden. But as its corporeal organization, its parts and their functions, are at the same time visibly less heterogeneous, less complex than those that are engaged in the conscious activities of the animal, the plant will also be more available to external experience. In this respect, we will say that animal life is more hidden than vegetable life.

Is this to say that these two kinds of experience move in closed fields and are at the most parallel? I see with my eyes, and I feel that I move as mine this hand that I close on itself and feel touch itself. I have the internal experience of having this external experience. However, I am unaware of all the very complex corporeal structure required to see with these eyes, with these eyes that I see in the mirror. Nonetheless, the life I experience, the knowledge I have of knowing sensible objects and experiencing some of them as parts of myself, as instruments of my knowledge and of my movements, all that makes me recognize in another, in his form, in his movements comparable to mine, a life similar to that which I can only experience in myself.

So it is right to affirm that if we did not have this internal experience of living, all life would be totally unknown to us; we would be unable to recognize any part of it and would not ask ourselves about it. If we did not have the experience of our own thought, the problem of intelligence would not be posed: "We would never ask about intelligence if we ourselves did not think; and when we ask ourselves about intelligence, we are asking about no other principle than that by which we, ourselves,

think.”¹⁶ In this internal experience of thinking about an object, we know in some manner our own intelligence: “Knowing itself, it knows as well other intelligences insofar as they resemble it.”¹⁷ And this that St. Thomas says of thought applies as well to sense and to moving oneself from place to place. The exterior manifestations of the life of another are only recognized as vital insofar as I see them to be similar to my own—to my own that I perceive by that external experience of which I have at the same time an internal experience. This is why a biology that, fearing anthropomorphism, should want to account for phenomena on the basis of purely external experience, could no doubt progress endlessly in the study of living things, but it would be ignorant of the living as such, and the name of biology would be usurped. Such a biologist would be like one born blind studying colors. Such a one would doubtless understand the optics that defines colors by their angle of refraction in a prism, but the proper sensible, the color that is the object of sight, would be unknown to him. He would know a quantitative mode of color, a common sensible; but the color that is the proper object of sight is not its quantitative mode.

16 St. Thomas, *De Unitate intellectus contra Averroistas*, ed. L. W. Keeler (Rome, 1936), p. 39. [See now *Aquinas Against the Averroists: On There Being Only One Intellect*, tr. Ralph McInerny (West Lafayette, IN: Purdue University Press, 1993), which contains the critical Leonine text and employs the Keeler paragraph numbers. - Ed.]

17 *Q. D. de Veritate*, q. 2, a. 3.

Our Certitude of Life

The critical era in which we live demands that we base ourselves, prior to every strictly scientific consideration, on the certitude we have of living and of having a soul. We will not put the cart before the horse by bringing to this experience distinctions that will be imposed in the course of the inquiry. Moreover, we will not try to see on which faculties or acts this experience depends. For the moment it suffices to invoke a few facts that you are able to recognize as certain. Indeed, St. Thomas says, “the science of the soul is very certain insofar as this, that each experiences in himself that he has a soul and that the operations of the soul are in him.”¹⁸ Certainly, our soul is not, as such, the object of a direct experience that would make us see its nature. That is why St. Thomas immediately adds, “but as for knowing what that soul is, that is very difficult.”

Here is how our masters have designated this experience.

One is aware that he has a soul, that he lives and that he is, because he is aware that he senses, that he thinks, or that he exercises vital operations of this kind; this is why the Philosopher says, in Book IX of the *Ethics*: [he

18 “Secundum hoc scientia de anima est certissima, quod unusquisque in seipso experitur se animam habere, et actus animae sibi inesse; sed cognoscere quid sit anima, difficillimum est; unde Philosophus ibidem [*De anima* I, 1, 402a11] subjungit quod omnino difficillimum est accipere aliquam fidem de ipsa” (*Q. D. de Veritate*, q. 10, a. 8, ad 8 in contr.). [“According to this the science of the soul is most certain, that anyone experiences in himself that he has a soul, and that the acts of the soul are in himself; but to know what the soul is, is most difficult; whence the Philosopher in the same place adds that it is utterly most difficult to acquire belief concerning it.”] “Haec autem scientia . . . certa est, hoc enim quilibet experitur in seipso, quod scilicet habeat animam, et quod anima vivificet” (*In I de Anima*, lect. 1, n. 6). [“Moreover, this science . . . is certain, for this anyone experiences in himself, namely that he has a soul, and that the soul vivifies.”]

who sees is aware that he sees, and he who hears is aware that he hears, and he who walks is aware that he walks, and likewise in other activities he is aware of his work. So that] we feel that we feel, or we know that we know. And just as we feel that we feel and know that we know, we feel and we know that we are. [Because to be, for man, is to feel or think.] But no one is aware that he thinks if not in thinking something, because one thinks something before knowing that one thinks; this is why the soul arrives at actually being aware that it is, through the thing that it thinks or that it feels.¹⁹

That which is *per se* and by essence in the soul is known by experiential knowledge, insofar as a man experiences the intrinsic principles by his acts: thus it is that we perceive the will in willing, and life in the operations of life.²⁰

19 Q. *D. de Veritate*, q. 10, a. 8, c.: “Quantum igitur ad actualem cognitionem, qua aliquis considerat se in actu 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 hujusmodi vitae opera exercere; unde dicit Philosophus in IX *Ethicor.* (cap. IX, inter princ. et med.): ‘Sentimus autem quoniam sentimus; et intelligimus quoniam intelligimus; et quia hoc sentimus, intelligimus quoniam sumus.’ Nullus autem percipit se intelligere nisi ex hoc quod aliquid intelligit: quia prius est intelligere aliquid quam intelligere se intelligere; et ideo pervenit anima ad actualiter percipiendum se esse, per illud quod intelligit, vel sentit.” [“As far, therefore, as to actual knowledge, by which someone considers himself in act to have a soul; thus I say, that the soul is known through its acts. For in this someone perceives himself to have a soul, and to live, and to be, that he perceives himself to sense and to understand, and to exercise other acts of life of this sort; whence the Philosopher says in Book IX of the *Ethics*: ‘Moreover we sense that we sense; and we understand that we understand; and because we sense this, we understand that we are.’ And no one perceives himself to understand except from this, that he understands something: because to understand something is prior to to understand oneself to understand; and therefore the soul arrives at actually perceiving itself to be, through that which it understands, or senses.”]

20 *STh* I-II, q. 112, a. 5, ad 1: “dicendum quod illa quae sunt per essentiam sui in anima, cognoscuntur experimentaliter cognitione, in quantum homo experitur per actus principia intrinseca: sicut voluntatem percipimus volendo, et vitam

Let us avoid believing that the experience of which we speak is a privilege of adepts. In order to prevent any misunderstanding, let us remark that internal experience has no directly given object: the operation that we experience in ourselves is without doubt the object of this experience, but it is not an object in the same way as the object perceived by this operation. The same must be said of the knowledge we have of our "I" in conscious activities. It is one thing to see "this white" or to comprehend that the "diagonal is incommensurable with the side of a square"; it is something else to be aware that "I see this white" or that "I understand that the diagonal is incommensurable with the side of the square." It is only in perceiving such an object that one perceives the act itself by which one is reaching it. Even though we can deliberately double back on the act by which we know this white, and though in this act of reflection we know, as object, the act of knowing this white, the object of this act of reflection continues no less to be *the-act-by-which-we-see-this-white*. It is true that we come back to this act of knowing in order to fix ourselves on the act itself, and not on the object of this act, but it remains that the act that is the object of this return on itself is never, itself, directly given. So it is useless to go in search of a pure consciousness without any object other than itself.

Do not for a moment believe that we pause over this question in order to defend the objectivity of knowledge. No, let us not mix up the stages. We simply want to show that the study of the soul, which is situated on the level of the universal, presupposes as point of departure knowledge of the vital activities that we experience first of all in ourselves, that we attain *in singulari* in internal experience. Obviously it is not this point of departure

in operibus vitae." ["It should be said that those things that are in the soul by their essence, are known by experiential cognition, so far as man experiences intrinsic principles through acts; just as we perceive the will by willing, and life in the works of life."]

that is the subject of psychology. However, it is important to see that the universal natures directly envisaged by this science are no less founded on singular objects—the activities of which we are conscious—that we know only in an indirect way. It follows that the universal thus formed will be itself imperfect to that extent. So it is not for nothing that Aristotle tells us that “it is wholly and in every sense one of the most difficult things to acquire assured knowledge on the subject of the soul.”²¹ One sees then how grave is the error of those who believe they have an intimate knowledge of soul by internal experience. Believing that they know a thing that is known with difficulty, they deceive themselves and make the study of the soul pass for an occult science. And this is again to have confused the singular objects (*intelligo, intelligo me intelligere*) that are known in an indirect manner in internal experience, with the abstract objects of these singulars (*intelligere simpliciter*) directly studied by the science of the soul; it is for having confounded what is true of the singular with what is true of the universal that one has been able to assign as object of psychology the immediate givens of internal experience sometimes called consciousness. One is even more exposed to committing this mistake because we have the internal experience of knowing the universal—I know that I know knowing: “*intellectus meus intelligit intelligere simpliciter*,” as opposed to “*intellectus meus intelligit se intelligere*.”²² Nonetheless, this experience does not have for its object the universal itself, but my singular act of knowing the universal. In short, when the givens of consciousness are the object of direct knowledge, they are no longer givens of consciousness, since the object of the latter is always a singular known in an indirect fashion, and so, when they are the object of consciousness, they are not immediately given.

21 *De anima* I, 1, 402a10.

22 *De Unitate intellectus*, p. 72. [“My intellect understands understanding simply,” as opposed to “my intellect understands itself to understand.”]

Let us notice, however, that the terms “immediate” and “direct” would be used in another manner if we were to compare the knowledge that I have of my own life *in singulari* to my knowledge of yours. In opposition to my knowledge of *your* life, that which I have of myself is direct and immediate, since it is not by passing by *your* life that I experience mine: it is by having experienced first of all my own that I am able to recognize yours.

4

The Inverse Relation of Certitude and Clarity

The point of departure of this study is thus not without paradox: the science of the soul is very certain because founded on an irrefutable experience, but it is difficult in the same proportion.

No one has ever been so deceived that he is not aware that he lives, which relates to the knowledge by which one perceives what passes in his soul; . . . nonetheless, many persons are deceived as far as knowing the proper nature of the soul.²³

23 *Q. D. de Veritate*, q. 10, a. 8, ad 2. ---Here is an important passage of Saint Augustine, on the certitude of this experience: “But the certainty that I exist, that I know it, and that I am glad of it, is independent of any imaginary and deceptive fantasies. In respect of these truths, I have no fear of the arguments of the Academics. They say, ‘Suppose you are mistaken?’ I reply, ‘If I am mistaken, I exist.’ A non-existent being cannot be mistaken; therefore I must exist, if I be mistaken. Then since my being mistaken proves that I exist, how can I be mistaken in thinking that I exist, seeing that my mistake establishes my existence? Since therefore I must exist in order to be mistaken, then even if I am mistaken, there can be no doubt that I am not mistaken in my knowledge that I exist. It follows that I am not mistaken in knowing that I know. For just as I know that I exist, I also know that I know. And when I am glad of those two facts, I can add the fact of my gladness to the things I know, as a fact of equal worth. For I am not mistaken about the fact of my gladness, since I am not mistaken about the things which I love. Even if they were illusory, it would still be a fact that I love the illusions. For how could I be rightly blamed and forbidden

Charles De Koninck

The difficulty of knowing the soul is very great (*maxima*), and one arrives at it only in reasoning from objects to acts and from acts to powers.²⁴

We believe it important to draw attention to this obscurity, out of a fear that, insufficiently instructed on the true foundations of the study of the soul, you will one day find, after having devoted much of your time, that you are like those young people of whom it is said: *non attingunt mente, licet dicant ore*,²⁵ and will put the whole matter in doubt.

However lively our experience of living, even when it is deliberately reflected upon, it is all the same poor in representation. It enables us to know so little of its indirectly perceived objects, that the direct objects of operations that we experience in ourselves (“this white,” “white,” “this line,” “line”) tend to eclipse the former and divert us down a dead end. The simple repeated return on our acts²⁶ would not advance us, or rather would carry us very far into a sterile infinite, as St. Augustine remarked.

But if such things alone pertain to human knowledge, they are very few indeed; unless that they can be so multiplied in each kind, as not only not to be few, but to reach

to love illusions, if it were an illusion that I loved them? But since in fact their truth is established, who can doubt that, when they are loved, that love is an established truth? Moreover, it is as certain that no one would wish himself not to exist as it is that no one would wish himself not to be happy. For existence is a necessary condition of happiness” (St. Augustine, *City of God*, XI, 26; a new translation by Henry Bettenson (London: Penguin Books, 1972), 459-460).

24 *In I Sent.*, d. 3, q. 1, a. 2, ad 3; q. 4, a. 5, c.; *STh* I, q. 87, a. 1; *III Contra Gentes*, c. 46.

25 *In VI Ethic.*, lect. 7 (ed. Pirotta), n. 1210. [“They do not reach it with their mind, although they speak it with their mouth.”]

26 “Nam cum intellectus reflectatur super actum suum, intelligit se intelligere. Et hoc ipsum potest etiam intelligere, et sic in infinitum” (*In V Metaph.*, lect. 11, n. 912). [“For when the intellect reflects on its own act, it understands itself to understand. And this itself it can also understand, and thus into infinity.”]

INTRODUCTION TO THE STUDY OF THE SOUL

in the result to infinity. For he who says, I know I am alive, says that he knows one single thing. Further, if he says, I know that I know I am alive, now there are two; but that he knows these two is a third thing to know. And so he can add a fourth and a fifth, and innumerable others, if he holds out. But since he cannot either comprehend an innumerable number by additions of units, or say a thing innumerable times, he comprehends this at least, and with perfect certainty, viz. that this is both true and so innumerable that he cannot truly comprehend and say its infinite number. This same thing may be noticed also in the case of a will that is certain. For it would be an impudent answer to make to anyone who should say, I will to be happy, that perhaps you are deceived. And if he should say, I know that I will this, and I know that I know it, he can add yet a third to these two, viz. that he knows these two; and a fourth, that he knows that he knows these two; and so on *ad infinitum*.²⁷

Some, believing that the simple fact of recognizing internal experience as the necessary point of departure of the study of life makes us merely mark time, mistrust it, preferring to hold to the so-called objective method—as if one had to choose. In fact, we maintain this: we can apprehend nothing of the nature of vital operations, of their respective powers or of the soul, if not by reasoning that begins from their objects. Still we would never inquire into the nature or the principles of the operation whereby we attain an object, if we did not first know this operation by having experienced it in ourselves.

St. Thomas composed several articles to show that our soul does not know by itself what it is (*quid est*).²⁸ When, after a *diligens et subtilis inquisitio*, we finally arrive at some knowledge

²⁷ *De Trinitate* XV, 12, n. 2.

²⁸ *Q. D. de Veritate*, q. 10, a. 8; *III Contra Gentes*, c. 46; *STh* I, q. 87, a. 1.

of its nature, we have succeeded only by way of its objects and of its acts. If it is to this degree difficult (*maxima difficultas*) to know so little by a route so indirect, why does St. Thomas take the trouble of showing so evident a thing as this obscurity? It was a passage in St. Augustine that has been the occasion.²⁹ Certain contemporaries of the Angelic Doctor believed it necessary to interpret it in this sense: our soul knows by itself its own essence, with an evidence at least comparable to that which we have of the first indemonstrable principles. Among the arguments of St. Thomas, let us mark the following:

No one can be mistaken about naturally known things; for the knowledge of indemonstrable principles is never tainted with error. Therefore no one would go astray in the question of the nature of the soul, if the soul knew its essence by itself; and experience clearly shows us that it is not so, since many have considered the soul to be such and such a body, and others have made it a number or a harmony.³⁰

It could be alleged that so unlikely an opinion as that which accords us an experience of the nature of the soul should find its explanation in a pure historical contingency: the excessive docility of certain disciples of St. Augustine, who applaud even impossible things that the text appears at first glance to affirm. But apart from the fact that a similar opinion is attributed to Aristotle, we find it clearly and resolutely advanced by the father of modern critical philosophy, for whom

the first [precept] was never to receive anything as true that I have not known evidently to be such, that is, carefully to avoid precipitation and prejudice, and to include

²⁹ *De trinitate*, IX, 3, n. 3.

³⁰ *III Contra Gentes*, c. 46. St. Augustine also reports the same errors; cf. *De Trinitate*, X, 10, n. 15.

INTRODUCTION TO THE STUDY OF THE SOUL

nothing more in my judgments than what presented itself so clearly and so distinctly to my mind that I had no occasion to place it in doubt.³¹

The definition that Descartes has left us of the clear and distinct idea is indeed such: “Claram voco illam [ideam vel perceptionem] quae menti attendenti praesens et aperta est Distinctam autem illam, quae cum clara sit, ab omnibus aliis ita sejuncta est et praecisa, ut nihil plane aliud, quam quod clarum est, in se contineat.”³² Very well, and among clear and distinct ideas is found that of the soul: I am

a substance whose whole essence or nature is only to think, and which, in order to exist has no need of place nor depends on any material thing; so that this “I,” that is, the soul, by which I am what I am, is entirely distinct from body, and even that it is easier to know than it, and that even if the body were not at all, the soul would not cease to be all that it is.³³

That is what we conceive very clearly and very distinctly, and in an intuitive manner, in the truth: *I think therefore I am*. Is it not remarkable that Descartes takes for simpler and clearer those notions that philosophers have always reckoned to be the most obscure and most difficult? In the Third Meditation, we read “that in some fashion I have in myself the notion of the infinite more primarily than that of the finite, that is, of God than of myself.” And you know how in *Rule XII* he misunderstands the Aristotelian definition of motion:

Do they not seem to offer some magic words, having an occult power surpassing the level of the human mind,

31 Descartes, *Discours de la méthode*, 2ieme partie.

32 *Principia*, Ia pars, n. 45 (ed. Adam-Tannery) T. VIII, p. 22.

33 Descartes, *Discours de la méthode*, 4ieme partie.

Charles De Koninck

who say that *movement*, a thing well known by each [*rem unicuique notissimum*] is the act of being in potency insofar as it is in potency? Who in fact understands these words? Who does not know what motion is? And who would deny that these men have sought a knot on a reed? It must thus be said that one should never explain things by any definition of this sort, lest we take the composed in place of the simple, but that each should examine them separately from the rest, in an attentive intuition and according to the lights of the mind.

In truth, there are no examples more obvious of the inverse relation between certain knowledge and clear and distinct knowledge, than the experience of living and being, and the perception of movement; nor a more trenchant illustration of the inverse relation between the knowability of things in themselves and their knowability for us, than that of God. Also, let us mark well the critical turn in the history of human thought; it is achieved in the identification of what is certain for us, with clear and distinct knowledge of things so far as what they are in their proper nature. God, of all beings the most intelligible in Himself, and the human soul, the most knowable in itself of the things of nature, become the most known for us so far as “what they are.” On the other hand, movement, the least perfect of acts and consequently the most obscure in itself, is changed into *rem unicuique notissimam* so far as its very nature. Here then is a universe conceived to the measure of man. But who does not see that this clarity and this distinction are only the result of a confusion without equal and without return? If one finds it already in David of Dinant or Nicholas of Cusa, at least, such a confusion was never yet formulated with this clarity, which unmasks it to some and which seduces others. In order to be so immediately, clearly and distinctly perceived by us, it would be necessary that the Deity be less than human, and in

order to be so well and so completely known by us, it would be necessary that the soul, too, be not much of a thing.

5

The Order to Follow in the Study of the Living

It is then because we know the living first of all by operations we experience in ourselves, and as our own, that we begin our study by researching the nature of the soul. The word *soul*, in fact, signifies at present nothing other than the principle and cause of the operations that consist in moving oneself and sensing, which are very manifest so far as the fact. This cause is precisely that by which the bodies in which we encounter these activities, and that, for this reason, we call living, differ in the first place from other bodies. The body that has life differs from that which is deprived of it, not by being a body, but by being a *living* body. “For, in saying ‘a body that has life,’ I say two things—namely, that it is a body, and that it is this sort of body, namely, one that has life; one cannot say that the part of the body that has life, and that is called body, is the soul. Indeed, by ‘soul’ we understand: that by which what has life, lives.”³⁴ And here is the principle whose nature we seek to know: what precisely is it?

34 *In II de Anima*, lect. 1, n. 220: “Quia vero, cum dico, ‘corpus habens vitam,’ duo dico, scilicet quod est corpus et quod est huiusmodi corpus, scilicet, habens vitam, non potest dici quod illa pars corporis habentis vitam, quae dicitur corpus, sit anima. Per animam enim intelligimus id quo habens vitam vivit.” [“And because, when I say, ‘body having life,’ I say two things, namely that it is a body and that it is a body of this sort, namely, having life, it cannot be said that that part of the body having life, which is called the body, is the soul. For by soul I understand that by which the thing having life lives.”] “Oportet hoc quasi principium accipere, quod animatum distinguitur ab inanimato in vivo. Animata enim vivunt, sed inanimata non vivunt” (*Ibid.*, lect. 3, n. 254). [“It is necessary to accept this as a principle, that the animate is distinguished from the inanimate in living. For animate things live, but inanimate things do not live.”]

You will have noticed that we have named two sorts of vital operations: moving oneself and sensing. Why confine ourselves to those? Why not make mention of the understanding and the will, for example? And all the more so since we no longer live in the time of those ancient philosophers who did not yet know to distinguish between sensation and thought. This distinction, which we have been taught since our childhood, was nonetheless for a long time unknown by the first thinkers. The long and difficult course of philosophy at its outset is still for us a great help. In fact, these first gropings put into relief, and help us to see, the order of things that are naturally better known and more certain for us. Indeed, among the operations of which we have internal experience, it is that of moving ourselves according to place, which we know most manifestly in the living things that surround us. “We observe in fact that animals live, so long as some movement is apparent in them.”³⁵ As for sensation—an operation that remains in us in the measure that it is knowledge—it is in it that we have the experience of moving ourselves, and it is in the course of a sensation that we have the incontestable certitude of living. But that is not to say that today we should confine ourselves to that. It is not necessary to limit ourselves, at the outset, to what the first philosophers have recognized and expressly named. It is true that on pain of going in a circle, one can never presuppose as an absolute principle something of which it remains to make a proof (such as the difference in nature between intelligence and sense), but it is fitting to draw attention from the beginning to operations that are in fact characteristic of intelligence. And this is what we have done in the course of the preceding.

Since the forms and operations of the living things that surround us are of a great diversity, the souls that are their principle must be, themselves also, diversified. But then, which is it

35 *In VIII Phys.*, lect. 1, n.2.

that one must study in the first place? We fear that the answer will come to us too quickly. In fact, for a long time we have learned that science must go from the general to the particular, but we doubt that the sense of this principle of method is always understood and that its scope is seen. There is, it is true, the reason of economy: in order not to have to repeat for each of the multiple species all they have in common between them, it is better to study the *communia* at the beginning, once and for all. But we have already indicated that this question is not so simple.³⁶ When it is a question of the order of learning, one must begin with common things, but it is still necessary that these common things be at the same time the most knowable for us. Moreover, from the fact that what are first given are easier to know it does not follow that their study, and the search for common properties to define and demonstrate, will be equally easy. It is precisely in the doctrine touching these common things that errors are very numerous and of very extensive consequence. We realize, in studying *Physics*, that if the fact of movement is easy to observe and very certain, “it is difficult to see in what it consists,”³⁷ just as modern philosophy continues to prove.³⁸ Disagreement on the

³⁶ See above.

³⁷ See *In III Phys.*, lect. 3, n. 6; *In XI Metaph.*, lect. 9, n. 2306.

³⁸ Being neither simply act, nor simply power, nor a mixture of the two, motion is obscure in itself. Most philosophers who cannot resist seeing it as something clear (this is a more benign explanation of this error), according to more being than it has, to the point of rendering it contradictory, affirm that this contradiction is a supreme reality, that motion-contradiction is clear and is the crown and root of all rationality. The illusion of clarity is easy if one confuses “that something is” with “what it is”; if one identifies movement with its quantitative mode which is expressed by a coordinate which has the clarity of a line. (See *In Boethii de Trinitate*, q. 5, a. 3, ad 5.) Contradiction arises when one wants to retain at the same time the substance of movement for which one has substituted its mode. Having made of it simply act, one wants to admit at the same time the irreducible distinction “having become” and “becoming,” and have it be neither “having become” nor “becoming,” but simply “possible.” Applied to a body in motion according to place, this confusion entails the

most elementary notions is so radical that most scientists avoid them, when they do not pronounce them vain, in order to apply themselves from the outset to the particular: “the fundamental problem of movement” then becomes a problem of mechanics, which begins with the law of inertia; the science of life begins, not with the study of the soul, but with cytology, anterior questions being idle, insoluble, reserved to philosophy, which seeks in a dark room a black cat who is not there—as has been said of metaphysics. Nonetheless, it must be admitted that this procedure has borne fruit.³⁹

contradiction that the body is in a perfectly determined place of its own and at the same time is not there. Moreover, this is maintained explicitly: “Movement itself is a contradiction: even simple mechanical change of place can only come about because a body, in one and the same moment of time, is in a place and at the same time in another place, in one and same place and not in that place. The constant simultaneous positing and resolving of this contradiction is precisely movement. . . Life consists above all in this, that a being is at each moment the same and, however, other. Life is therefore equally a contradiction ‘existing in the things and phenomena themselves,’ a contradiction which is constantly posited and resolved; and as soon as the contradiction ceases, life ceases and death intervenes” (Frederick Engels, *Anti-Dühring*, Fr. Trans. Bracks (Paris, Costes, 1946), T. I, pp. 182, 183). “But what is motion? It is an evident contradiction. If we are asked whether a body in motion is at a given moment at a given place, despite ourselves we cannot reply according to the Überweg rule, that is, according to the formula: ‘yes is yes and no is no.’ A body in motion is at a given place and *at the same time is not there*. We can only judge of it according to the formula: ‘yes is no and no is yes.’ This body thus provides an irrefutable proof in favor of ‘the logic of contradiction,’ and whoever does not want to accept this logic should proclaim with Zeno that motion is nothing other than the illusion of sense” (G. V. Plekhanov, *Le questions fondamentales du marxisme*, Paris, Bibl. Marxiste, n. 2, sans date, p. 98).

39 This restriction is unfortunate, however, when the scientist himself, and especially his readers, forget it. Thus it is that the most eminent physicist of our day could not refrain from treating questions more fundamental than those which fall within his domain: “I do not, in the philosophical sense, believe in human freedom. Everyone acts, not only under an exterior constraint but also according to an inner necessity. Schopenhauer’s statement, ‘No doubt a man can do what he likes, but he cannot choose what he likes,’ deeply impressed me when I was young; among the spectacles and proofs of the arduousness of

What is the order to observe in the study of the living, conforming to the method that Saint Thomas calls *processus in determinando*, by opposition to the *processus in demonstrando*.⁴⁰ For the reason given above, we will not consider first of all the living as such, but rather that in virtue of which it is living, namely, the soul. Therefore, it is the soul, considered in all its generality, according to its *communissima ratio*,⁴¹ that we will seek to define in the first place. Then, “we ought not be contented with the common definition, but to seek the definition proper to each part of the soul Consequently, for each species of animated being, we must seek what its soul is; in order to know what is the soul of the plant, what is the soul of man, and what is the soul of the beast.”⁴²

existence, it has always been for me a consolation and inexhaustible source of tolerance. Being aware of it conduces to softening in a beneficent manner of the feeling of responsibility so easily depressing and prevents us from taking ourselves too seriously, ourselves or others; one is thus led to a conception of life which leaves room for a sense of humor” (Albert Einstein, *Comment je vois le monde* (Paris, Flammarion, sans date), 8-9). One notes that, according to this page, the author could not abstain from writing it. One often cites the last lines of the following passage, or forgets what has preceded them: “I cannot entertain the illusion of a God who recompenses and punishes the object of his creation, who exercises his will in the way we exercise ours. I neither want to nor can imagine an individual who survives his bodily death; what weak souls are they who, out of fear or ridiculous egoism, entertain such ideas! I find it sufficient to feel the sentiment of the mystery of the eternity of life, to have the consciousness and presentiment of the admirable construction of all that is, to struggle actively to grasp a parcel, however small, of the reason which manifests itself in nature” (*Ibid.*, p. 13).

40 *In I Phys.*, lect. 1.

41 *De Anima* II, 1, 412a1; St. Thomas, lect. 1, n. 211.

42 *In II de Anima*, lect. 6, n. 299: “non debemus esse contenti definitione communi, sed oportet propriam definitionem cujuslibet partis animae inquirere. Et ex hoc concludit, quod hoc, secundum unumquodque animatum quaerendum est, quae sit uniuscujusque anima; ut scilicet sciatur quid est anima plantae, et quid anima hominis, et quid bestiae: et haec est scire de unaquaque parte animae, quid sit.” [“We ought not to be content with a common definition, but it is necessary to inquire after the proper definition of any part of the soul. And

It was by design that we asked ourselves what order to observe in the study of the “living,” and not only of the “soul.” The treatise on the soul, in fact, is only the first part of the study of the living. In his commentary on the *De sensu et sensato*, which is placed immediately after the treatise on the soul, St. Thomas describes its grand lines: the Philosopher

begins the study of natural science in setting out from what is most common to all the things of nature, namely *movement* and the *principle of movement*; then, at the end, he proceeds by way of concretion, that is, by applying common principles to determinate mobile things, of which some are living bodies. With them he follows again the same procedure, dividing his study into three parts: in the first, he considers the soul in itself, as if studying it in an abstract manner; in the second, he studies the things of the soul in a concrete manner, that is to say, by way of application to body, but keeping himself to generalities; in the third, he applies all these considerations to each species of the animals and the plants, in determining what is proper to each species. The first of these studies is contained in the book *On the Soul*; the third in the books that he wrote on animals and plants.⁴³ As for the intermediary study, it is found contained in the books he wrote on the subject of things that pertain commonly either to all the animals or to several kinds of animals, or even to all living things: this is the object of the present treatise.⁴⁴

from this he concludes, that this is to be sought according to any animate thing, which is the soul of anything; so that, namely, it may be known what is the soul of a plant, and what the soul of a man, and what of a beast: and this is to know concerning any part of the soul, what it is.”]

43 The book *De Plantis* is not Aristotle’s; nonetheless, note the place Thomas assigns them in the order of the natural treatises.

44 Lect. 1, n. 2.

What is this “abstraction” of which St. Thomas speaks, and in what does this process from the common to the particular “in the manner of concretion or application” consist? This is the problem of which we were thinking in remarking that we doubt that one always grasps its sense. In fact, the opinion has been successfully spread about that scholastic philosophy is a “game of concepts” which consists in drawing, by a tangle of syllogisms (in Barbara so far as possible), the very particular concepts from the most general concepts, an arid deduction, it is added, that would never rejoin the living reality.⁴⁵ One would have it that, in our opinion, these very general notions with which science begins contain more particular notions in such a way that it would suffice for the intelligence to apply its reasoning in order to make these latter arise with all that they have that is most proper. It is thus that from the common notion of the soul one should be able to deduce in rigor the souls of every species. Now it is possible that a certain kind of pseudo-scholastic is the foundation of this rumor. Among the masters, one finds nothing at all like it. Indeed, one finds quite the contrary. By a curious reversal, it is among the modern philosophers, themselves so admired by the authors who treat from on high of the so-called “conceptualism” of Aristotle and Thomas, that we meet this idea, pushed to its limit. This is what we will see in a moment. But we

45 This opinion on the scholastic method continues on its way, and is extended even to Aristotle. Even at a time when history exercises so much seduction, one can write, “The systematic philosophic concepts of Aristotle are ‘eternal’ since they had only to be consistent in themselves, had to fit not observations but vague generalizations and an abstract system of thought . . . Scholasticism, a sterile form of deductive thinking, developed as a harmless outlet for the reasoning powers of man in a period of intellectual servitude when man could not observe the world around himself lest any observation come in contradiction with prevailing dogmas” (Dr. Franz Alexander, Director of the Institute for Psychoanalysis in Chicago, in his introduction to a work of Professor Mortimer Adler, *What Man Has Made of Man* (New York, Longmans Green and Co., 1937), xv-xvi).

will express first in Thomistic terminology this false method that is made to pass for our own. We will take advantage of it to make understood in what the process of concretion consists.

6

The Process of Concretion in the Study of the Living

The process *in determinando*⁴⁶ is the order we follow in the consideration of the different subjects and principles of a science according as they are more known by us. But that which is most known by us and most certain, is the confused. Thus it is that one is aware first of all that this object is a figure, that it is an enclosed curve, and finally that it is an ellipse. So too, man is first known as animal. We find this order both in intellectual knowledge and in sense knowledge. As long as we know the ellipse only as figure or as closed curve, we do not distinguish it from other species of figures, or closed curves; as long as man is not known in that which distinguishes him from the brute, our knowledge is confused. But this confused thing is also more common, more universal: for the polygon is equally a figure, the circle a closed figure, and the horse an animal. So too, in science, we will consider things following that which, in them, is first of all more known, to go on thus by degrees toward that which is more knowable in itself; for, manifestly, man is more knowable in himself than animal; being animal and reasonable, he is more distinct, more in act and hence more knowable in himself.⁴⁷ So we advance from subject to subject following this order of commonness. In the science of nature, we try to know in the first place what is proper to a thing insofar as it is mobile,

46 *In I Phys.*, lect.1, nn.6ss. See also *STh I*, q. 85, a. 3.

47 For an illustration of this relation between knowability in itself and actuality, drawn from geometry, see *In IX Metaphys.*, lect. 10, nn. 1888-1894.

then, what is true of it so far as its mobility according to place, etc. A last term of this whole process would be, for example, the study of the gait characteristic of the elephant. Certainly it would be impossible for a single man to embrace the vast domain that separates the consideration of mobile being from the flight of the dragonfly—that is to say, all the natural sciences. Moreover, each of the many natural sciences, which must already borrow from the field of others, can be indefinitely extended in its own. Nonetheless, such would be the order one would have to observe in order to have a well ordered view of the whole.

The process *in demonstrando*,⁴⁸ as well, is determined by the principle that one must go from the more known by us toward the less known. But it differs from the first by the order that we follow in the research and demonstration of the properties of a given subject. In the process *in determinando*, we go from a less determined subject to a more determined subject: one seeks to know first of all the nature and properties of the soul in general and then the nature and properties of its different species; while the process of demonstration is the order that one follows in the acquisition of scientific knowledge of a given subject. While the first process is common to all the sciences, the second can vary from one science to another and even according to the different parts of one science. Thus mathematics and the physico-mathematical sciences demonstrate by formal cause alone;⁴⁹ natural science applies itself in addition to know things by *that of which they are made*, by *that which produces them*, and by *the good that moves* the agent to produce them. The whole of Book Two of the *Physics* is devoted to this part of the general method of the study of nature that is called the process of demonstration, but each treatise will have as well its particular procedure. So it is that in mathematics, where what is more known by us can, from

48 *In I Phys.*, lect. 1, n. 8.

49 *In I Post. Anal.*, lect. 25, n. 4.

the point of view of demonstration, be identified, in principle, with the more known in itself, demonstrations will be *a priori*: the reasons given by us are at the same time the reasons first in themselves. But in natural science most proofs remain *a posteriori*.⁵⁰ The first demonstration you will learn in the present

50 “[C]um ex notis oporteat in cognitionem ignotorum devenire: omnis autem demonstratio adducitur causa notificandi aliud, necesse est, quod omnis demonstratio procedat ex notioribus quo ad nos, quibus per demonstrationem fit aliquid notum. **In quibusdam** autem eadem sunt notiora quo ad nos et secundum naturam, sicut in mathematicis, quae sunt a materia abstracta; et in his demonstratio procedit ex notioribus simpliciter et notioribus secundum naturam, scilicet ex causis in effectus: unde dicitur demonstratio propter quid. **In quibusdam** vero non sunt eadem magis nota simpliciter et quo ad nos, scilicet in naturalibus, in quibus plerumque effectus sensibiles sunt magis noti suis causis; et ideo in naturalibus, ut in pluribus proceditur ab his quae sunt minus nota secundum naturam et magis nota quo ad nos, ut dicitur in primo Physicorum [c. 1, lect. 1, nn. 6-7]. – Et hoc modo demonstrationis intendit hic uti. Et hoc est quod dicit, quod quia illud quod est certum secundum naturam, et quod est secundum rationem notius, fit certius quo ad nos ex his quae sunt incerta secundum naturam, certiora autem quo ad nos, per istum modum tentandum est iterum aggredi de anima, demonstrando definitionem ejus supra positam” (*In II De Anima*, lect. 3, nn. 245-6). [“Since it is necessary to arrive at knowledge of the unknown from what is known, and moreover, every demonstration is adduced for the sake of making something known, it is necessary, that every demonstration proceed from what is more known with respect to us, by which something becomes known through demonstration. *In certain things*, moreover, the same things are more known with respect to us and according to nature, such as in mathematical things, which are abstracted from matter; and in these demonstration proceeds from what is more known simply and more known according to nature, namely, from causes into effects; whence it is called demonstration ‘on account of what.’ *In certain things*, however, the same things are not more known simply and with respect to us, namely in natural things, in which for the most part sensible effects are more known than their causes; And therefore in natural things, we usually proceed from those that are less known according to nature and more known with respect to us, as is said in the first book of *Physics* [c. 1, lect. 1, nn. 6-7]. And it is this mode of demonstration he intends to use here. And this is what he says, that because that which is certain according to nature and more known according to reason, becomes more certain with respect to us, from those that are uncertain according to nature but more certain with respect to us, to approach the

treatise is precisely of this kind: soul is the first act of a natural body endowed with organs, because it is ‘that by which’ and ‘in the first place’ we live, we sense, we move ourselves, and we think.—The process *in demonstrando* does not consist in any way, therefore, in making a bridge between different subjects of the process *in determinando*, as if, from the nature and the properties of soul envisaged in all its generality, one could infer the nature and properties of its species. There is no place, then, for attributing to us a method of Hegelian aspect that confuses the two processes.

The process *in determinando* is at the same time a process of concretion. The universal, in effect, taken in the sense we intend in this process, is compared to the particulars of which it can be affirmed, as the abstract to the concrete, as “movement” to “local movement.” In principle—that is, so long as we are yet in the general and confused—we are far from the determination, from the perfection, from the knowability proper to things. Through an abstraction of this kind, our knowledge is very poor, and it is in going by degrees toward the specificity of objects, toward their ultimate distinction, their concretion, that science is enriched.

St. Thomas writes,

In natural things, nothing is perfect as long as it is in potency; a thing is absolutely perfect when it is in ultimate act; in the intermediary state between pure potency and pure act, it is not absolutely perfect, but relatively. It is the same for science. But, the science that one has of a thing in general only is not a complete science according to ultimate act; it is something intermediary between pure potency and ultimate act. For one who knows a thing in general knows in an actual manner something

soul again is to be attempted through that mode, by demonstrating the definition of it posited above.”]

of that which is the proper account of this thing, but the rest he only knows in potency. Thus, one who knows man only according as he is animal knows in act only one part of his definition, namely, the genus; the differences constitutive of the species, he does not yet know in act, but only in potency. From which it follows manifestly that complete science requires that one not stop at generalities but that one proceed up to the species.⁵¹

It is thus the proper being of things, their ultimate difference, that draws us and that liberates the intelligence from this indetermination of the universal. Science being the perfection of the intelligence, he who seeks this perfection naturally wants to know what makes a beaver, a beaver; what makes a man a man, as for everything that distinguishes them from every other thing, body and soul. It is the author of the *Metaphysics* and of *On the Soul* who wanted to know why dogs run lopsided. He did not confine himself to mobile being, nor to animate body, not to beast, nor to quadruped. This is what the process of concretion consists of. So it is in this direction, so misunderstood by a certain kind of philosophy, that is found the perfection of science, as St. Thomas says in beginning the study “of meteors, comets, rain and snow, lightning, earthquakes, *et alia hujusmodi*.”

7

*The Two Kinds of Universal Causes in the
Study of the Living*

In this process of concretion, to the relation of the universal to the particular of which we have been speaking, another is added that is in a way the reverse of the first. In fact, the more the process approaches distinct knowledge of the particular, the

⁵¹ *In I Meteor.*, lect. 1, n. 1.

more it approaches just the same a universality that, unlike universality *in praedicando*, is such by its actuality, by its extreme determination that embraces the multiple in its variety and its distinction. The perfection of our knowledge of the universal *in causando* will depend on the degree of distinction following which we know the particular.

Let us note first of all that if, from the point of view of predication, the species is a subjective part of the potential whole that is the genus, from another point of view, that of distinct knowledge, the relation of universal to particular is in some way reversed. The species, in fact, is in itself an integral whole that contains the genus as part. It is thus that *man*, of which one can say *animal*, is more than animal; he is as well rational, and in this regard he is a whole intrinsically constituted of these parts: *animal* and *reasonable*. So long as we do not attain distinctly these actual parts, knowledge of the integral whole remains confused, like that which we have of the subjective parts of the potential whole.⁵² But as soon as we know them in a distinct manner, we

52 "Manifestum est autem quod cognoscere aliquid in quo plura continentur, sine hoc quod habeatur propria notitia uniuscujusque eorum quae continentur in illo, est cognoscere aliquid sub confusione quadam. Sic autem potest cognosci tam totum universale, in quo partes continentur in potentia, quam etiam totum integrale: utrumque enim totum potest cognosci in quadam confusione, sine hoc quod partes distincte cognoscantur. Cognoscere autem distincte id quod continetur in toto universali, est habere cognitionem de re minus communi. Sicut cognoscere animal indistincte, est cognoscere animal in quantum est animal; cognoscere autem animal distincte, est cognoscere animal in quantum est animal rationale vel irrationale, quod est cognoscere hominem vel leonem. Prius igitur occurrit intellectui nostro cognoscere animal quam cognoscere hominem: et eadem ratio est si comparemus quodcumque magis universale ad minus universale" (*STh* I, q. 85, a. 3, c; cf. *In I Physic.*, lect. 1, nn. 9-10). ["It is, moreover, manifest that to know something in which several things are contained, without this that the proper notion of each of them that is contained in it is had, is to know something under a certain confusion. And thus can be known both the universal whole, in which parts are contained in potential, and also the integral whole; for each whole can be known in a certain

attain precisely this relation under which the species is more common than the genus. That which, in the first perspective, was envisaged as a whole is now a part; the particular contains the more universal and more: “*secundum quod minus commune continet in sui ratione non solum magis commune, sed etiam alia: ut ‘homo’ non solum animal, sed etiam ‘rationale.’*”⁵³

A number of modern philosophers would conclude from that that here therefore is a part greater than its whole, so that the principle of contradiction itself would be put to the side. However, as we have indicated, it is a matter of totally different relations. In fact, the unity of the genus that we predicate of man, of horse, of bee, etc., is purely logical; the predicable genus *animal* has its form and unity from reason, which can abstract from the differences, without which, however, it is impossible to be,

confusion, without this that the parts be distinctly known. Moreover, to know distinctly that which is contained in the universal whole, is to have knowledge of the less common thing. Just as to know animal indistinctly, is to know animal insofar as it is animal; moreover, to know animal distinctly, is to know animal in so far as it is rational or irrational animal, which is to know man or lion. Therefore to know animal occurs to our intellect before to know man; and it is the same reason if we compare whatever more universal to the less universal.”]

53 “Universale magis commune comparatur ad minus commune ut totum et ut pars. **Ut totum quidem, secundum quod in magis universali non solum continetur in potentia minus universale, sed etiam alia; ut sub animali non solum homo, sed etiam equus. Ut pars autem, secundum quod minus commune continet in sui ratione non solum magis commune, sed etiam alia;** ut homo non solum animal, sed etiam rationale. Sic igitur animal consideratum in se, prius est in nostra cognitione quam homo; sed homo est prius in cognitione nostra quam quod animal sit pars rationis ejus” (*STh* I, q. 85, a. 3, ad 2). [“The more common universal is compared to the less common as whole and as part. As whole, indeed, inasmuch as in the more universal not only is the less universal contained in potential, but also others; as under *animal* not only man, but also horse. As part, moreover, inasmuch as the less common contains in its account not only the more common, but also others; as *man* not only animal, but also rational. Thus therefore animal considered *in itself*, is prior in our knowledge to man; but man is prior in our knowledge than that animal be a part of its account.”]

in reality, animal. So there is not in nature, beside the form by which man is man, and that by which horse is horse, a common form by which the different species of animal would be animals. The form by which man is man is at the same time the form by which he is animal, and it is by its form of horse that a horse is animal.⁵⁴ And so, to know the animal distinctly, is to know it so far as it is man or horse or bee, etc. The universal whole that is the genus *animal* does not contain its parts in act, but only in potency, and that is why one calls them subjective. If one were to say that it contains them in potency, and that the potency is potency for an act, we would remark that the potency in question is defined precisely in the line of predication where the predicable is as a form with respect to all that of which it can be predicated. (Thus, in the attribution: “man is animal” or: “horse is animal,” man and horse are subjects and animal is the form.) In fact, from the point of view of the things signified, this genus is founded on the natures and is posterior to them; it is in the natures that are distinct according to their ultimate form that actuality is found, but never in the genus that owes its unity and its universality to abstraction from this actuality. As soon as we consider *animal* in the species, it is no more than a part of a whole more vast. Also, the species is in no way just an elaboration of the genus.

But, it will be said, the genus that is found thus exceeded, no longer being form, but subject—since man, for example, is animal by his form of man—is no longer, in this regard, the genus predicable of the other species; thus we have, despite everything, abandoned this greater universality that expresses the unity of innumerable species. Perhaps one would add that science must precisely exceed the particular, to go toward an always greater universality, free to return to the particular in order to

54 *In VII Phys.*, lect. 8, n. 8; *In I de Anima*, lect. 1, n. 13.

see it from above as a restricted concretion of the universal—a participation.

We have not arbitrarily chosen this objection in the infinity of possible confusions. It is fitting to pause here in an introduction to the study of the soul. In the first chapter of his treatise, Aristotle remarks that

we ought to guard against passing over in silence the question whether the definition of the soul is one, as that of animal, or if it is different for each species of soul, as for horse, dog, man, god; and in this case, animal in general is either nothing or posterior. The same question arises moreover for every other common predicate that is affirmed.⁵⁵

But, in this regard, St. Thomas recalls that in fact

the Platonists affirmed the existence of separate universals, that is to say, of forms and ideas that were, for particular things, the causes of their existence and of the knowledge (that we have of them); for them, there exists a separate soul, a soul in itself, which serves as cause and idea of particular souls; from that soul derived everything one finds in those. According to the philosophers of nature, on the contrary, there were not universals but particular substances, and universals were nothing in reality. Thus the question: whether it is necessary to seek only the common notion of the soul, as the Platonists said, or the notion of this soul here and that soul there, as the philosophers of nature said, namely, as the soul of horse or of man or of God? [Aristotle] says ‘of God’ because of the belief of these philosophers in the divinity of the celestial bodies, which they said to be animated.⁵⁶

55 402b5.

56 *In I de Anima*, lect. 1, n. 12.

Consequently, according to the conception of the Platonists, the definition of the soul in general should signify at the same time the very perfect and universal cause of all the species of souls. So that, to the question: "Who makes shoes?" the answer, "the artisan," would be more pertinent than the answer, "the shoemaker." *Artisan* should say more, it seems, because one can equally affirm it of the tailor, the mason, etc. So it is that it is a more elevated, anterior and universal cause, whereas shoemaker is only a particular cause, proximate and proper. But, does it not follow that the knowledge of the account of things is deepened in the proportion that we elevate ourselves to a more confused generality? Certainly the teaching in question was not so simple, and the Platonist would easily reply that the indetermination in which this generality leaves us comes from the shadows of an intelligence imprisoned in a body.

No doubt we should seek higher, anterior, universal causes so far as possible. And if most often we do not know how to attain them, still it is necessary to be aware of them. Be this as it may, we should commit ourselves in the inverse direction from that which we have just described. In fact, the expressions "higher cause," "universal," "proximate" and the like are fundamentally equivocal. It is thus that "artisan," by comparison to "carpenter," is an anterior, higher, universal cause in the logical order, according to predication, but not according to causality.⁵⁷ In

57 "Advertendum est autem quod causa universalis et propria, vel prior et posterior, potest accipi aut secundum communitatem praedicationis, secundum exempla hic posita de medico et artifice; vel secundum communitatem causalitatis, ut si dicamus solem est causam universalem calefactionis, ignem vero causam propriam: et haec duo sibi invicem correspondent. Manifestum est enim quod quaelibet virtus extenditur ad aliqua secundum quod communicant in una ratione objecti; et quanto ad plura extenditur, tanto oportet illam rationem esse communiorem; et cum virtus proportionetur objecto secundum eius rationem, sequitur quod causa superior agat secundum formam magis universalem et minus contractam. Et sic est considerare in ordine rerum: quia quanto aliqua sunt superiora in entibus, tanto habent formas minus contractas,

the example given, universality expresses only the indetermination of our knowledge of the cause. In reality, it is the proximate cause, the art of the shoemaker, which is the first and supreme cause in a given order.⁵⁸

et magis dominantes supra materiam, quae coarctat virtutem formae” (*In II Phys.*, lect. 6, n. 3). [“It should be noted, moreover, that the universal and proper *cause*, or the prior and posterior, can be taken either according to community of *predication*, according to the example here posited of the doctor and the craftsman; or according to the community of *causality*, as if we said that the sun is the universal cause of heating, but fire the proper cause; and these two correspond to each other. For it is manifest that any virtue is extended to some things according as they communicate in one account of object; and to however much it is extended to several, so much must that account be more common; and since a virtue is proportioned to its object according to its account, it follows that the superior cause acts according to a more universal and less contracted form. And thus it is to consider in the order of things: because however much some things are superior in beings, so much do they have forms less contracted, and more dominating over matter, which contracts the virtue of form.”] – Note that the universal *in causando* is not restricted to the genus of efficient causality.

58 “In naturalibus oportet semper **supremam causam** uniuscuiusque requirere, sicut contingit in artificialibus. Ut si quaeramus quare homo aedificat, respondetur, quia est aedificator; et similiter si quaeramus quare est aedificator, respondetur, quia habet artem aedificativam: et hoc statur, quia haec est **prima causa** in hoc ordine. Et ideo oportet in rebus naturalibus procedere usque ad causam supremam. Et hoc ideo est, quia effectus nescitur nisi sciatur causa; unde si alicuius effectus causa sit etiam alterius causae effectus, sciri non poterit nisi causa eius sciatur; et sic quousque perveniatur ad primam causam” (*Ibid.*, n. 10). [“In natural things it is necessary always to require of anything *the supreme cause*, just as happens in artificial things. As if we seek wherefore a man builds, it is replied, because he is a builder; and similarly if we seek wherefore he is a builder, it is replied, because he has the building art: and here it stands, because this is the *first cause* in this order. And therefore it is necessary in natural things to proceed right up to the supreme cause. And this therefore is, because the effect is unknown unless the cause is known; whence if the cause of some effect be also the effect of another cause, it cannot be known unless its cause be known; and thus until the first cause be arrived at.”] But the same terms sometimes have another sense. “Non solum oportet assignare omnes causas, sed oportet etiam dicere causas proximas, ut incipiendo a causis primis perveniamus ad causas proximas. **Per causas enim primas habetur**

INTRODUCTION TO THE STUDY OF THE SOUL

When we affirm that science should seek to know things by their first, supreme, ultimate causes, manifestly it is not a question of causes that are such in the order of predication, that leave us in confusion on the point of the proper nature of things. Nonetheless, in rejecting the apparently facile conception of the Platonists, we should not abandon at the same time the search for causes that are universal in the very line of causality. For one is not mistaken in affirming that there exist such causes and that in them we would have a more perfect knowledge of particular things. Thus, the art of the tailor is a particular and first cause in a given order. But why this art? Why clothes? Why does nature not clothe us? The first reason for it will be found finally in the intellectual soul, which:

is in potency to an infinity of acts, by the fact that it can know universal natures. So it was not possible to fix it for it entirely marked out instinctive judgments, or even specific means of defense or of protection, as is the case for the animals, whose knowledge and activity are determined to certain particular ends. In place of all these instruments, man possesses by nature a reason, and the hand, which is the *instrument of instruments* [*De Anima* III, 8, 432a] because he is able to fashion for himself, by its means, tools of an infinity of modes, and for an infinity of uses.⁵⁹

This cause can be called universal according to causality, not only because it is the determinate cause of all the intermediate

cognitio de re aliqua solum in universali et imperfecte. Per causas autem proximas habetur cognitio rei et perfecta” (*In VIII Metaphys.*, lect. 4, n. 1738). [“Not only is it necessary to assign all causes, it is also necessary to say the proximate causes, so that by beginning from the first causes we may arrive at the proximate causes. For through the first causes we have knowledge about a thing only in the universal, and imperfectly. But through the proximate causes we have knowledge of the thing, and perfected knowledge.”]

59 *STh* I, q. 76, a. 5, ad 4; q. 91, a. 3, ad 2; *De Part. anim.* IV, 10.

causes, right up to clothing, right up to the art that conceives it and produces it, but because it is this again that is the cause of [à l'endroit de] the art of the shoemaker, of the mason, of the carpenter, etc. So far as man is in a certain manner the end and the principle of all the arts, he is, in this respect, a universal cause. Likewise, when one shows that in nature “*omnia alia praexistere, sicut quaedam instrumenta, et praeparatoria ad intellectum, qui est ultima perfectio intenta in operatione naturae*,”⁶⁰ one recognizes in human intelligence a universal final cause.

However, the perfection with which we will know such a cause will always depend on the degree of distinct knowledge we have of the things with regard to which it is the universal cause. That is to say that in the knowledge of this cause there will be for us degrees of perfectibility without end. St. Thomas was able to write the words we have just cited without however teaching a doctrine of evolution.⁶¹ Without doubt, we will never know the fundamental and universal laws that command the process of the organization of matter in view of the intellectual soul. Nevertheless, we can know in a general manner that these laws exist; that man is the good, the universal and final, and very exact, cause of the whole cosmos, of all the vegetable and animal

60 *In II de Anima*, lect. 6, n. 301. “[A]ll other things preexist as certain instruments and things preparatory for intellect, which is the ultimate perfection intended in the working of nature.” – However, by itself, the universal according to causality does not account for everything that was implied by the Platonist confusion. Elsewhere, we have tried to establish another point of view, complementary to this, which without being able to pass as an interpretation of what the Platonists intended, would nonetheless permit it to separate things. (“La dialectique des limites comme critique de raison,” *Laval Théologique et Philosophique* I.1 [1945]: 177-85; “Concept, Process, and Reality,” *Laval Théologique et Philosophique* II.2 [1946]: 141-46.) The same reservations apply to the criticisms made of Descartes and Hegel, for example.

61 See too, on this subject, *Contra Gentes* III, cc. 22, 23; IV, c. 97; *Q. D. de Potentia*, q. 5, a. 5; *Q. D. de Spiritualibus creaturis*, and *Q. D. de Anima*, passim; *Comp. Theol.*, cc. 148, 170, 171.

proliferation, as difficult as it may be to see it in a concrete manner. What are Andromeda, the hippopotamus, the fly, and the innumerable species we will never have known, doing here, to say nothing of the clump Earth, the poor parent of astronomy—the embarrassing *sine qua non* of the astronomer. General knowledge of a reason in itself very exact immediately gives way to exact questions, of which some are fruitful, but others as embarrassing as the remarks of an *enfant terrible*. The latter were the most successful sophisms of history. In this regard, it is well to recall the proverb: Never show an idiot an unfinished work.

8

The Intermediate Character of Our Science

Have we distinguished the two kinds of universality in order to exclude from science the universal *in praedicando*? Not at all. Not only is it essential to the order of learning and to the imperfect state of science, it is necessary to every human science however perfect it be. In fact, as soon as it is a matter of a science properly speaking—of a knowledge that is certain through causes—the progress of that science following the process of determination will not consist in replacing with the new what has been previously established. Beside the fact that the general definition of the soul, for example, will not change in the course of the treatise, the universality of predication remains essential to the unity of our science. Indeed, although the universal *in praedicando* does not exist in things, it is nevertheless founded on them, and what we say of the soul in general is true of every soul in particular: it is true that the rational soul is the first act of a body provided with instruments, and that is true as well of the soul of the cat. And so, if we must attribute to our intelligence the confusion in which the general definition of soul

leaves us with respect to the different species, it remains no less true that this definition expresses in a relatively distinct manner what the different species have in common, and what separates them from every other thing. On the supposition that we should treat in isolation the different species, we would not only have to repeat the same things often, we would also have to know that we are repeating them. But, although the natures of which we say the same thing are not the same in virtue of a common natural form, distinct from that whereby man is man, and cat, cat, still we cannot know what they have in common except by means of such a universal.⁶² On the one hand, we cannot simultaneously know by a single and same concept several distinct objects save at the expense of distinct knowledge; on the other hand, we cannot consider the unity of several objects save by simultaneously knowing them. Because to have a distinct knowledge of several objects, which is developed in a successive consideration, is one thing, and the simultaneous consideration of the same objects by means of a single concept is another. We see from this the intermediate character of our science, which oscillates always between the confused universal of which it cannot be rid, and the universal *in causando* that it cannot entirely rejoin. It could only be truly free if this last were at the same time the beginning of our knowledge; if that which is the most actual in things were

62 This is due to the empirical nature of human reason: it depends on the being itself of the sensible and multiple things that it first of all knows, and it can only attain unity in its means of representation by abstracting from the original diversity. That is why none of the concepts by which it knows can be a universal *ad rem* or *in repraesentando*, as are the means of knowing of separate intelligences. God, indeed, knows Himself and knows all things, in a manner absolutely distinct, in a single intelligible similitude which is His essence. With the angel, the intelligible similitudes are multiple, but he knows distinctly a great number of things by each of them. This is because these intelligible species derive from the unique *species rerum factiva* of God, a universal *in causando*, without going through things in themselves. – Cf. *In II Sent.*, d. 3, q. 3, a. 2; *Contra Gentes II*, cc. 98-101.

also the most known for us.

Aristotle says:

It is therefore evident that if there is one common notion of the soul, this cannot be except in the same fashion that there is one of figure: because, in this last case, there is no figure outside of triangle and the figures that are consecutive to it, and, in the case that concerns us, there is no more a soul outside of the souls that we have enumerated. However the figures themselves could be controlled by a common notion that would be applied to all; but, on the contrary, it would not agree properly with any of them. It is the same for the souls that we have enumerated. It is also ridiculous to seek, over these things and over the others, a common definition which will not be the proper definition of any reality, and not, leaving on the side such a definition, attaching oneself to the proper and to the indivisible species. And the case of the soul is entirely similar to that of figures: always, in fact, the previous is contained in potency in what is consecutive, as well for figures as for animated beings: for example, in the quadrilateral is contained the triangle, and in the sensitive soul, the nutritive. In consequence, for each class of beings, it is necessary to seek what species of soul belongs to it; what is, for example, the soul of plant, and that of man or that of animal.—But by what reason to explain a sequence of this kind in souls: this is what we must examine.⁶³

But it is only at the end of the *Metaphysics*, well after the treatises of natural living things, that he will determine of them the cause that is absolutely first and universal *in causando*.

63 *De Anima* II, 3, 414b19-415a.

The So-called 'Game of Concepts'

Let us now confront the problem posed to us in speaking of a so-called 'game of concepts' that claims to suffice—a procedure manifestly contrary to the method taught by Aristotle, as well as to that which he followed in all his work, the larger part of which treats of natural things. By what means is the movement of concretion brought toward its term? In what consists this "mode of application of common principles to determinate mobile beings, of which some are living bodies"? Is it (as some would have us understand it) a means by which we would infer, in beginning from common principles, determinate mobile beings? We would say "yes," if the process of determination were identical with that of demonstration; if their mode of going from the more to the less known were the same process. In this case, to apply the common principles would consist of *inferring* determinate mobiles: from the common notion of the soul one would infer particular notions of different species. Behold what is manifestly absurd. One demonstrates nothing of local movement as such by the demonstrations that bear on movement as such; it is not demonstration that makes us pass from the one to the other. What one can demonstrate of movement as such is true of local movement insofar as it is movement, but not insofar as it is local; what is demonstrated of the soul as such is true of the intellectual soul, but not precisely insofar as it is intellectual. There is only one way to pass from one level of concretion to another, and that is the constant return to more and more detailed experience. If one could infer *a priori* a phenomenon that experience confirms, we would nonetheless remain on the same level of concretion.

Earlier we blamed philosophers who, disdainful of the specificity of things, kept to and were content in the confusion that they were then obliged to charge with emotion, lest the void

should be unmasked. Even though it becomes less and less possible for one person to pursue natural science in a very pressed concretion (for a long time the demands of specialization have isolated scientists from one another), still it is necessary to regret it and to avow that ignorance of the most humble detail in nature is a void in our knowledge of being. But we observe at the same time the unpardonable narrowness of one who, reassured by the fact that his closed field is in its way without limits and that one can succeed in it, claims to be satisfied with a single study of some particular aspect of things. In fact, such a scientist would not know this particular with truly distinct knowledge; his confusion, although more masked, will not be less great than that of the lover of empty forms. Men who, during the last war, undertook the most atrocious experiments on their neighbor were scientists of international reputation. This was cause of indignation. However, there was nothing in the field of their specialization to forbid it—they had their scientific curiosity. The thing is said to be all the sadder because these experiments did not give positive results. However, from the strict point of view of physiology, this remark is not very scientific, for, were it only in eliminating one single hypothesis, these curious scientists have performed a work of science. Even psychiatrists and psychoanalysts who tried to classify the kind of perversion in question would not know how to tell us, without leaving the domain of their competence, why it is unfitting to be perverse. In a civilized world, human “dignity” and “decency” have nothing reassuring when one leaves undetermined the question of knowing whether tomorrow it will be as if we never existed. That is a problem that ought to be discussed, and that one would only know how to discuss, at a level of generality quite prior to that of physiology, and where the first but inescapable notions are still among those one willingly characterizes as “common.”

By this we do not mean that before applying oneself to

the study of things at a given level of concretion, one must have passed through all the degrees of higher generality—something that becomes less and less possible in the measure that one approaches the distinction of things. If, for example, one formed simplistically the design of exhausting first of all the domain of experimental physics, one would never reach the study of life. The scientist who enclosed himself in the field of experimental biology, who would even abstract from his inner experience of living (something that is impossible, whatever one says), would speak of life as a blind man who believed he knew colors because he knows how they are measured. Doubtless the possibility and ease of bracketing essential problems (of a disconcerting generality for those who want to return right away to the concrete) is what elicits cries of alarm from those rare scientists who, without knowing how to grasp him, have remained sensible to this man that a certain science knows only how to forget. Perhaps even in the spheres of disinterested research, the “risible animal” has already been reduced to a chemical fertilizer of superior quality.

10

The Abstraction of the Process of Demonstration

Up to now we have used the term “abstraction” in the sense of generality. This is the sense it must be accorded in speaking of the process of determination. But as soon as it is a question of the process of demonstration, this term acquires another sense. Indeed, when we say of mathematics that it is abstract, we do not want to say that it is general, or of a degree of generality that would be proper to it. We mean by it that the object on which its demonstrations bear—magnitude, number—is considered by it without the sensible matter to which it is tied in the experience that we have from our senses. The mathematical line abstracts

from the line that is a common sensible, it leaves aside the visible or tangible object that we first of all call a "line." It is abstracted from it, but not in the manner in which the potential whole abstracts from the differences of its subjective parts. The geometrical line is not that which would be divided into lines of chalk, of wood, etc., or into red and white lines, etc.

Without doubt, the sensible line, which can be divided into many species, is abstract, just as is each of its species in their turn, since they can be predicated of such and such individual lines. But what all these sensible lines have in common is not simply all being abstract wholes predicable of their inferiors—whether as genus or species, down to the ultimate species; it is also being abstracted from individual sensible matter, the ones as well as the others, and being thus definable. By this they have an actuality that cannot be attributed to the simple fact of being wholes predicable of their inferiors. It would follow, in fact, that the most potential among these wholes, the sensible line, would be at the same time the least potential. But we have seen that it is not what we know according to the confused universal, but what we know according to the determined species that is the most knowable in itself and according to nature. In abstraction according to generality, the abstract is form, it is true, but it is form in the line of predication only, and thanks to the potentiality of the universal *in praedicando*, for man is more actual in himself than animal, and animal more actual than living body; so too, visible line is more actual in itself than sensible line. In the abstraction of which we are speaking now, the relation is inverse: sensible line is intelligible in act, whereas *this* sensible line is intelligible in potency only. Also, this abstraction is characterized, not by the generality that it could admit, nor even by the sole fact that it neglects the singular as the inferior of a universal, but formally by this, that it leaves aside the sensible singular so

far as it is intelligible only in potency.⁶⁴ This abstraction will be thus common to all that we define with sensible matter: whether it be a question of lines, of animals, or even of the soul.

Let us return now to the geometrical line. Manifestly, the abstraction that characterizes mathematics is no longer that of generality. The line is not called mathematically abstract because it is divided into finite and infinite, or straight and curved. All these subjective parts are equally abstract, not only so far as they are in their turn potential wholes divisible into species or into individuals, but so far as the ones as well as the others are defined without sensible matter. It is by this that mathematical definitions differ from natural definitions.⁶⁵ While natural science is abstract by opposition to the intelligible in potency, the mathematical sciences are abstract by opposition to an intelligible in act that cannot be defined without sensible matter. There is therefore between the two a radical, irreducible difference.

But there is even a sense in which, compared to mathematics, natural science is not abstract. In fact, although quantity

64 “Singularium quae sunt in rebus corporalibus, non est intellectus, apud nos, non ratione singularitatis, sed ratione materiae, quae est in eis individuationis principium” (*STh* I, q. 56, a. 1, ad 2). [“Of singulars which are in bodily things, there is not understanding, among us, not by reason of singularity, but by reason of matter, which in them is the principle of individuation.”] – The singular in question is not the individual as the inferior of the ultimate species, which would mean, among other things, that the science of nature would begin by that which is in fact its final term: the indivisible species.

65 “Tota ratio divisionis philosophiae sumitur secundum definitionem et modum definiendi. Cuius ratio est, quia definitio est principium demonstrationis rerum, res autem definuntur per essentialia. Unde diversae definitiones rerum diversa principia essentialia demonstrant, ex quibus una scientia differt ab alia” (*In I de Anima*, lect. 2, n. 29). [“The whole reason of the division of philosophy is taken according to definition and the mode of defining. Of which the reason is because definition is the principle of demonstration of things, and things are defined through essential things. Whence diverse definitions of things show diverse essential principles, from which once science differs from another.”]

cannot exist separately from sensible matter, intelligence can however conceive and define it without sensible matter and consider apart what could not be apart. This abstraction characteristic of mathematics is founded on the proper nature of quantity. Order of the homogeneous parts of substance, quantity is anterior to sensible qualities. One cannot conceive it without the parts of which it is the order, but very well without the sensible qualities that presuppose it, just as one can conceive it without the common sensibles, which are modalities of the proper sensible and which are perceived by the intermediary of this last. As soon as one abstracts from sensible qualities, one abstracts at the same time from the common sensibles. On the other hand, being by its very nature the act of a matter, the natural form cannot be considered absolutely apart. And to the objection that one can very well also consider one sensible quality without the others (for example, color without sound), one would have to respond that one would not know how to consider this quality without sensible matter.

It is true that one can consider sensible quality so far as it is a quality, but this consideration is either dialectical or metaphysical. It is dialectical so long as one does not see determinately, either the impossibility of a quality without sensible matter—which would make of every quality a natural object—or the existence of such a quality—the consideration of which would fall to metaphysics. Forming an analogical concept by the comparison of the two sorts of qualities, one would then be able to consider in a positive manner sensible quality so far as it is quality. So long as one has not established the reality of such a quality, the generality of the notion of quality would be only logical, negative. For there is indeed a difference between not seeing that a thing is impossible and knowing that it is really possible. But when one would have passed this dialectical level,

the consideration would be strictly metaphysical.⁶⁶

We see from this that it is only mathematics that can consider separately a form that cannot *be* separated, this form being none other than quantity. This is why mathematical abstraction is called “formal” in a sense entirely its own. Thanks to this abstraction, quantity has for us an intelligibility that permits us

66 “Sed quia sunt aliqui, qui aliter considerant passiones materiae, ideo ostendi [Philosophus] qui sint, et qualiter considerent: et dicit quod sunt tres. Unum genus est quod differt a naturali quantum ad principium, licet consideret passiones prout sunt in materia; sicut artifex, qui considerat formam in materia, sed differunt, quia hujusmodi principium est ars, physici vero principium est natura. Aliud genus est quod quidem considerat ea quae habent esse in materia sensibili, sed non recipit in definitione materiam sensibilem; sicut curvum, rectum et hujusmodi, licet habeant esse in materia, et sint de numero non separabilium, quantum ad esse, tamen mathematicus non determinat sibi materiam sensibilem. Cujus ratio est, quia res aliquae sunt sensibiles per qualitatem, quantitates autem praeexistunt qualitibus, unde mathematicus concernit solum id quod quantitatis est absolute, non determinans hanc vel illam materiam. Aliud genus est quod quidem considerat illa quorum esse vel non est in materia omnino, vel quorum esse potest esse sine materia; et hic est Philosophia primus” (*In I de Anima*, lect. 2, n. 28). See *In I Post. Anal.*, lect. 41; *In I Phys.*, lect. 1, nn. 1-3; *idem*, lect. 3, nn. 5-6; *In VI Metaph.*, lect. 1; *idem*, lect. 10; *In de Trinitate*, q. 5, a. 3. [“But because there are some, who consider the passions of matter differently, therefore he [the Philosopher] shows who they are, and how they consider: and he says that there are three. There is one kind which differs from the natural so far as principle, even if he considers passions so far as they are in matter; such as the craftsman, who considers form in matter, but they differ, because art is the principle of this sort, but of the physicist the principle is nature. Another kind is that which indeed considers those things which have existence in sensible matter, but who doesn’t receive sensible matter into the definition, such as curved, straight, and of this sort, even if they have existence in matter, and are of the number of the non-separables, so far as existence, nevertheless the mathematician does not determine sensible matter for himself. Of which the reason is, because some things are sensible through quality, but quantities pre-exist qualities, whence the mathematician concerns only that of quantity which is absolute, not determining this or that matter. Another kind is that which indeed considers those things of which the existence either is utterly not in matter, or of which the existence can be without matter; and this is first Philosophy.”]

to establish its properties with incomparable rigor.⁶⁷ However, the demonstrations will be true only of abstracted quantity envisaged formally as such.

If we have permitted ourselves to recall summarily an element of the problem of the formal diversity of the sciences, this is because St. Thomas attributes to the study of the soul an abstraction that is not of a nature to simplify things.

67 "Procedere disciplinabiliter attribuitur mathematicae non quia ipsa sola disciplinaliter procedat, sed quia ei praecipue competit. Cum igitur discere nihil aliud est quam ab alio scientiam accipere, tunc dicimus procedere 'disciplinabiliter,' quando processus noster ad certam cognitionem perducit, quae scientia dicitur: quod quidem continget in mathematicis scientiis. Cum enim mathematica sit media inter naturalem et divinam, ipsa est utraque certior. Naturali quidem, quia ejus consideratio est a motu et a materia absoluta, cum naturalis consideratio in materia et motu versetur. . . Est enim processus mathematicus certior quam processus divinae scientiae, quia ea de quibus est scientia divina, sunt magis a sensibus remota, a quibus nostra cognitio ortum sumit" (*In de Trinitate*, q. 6, a. 1, ad 2). See *In II Metaph.*, lect. 5, n. 336. ["To proceed learnably is attributed to mathematics not because it alone proceed learnably, but because this befits it principally. Since, therefore, to learn is nothing other than to receive science from another, then we say to proceed 'learnably,' when our procedure leads one to certain knowledge, which is called science: which indeed happens in the mathematical sciences. For since mathematics is the mean between natural and divine, it is more certain than both. Than the natural, indeed, because its consideration is absolute from motion and from matter, while the consideration of the natural is engaged with matter and motion . . . For the procedure of mathematics is more certain than the procedure of divine science, because those things about which there is divine science, are more removed from the senses, from which our knowledge takes its rise."]

Abstraction and Concretion in the Study of the Living

We have seen why, instead of commencing the study of living beings with the living in general, it is necessary in the first place to consider the soul—the principle “in virtue of which that which has life lives.” However, the rule of the process of determination always applies: *ab universalibus ad minus universalia proceditur*. From the more general, the more abstract, one must pass to the consideration of the particular that, in the order of predication, is compared to the general as the concrete to the abstract. One studies the *communissima ratio* of the soul, before considering the different species of soul. But even from the point of view of concretion, the treatise on the soul will have something characteristic. In fact, it is not in pursuing the division of soul into its species that one would ever be able to attain living things in their specific concretion. The living natural thing is a mobile being, the animal a living being, the elephant an animal; but the living natural thing is not a soul, the animal is not a sensitive soul, nor the soul of the elephant, an elephant. In the study of the living, the concretive application that, from the treatise on the soul, proceeds gradually toward the treatises on animals and plants, does not consist in a simple passage from the general to the particular. In the first treatise, we study the soul in an abstraction that is in no way expressed by generality alone.

Let us go back to the first lesson on the *De sensu et sensato* where St. Thomas remarks that in the treatise on the soul we consider it “*quasi in quadam abstractione*,” that this consideration “*est de anima absolute*,” and that only in the last place will we pass to the consideration of the living in its ensemble, “*quia ista consideratio maxime concernit corporis dispositionem*.”⁶⁸

68 Lect. 1, nn. 2, 8, 6. [“as it were, in a certain abstraction” . . . “about the soul absolutely” . . . “because this consideration most of all concerns the disposition of the body.”]

Is this to say that we first empty out all the questions touching the soul considered separately from the body, in order to shine our attention next onto the latter, and, finally, on the relation of the soul to the body? This manner of seeing, besides that it presumes the possibility of handling questions about the soul while holding to the soul alone, has the inconvenience of making us believe that the soul, a natural form, is by itself an absolute object, or at least separable from all reference to body, and that it is moreover a first and direct datum of experience. Here we have what is contrary to the very notion of soul as much as to the manner in which we reach it. In fact, when we hold fast to what we easily recognize as vital,

it indeed seems that all the affections of soul are given with a body—courage, passion, gentleness, fear, pity, audacity, and, again, joy, as well as love and hate; because at the same time that these things are produced, the body senses a modification. What shows this, in fact, is that, sometimes, the causes of strong and striking affections occur to us, without involving either irritation or fear, although at other times, light and feebly perceived causes suffice to provoke the movements, when the body is already overexcited and is found in a state comparable to anger. But here is a yet clearer proof: in the absence of all cause of dread, one can sense the emotions of fear. If this is so, it is evident that the affections are forms involved in matter. It results from this that, in their definitions, one must take account of this state of things: one will define, for example, anger as a movement of such a body, or of such a part, or of such a faculty, produced by such a cause, for such an end.⁶⁹

As far as the notion itself of soul, we define it thus: the first act of a natural body provided with instruments. Being a natural

69 *De Anima* I, 1, 40315-28.

form, it is the act of a matter. But “even though matter is not a part of form, nonetheless matter, without which the intelligence would not know how to conceive form, ought to make a part of the definition of the form. Thus it is that one puts ‘*organized body*’ in the definition of soul.”⁷⁰ Even though it includes body as a *pars diffinitiva*, the definition of the soul is not the definition of the living thing, of what is composed of soul and body, but of the soul only; it is natural however since, differing from the abstract definitions of mathematics and of metaphysics, it implies sensible matter. One could as well say that we are ignorant of the soul to the degree that we are ignorant of the body of which it is the first act.⁷¹

70 *In VII Metaph.*, lect. 9, n. 1477: “Licet enim materia non sit pars formae, tamen materia sine qua non potest concipi intellectu forma, oportet quod ponatur in definitione formae; sicut corpus organicum ponitur in definitione animae. Sicut enim accidentia non habent esse perfectum nisi secundum quod sunt in subjecto, ita nec formae nisi secundum quod sunt in propriis materiis. Et propter hoc, sicuti accidentia definiuntur ex additione subjectorum, ita et forma ex additione propriae materiae.” [“For even if matter is not part of form, nevertheless matter without which form cannot be conceived by the intellect, it is necessary that it be put in the definition of form; just as organic body is put in the definition of soul. For just as accidents do not have perfect existence unless according as they are in a subject, thus neither do forms if not according as they are in proper matters. And because of this, just as accidents are defined out of addition of subjects, thus also form out of addition of proper matter.”] -- “Nulla forma est quid completum in specie, sed complementum speciei competit substantiae compositae. Unde substantia composita sic definitur, quod in ejus definitione non ponitur aliquid quod sit extra essentiam ejus. In omni autem definitione formae ponitur aliquid quod est extra essentiam formae, scilicet proprium subjectum ejus sive materia. Unde, cum anima sit forma, oportet quod in definitione ejus ponatur materia sive subjectum ejus” (*In II de Anima*, lect. 1, n. 213). [“No form is a ‘what’ that is complete in species, but a complement of species agrees with composed substance. Whence composite substance is defined thus, that in its definition is not put something that is outside its essence. However, in every definition of form something is put that is outside the essence of form, namely its proper subject or matter. Whence, since soul is form, it is necessary that its matter or subject be put in its definition.”]

71 Note that even in the provisional state of separation after death, the human

The mode of defining soul and the things of soul thus always differs profoundly from that of mathematics, which is absolute and abstract. Indeed, although in reality quantity is not able to be separated from sensible matter, one can nonetheless define it without it in order to consider it in an absolute manner.⁷² By contrast, even the spiritual soul, which can exist separated from all sensible matter, could not be defined without it. Well, then, if in the present treatise, where one does not yet consider the *communia animae et corporis*,⁷³ the definitions are

soul does not become for all that a separated substance, a pure spirit; even then it does not cease to be a soul which in its nature as soul refers to a body, to a proportioned matter; and it could not be known without this reference—no distinct knowledge can make abstraction from this. That is why this state is called preternatural. As you will see in the course of this treatise, even in the state of union (the natural state), human thought, unlike sensation, is not the operation of a bodily organ. It remains, however, that this thought depends always on the sensible powers and operations which are conjoint acts of the soul and body. For that reason, although they themselves are in no way material, neither soul nor human thoughts can be defined without matter.

72 “Neque etiam forma tantum substantiae compositae essentia dici potest, quamvis quidam hoc asserere conentur. Ex his enim quae dicta sunt patet quod essentia est id quod per diffinitionem rei significatur. Diffinitio autem substantiarum naturalium non tantum formam, sed et materiam continet; aliter enim diffinitiones naturales et mathematicae non differunt” (*De Ente et Essentia*, c. 2). [“Nor, as well, can the form alone of a composite substance be called its essence, even if some have attempted to assert this. For from these things that have been said it is clear that essence is that which is signified through the definition of the thing. But the definition of natural substances includes not only form, but also matter; for otherwise the natural and mathematical definitions do not differ.”]

73 “Si enim operationes tam propriae, quam communes animalium et plantarum, essent propriae ipsius animae, sufficeret ad hoc consideratio de anima. Sed quia sunt communes animae et corpori; ideo oportet, post considerationem de anima, de huiusmodi considerare, ut sciatur qualis dispositio corporum ad huiusmodi operationes vel passiones requiritur . . . Dicit ergo [Philosophus] primo quod illa quae sunt maxima et praecipua inter ea quae pertinent ad animalia et plantas, sive sint communia omnium animalium aut plurium, sive sint propria singulis speciebus, etiam ex ipso primo aspectu videntur esse communia animae et corporis. Unde aliam considerationem requirunt praeter eam

nonetheless natural, how can one say, according to the expression of St. Thomas, that it bears on the soul in an absolute manner? All the more since in *On the Soul* this abstraction, which is proper to mathematics,⁷⁴ is expressly excluded. This is why St. Thomas specifies that in the study of the soul we consider it *quasi in quadam abstractione*.

A definition of soul or of the things of soul that did not include natural matter would be insufficient and only dialectical. Thus the abstract definition of the passion of anger, “the desire to give offense,” is purely formal, because this affection of the soul is inseparable from matter. But it is not important to know whether this desire can exist in a pure spirit; the definition in question is dialectic so far as definition of a form that could not be considered in itself absolutely without ceasing to be what it is.

In fact, for every form that is in a determinate matter, unless the matter is included in its definition, the latter is insufficient: but this form, namely “the desire to give offense,” is form in a determined matter; so, since the definition does not include matter, it is apparent that the definition is insufficient.

quae est de anima absolute” (*In I de Sensu et Sensato*, lect. 1, n. 8). [“For if both the proper, and the common, operations of animals and plants were properties of the soul itself, consideration of the soul would suffice for this. But because there are things common to the soul and to the body, therefore it is necessary, after consideration of the soul, to consider things of this sort, so that it may be known what sort of disposition of bodies is required for operations or passions of this kind. . . Therefore [the Philosopher] says first, that those things that are greatest and principal among those which pertain to animals and plants, whether they are common to all or most animals and plants, or are proper to single species, appear from first aspect to be common things of the soul and of the body. Whence they require another consideration beyond that which concerns the soul absolutely.”]

74 *De Anima* I, 1, 403b10-20; St. Thomas, lect. 2, nn. 28-30.

On the other hand, the definition, “the stirring of the blood around the heart,” is natural, although imperfect. But if we add this latter to the first, we will have a fully natural definition.⁷⁵ It will be more natural than that which assigns only the matter, for the form that is in a matter is more nature than that matter itself.⁷⁶

75 “Quod autem definitio prima [sc. dialectica: appetitus vindictae] sit insufficientis manifeste apparet. Nam omnis forma, quae est in materia determinata, nisi in sua definitione ponatur materia, illa definitio est insufficientis: sed haec forma, scilicet ‘appetitus vindicate,’ est forma in materia determinata: unde cum non ponatur in ejus definitione materia, constat quod ipsa definitio est insufficientis. Et ideo necesse est ad definitionem, quod in definitione ponatur hoc, scilicet forma, esse in materia hujusmodi, scilicet determinata . . . Sed si quaeratur quae istarum definitionum sit naturalis, et quae non: Dicendum quod illa, quae considerat formam tantum, non est naturalis, sed logica. Illa autem quae est circa materiam, ignorat autem formam, nullius est nisi naturalis. Nullus enim habet considerare materiam nisi naturalis. Nihilominus tamen illa quae ex utrisque est, scilicet ex materia et forma, est magis naturalis. Et duae harum definitionum pertinent ad naturalem: sed una est imperfecta, scilicet illa quae ponit materiam tantum: alia vero perfecta, scilicet illa quae est ex utrisque. Non enim est aliquis qui consideret passiones materiae non separabiles, nisi physicus” (*In I de Anima*, lect. 2, nn. 25, 27). [“Moreover, that the first definition [namely, dialectical: ‘appetite of revenge’] is insufficient, appears manifestly. For every form, which is in determinate matter, if matter is not put in its definition, that definition is insufficient; but this form, namely ‘appetite of revenge’ is form in determinate matter; whence, since matter is not put in its definition, it stands that this definition is insufficient. And therefore it is necessary to the definition that in the definition is put this, namely form, to be in matter of this kind, namely determinate. . . But if it is sought which of those definitions is natural, and which not: It should be said, that that one which considers form only, is not natural but logical. But that one, which considers matter, but ignores form, is of nothing if not the natural. For no one has to consider matter if not the naturalist. Nonetheless, that which is from both, namely from matter and form, is more natural. And two of these definitions pertain to the natural: but one is imperfect, namely that which puts matter only: but the other is perfect, namely that which is from both. For there is no one who considers the passions of matter that are not separable, if not the physicist.”]

76 “Quia posset aliquis credere quod scientia naturalis non specularetur circa totas substantias materiales et sensibiles, sed solum circa materias eorum, ideo hoc removet, dicens quod physicum oportet considerare de materia, sed etiam

The Treatise on the Soul as 'History'

The study of the soul is not abstract, neither in the mathematical sense nor in the dialectical sense: it is strictly natural. But then, why attribute to it an abstraction by opposition to the concretion of the treatises that bear resolutely on living things? The reason for this is that even if one cannot define the soul without natural matter, this definition is no less a definition of the soul, and not of the matter of which it is the act. But if the passion of anger is not in the form alone, "desire to avenge," but, even according to thought, this desire, as to what makes it the passion of anger, is inseparable from some affection of the body, then no more is it in the matter alone, and we can sometimes consider principally this formal part, leaving the bodily affection in a relative indetermination, and sometimes the material part. This abstraction is possible in the measure that the soul is not entirely immersed in matter and does not have all its concretion in the body.⁷⁷ Without doubt, knowledge of the formal

de ea parte 'quae est secundum rationem,' scilicet de forma. Et magis etiam de forma quam de materia, quia forma est magis natura quam materia, ut probatum est in secundo physicorum [c.1]" (*In VII Metaph.*, lect. 11, n. 1527). ["Because someone could believe that natural science does not speculate about all material and sensible substances, but only about their matter, therefore he removes this, saying that the physicist ought to consider matter, but also that part 'which is according to reason,' namely form. And more, also, form than about matter, because form is more nature than matter, as has been proved in the second of the *Physics* [c.1]."]

77 It is therefore not wrong to call the study of the soul "rational psychology," provided that one does not confuse the sense of the first term of the expression with the second of "*philosophia rationalis*" (e.g., *In I Ethic.*, lect. 1, n. 2) or "*scientia rationalis*" (*In III de anima*, lect. 8, n. 718), which is "*de speciebus, vel intentionibus intelligibilibus*," as opposed to the sciences of things, where *species* signifies sometimes the complete nature, sometimes the *ratio* or *forma* by which the thing is of such a nature. Thus, "anima animalium, cum sit substantia animati secundum rationem, idest forma animati, a qua animatum habet propriam rationem, 'est substantia,' idest forma et species, et quod quid

part will be imperfect in the measure that we are ignorant of its matter, but it will be natural and true so long as one recognizes the form as being that of a determinate matter, even when we do not know what precisely this matter is. It is thus that one can recognize the imagination—the sense by which we know sensed things even in their absence—as a sensible faculty and hence inseparable from a determinate corporeal organ, without knowing what precisely this organ is. That is why it is necessary to say that the present treatise, bearing principally on the formal part of natural living things and their operations that we recognize first of all by means of internal experience, considers the soul *quasi in quadam abstractione*.⁷⁸ Though we do not make abstraction from the natural organized body, we do not yet apply ourselves to studying its nature, nor to seeking the structure and the particular function of such and such sort of organization.⁷⁹

erat esse 'tali corpori,' scilicet organico. Corpus enim organicum non potest definiri nisi per animam. Et secundum hoc anima dicitur quod quid erat esse tali corpori" (*In VII Metaph.*, lect. 10, n. 1484). However, to be called rational, it is not enough that a science study the form. Indeed, as we have seen, every natural form, that of the inanimate as well as of the living, is called a *pars secundum rationem* (*Supra*, n. 76). However, the form of the living thing, the soul, not having all its concretion in natural matter, can be considered in a more abstract manner than that of the inanimate, which is entirely immersed in corporeity; and it is for this reason that we know it first of all by internal experience of operations which relate more to the soul. For this reason this science which studies the *pars secundum rationem* of the living things *quasi in quadam abstractione*, can be called rational psychology. The apparent redundancy can indicate that the soul is *pars secundum rationem* in such a way that it is first the subject of a discourse, of a treatise apart. If one wishes to use the expression in this sense, one should never fail to make it clear, given that it can also mean quite another thing. Even when used by a scholastic, we should not presume that it means what we have just explained.

78 So too, when St. Thomas says that in the present treatise the soul is considered in an absolute manner ("absolutely"), we should note the precision he has given, in the same lesson, on the subject of abstraction. From now we will presuppose this reservation in speaking of the abstraction of soul.

79 In this respect, the treatise on the soul is comparable to logic. The second

The process of concretion of which we have spoken above was entirely in the passage from the more universal toward the less universal, from the common to the specific, by means of a constant return to more and more detailed experience. We find this movement again at the interior of the study of the soul: the search for the different species of sensations and of passions requires a more detailed examination of the givens of internal experience, than that of the general notion alone of sensation or of passion. It will be the same for the study of the organs and of their functions: it will be based principally on external experience. However, when St. Thomas says that after having studied the soul “as in an abstraction . . . one considers the things that are of the soul, according to a concretion or application to body, but still in a general manner” (that is the case with the treatise *On Sense and the Sensed Object*, which immediately follows *On the Soul*), one sees well that the term of concretion must be understood in a more rigorous sense than that of the passage from the general to the particular: it is no longer a matter simply of a comparison of the abstract and the concrete according to the order of predication, but of the soul, which in its proper nature is related to the living body as being that by which the latter is living, and by which it is such a sort of living thing. Having studied, as in an abstraction, the nature of memory, it will be necessary to seek to know what are the animals that are endowed with it, what exactly is its bodily instrument, how and of what it is constituted, how it functions; and the desire for perfect science would lead us to seek the difference, even as to the organ, between the memory of elephants and that of bees.

Let us guard ourselves, therefore, from believing that in

intention cannot be defined without the first intention that it nonetheless leaves in a relative indetermination. Thus it does not abstract the second intention from the first intention in the way that mathematics abstracts from sensible matter.

the abstract study one claims to determine all that concerns the soul, as if it were a complete nature and had all its concretion in itself; as if one could consider it separately from all natural matter, which one does for the objects of mathematics. On the contrary, it is precisely the indetermination in the soul itself in which the abstract study, pressed as far as one wishes, leaves us, which engages us to study the natural matter with which it forms one completed nature. Even though human intelligence is not the act of any part of the body, and cannot be considered by concretion or application to matter, nonetheless all ignorance of the nature of the senses and of their organs reverts to an ignorance touching this intelligence. To comprehend the latter well, it would be necessary to know very precisely the nature of the sensible faculties—which involves the whole composition of the body—which come into play in order that the intelligence be able to know. Indeed, it is not just any imagination, nor just any common sense, nor even just any touch which are apt to serve thought. And so, he who does not know just which, and why, such sense powers and such organs are necessary for intelligence, is ignorant of the latter to this extent. Not being the act of an organ, intelligence has its concretion in the soul, but this concretion itself will be obscure for us in the measure that we are ignorant of what are the organs appropriate to the sense powers that the life of intelligence requires. It is only in substances naturally separated from all matter that intelligence is absolutely abstract and thereby fully knowable in itself.⁸⁰

80 “Intellectus quidem nullius partis corporis actus est, ut probatur tertio *de Anima*; unde non potest considerari per concretionem vel applicationem ad corpus vel ad aliquod organum corporeum. Maxima autem concretio ejus est in anima: summa autem ejus abstractio est in substantiis separatis. Et ideo praeter librum *de Anima* Aristoteles non fecit librum de intellectu et intelligibili: vel si fecisset, non pertineret ad scientiam naturalem, sed magis ad metaphysicum, cujus est considerare de substantiis separatis. Alia vero omnia sunt actus alicujus partis corporis: et ideo eorum potest esse specialis consideratio

Although it is concretized in the body, even sensation pertains more to the soul; and the more operations and powers pertain to the soul, the more they are susceptible of being studied abstractly—which is not to say that this study is easier for us. Moreover, it is for this reason that the treatise *On Sense and the Sensed Object* comes immediately after that on the soul.

But because it is necessary to go to dissimilar things by passing from those that more resemble one another, it seems reasonable that the order of these books be the following. After *On the Soul*, in which one determines what soul is in itself, comes immediately *On Sense and the Sensed Object*, because sensation itself pertains to soul more than to body. After it, comes the book *On Sleeping and Waking*, which imply the shackling and the liberation of sense. Then come the books treating of locomotion, which is much closer to sensible being. Finally, the books pertaining to the common consideration of the living, because this consideration concerns especially corporeal disposition.⁸¹

Is this to say that the conjoined corporeal organization is indifferent in the measure that the power and operation are

per applicationem ad corpus, vel organa corporea, praeter considerationem quae habita est de ipsis in libro *de Anima*” (*In de Sensu et Sensato*, lect. 1, n. 4). [“Indeed the intellect is the act of no part of the body, as is proved in the third concerning Soul; whence it cannot be considered through concretion or application to the body or do some corporeal organ. Moreover, its greatest concretion is in the soul: moreover, its highest abstraction is in the separate substances. And therefore after the book *concerning Soul* Aristotle did not make a book concerning the intellect and the intelligible: or if he had made one, it would not pertain to natural science, but *more to metaphysics*, whose it is to consider concerning separate substances. But all others are acts of some part of the body: and therefore there can be of them a special consideration through application to the body, or corporeal organs, beyond the consideration that made concerning them in the book *concerning Soul*.”]

81 *In de Sensu*, lect. 1, n. 6.

more perfect and belong more to soul? The rudimentary experience of the most observable aspect of the external senses teaches us entirely the contrary—just compare the eye to the skin. It is higher living things that have the most heterogeneous bodily structure. It is thanks to this heterogeneity that the body itself belongs more to soul and that it serves a life more disengaged from matter. The heterogeneity of the organs is in some way the corporeal expression of the measure in which the soul subjects matter to itself and is transcendent to simple corporeality. But we can determinately know this influence of soul over body only by studying the latter in its heterogeneity, a study more difficult as the structure is more complex and delicate.

This is what must be well noted, lest we be fooled by this possibility of considering soul in a quasi-abstract manner, for this field is not closed and does not suffice unto itself. In relation to subsequent treatises, that on the soul, while the most important and definitive in its grand lines, is always only a first approximation. This expression as well must be understood with a nuance, for the treatise on the soul is not a first approximation in the general sense that would hold for the beginning of any science. We find in the treatise on mobile being in general (the *Physics*) a first approximation to the whole study of nature; however, it is not abstract, as a whole,⁸² in the sense in which we now understand this term: it has indeed for subject mobile being in its totality, and resolution is made directly to external experience. It attains indifferently all mobile things—even living things—in the measure to which they are entirely concretized in matter. But the treatise on the soul, as we have seen, in the measure that it is abstract, could not, by itself, return to the natural

82 I say “as a whole” [*dans l'ensemble*] because there too are found several abstract considerations—even more abstract than that of the treatise on soul—on quantity, the continuous, the infinite; but one immediately makes an application of them in the treatise itself.

living thing as a whole. One could not even confine oneself to the level of abstraction in order better to know what pertains to soul itself. Since the soul is not perfectly in itself, to pursue as limit a very perfect knowledge of soul is, at the same time, to pursue knowledge of living things in their totality as natural living things; but this limit is not found in the line of an abstraction that, like mathematical abstraction, can be confined to itself in research. Is it not for this reason that Aristotle calls his treatise a “history of the soul?”⁸³ One can call it that to the extent that it is of the nature of history not to arrive at the end of its inquiry. That is how Thomas understands the phrase. “*Et dicit ‘historiam,’ quia in quadam summa tractat de anima, non perveniendo ad finalem inquisitionem omnium quae pertinent ad ipsam animam, in hoc tractatu. Hoc enim est de ratione historiae.*”⁸⁴

13

Concretion of the External Sense and Abstraction

If, on the one hand, the organization of matter is more heterogeneous according as it is a function of an operation less concretized to matter, so that the fully natural science of this operation and of its power would demand a proportional knowledge of the body, on the other hand, the quasi-abstract study of the lower powers no longer offers either the possibilities or the fecundity of the study of powers whose operations pertain more to the soul as such. Although the higher powers are conditioned by a more diversified bodily structure, we should not wonder that their abstract study (it is never perfectly so—let us

83 I, 1, 402a.

84 *In I de Anima*, lect. 1, n. 6. [“And he calls it a ‘history’ because, in this treatise, he treats the soul in a sort of summary way, by not reaching to the final inquiry about all the things that pertain to the soul itself. For this is of the notion of a history.”]

not forget the reservation we have made about this abstraction) is more free, and that it already makes us know many things with great certitude. In fact, the operations, by themselves more disengaged from matter, are in that respect more accessible to abstraction. On the contrary, the external senses and vegetative functions (beside the fact that we do not experience the latter) are more refractory to this abstraction, and also right away require that their organs be designated and be subjected to examination. But the study of these organs, and of the objects that physically act on them, transport us into a domain where we find ourselves quite particularly in dependence on external experience, that is to say, the proper givens of these same senses:⁸⁵ the latter, by reason of their greater concretion in the body (here is what constrains us to have recourse to this method so soon), are at once more opaque in their proper nature and, by that very fact, less apt to procure for us knowledge of things. As we must use these senses *quasi* full of their own materiality, and in this measure separated from themselves, it is only by means of a long detour through the field, as vast as it is changing, of the experimental sciences, that we will be able to approach—but never completely—scientific knowledge of their organs so far as they are organs of such or such other sensation. However far thermodynamics be extended one day, or surpassed, we will never know why the phenomenon that it studies gives us the sensation of warmth.⁸⁶ The interval that separates the little

85 I intend “the proper givens of the external senses” by opposition to the givens of the other faculties of knowledge, and not only proper sensibles (color, sound, etc.) that are distinguished from the common sensibles (motion, number, shape, etc.), both of which are sensible *per se*. In the present treatise, this distinction will be studied in pages 64-68.

86 Unless, with Professor Grovezin, one refuses to wonder that at a sensible temperature one has the sensation of temperature, understanding that it is its nature to provide this sensation, as it is of the sense of temperature to feel temperature.

abstract knowledge that we are able to have of the senses, and the study of its object and of its organ, which involves us in the immense network of the experimental sciences, physical as well as biological, may ceaselessly shrink, but we can never cross it. For us, this reduction is a limit, at the infinite, where the faculty by which we would know the sense would not only be without matter, not being the act of any part of the body, but be independent as well of every cognitive power concretized in matter, and perfectly free of the latter for knowing.

The evolution of the experimental sciences permits us to form a more concrete idea of the thickness of sense. Only compare, to the ancient image of the universe that was maintained during some twenty centuries, the drafts of always provisional representation traced by contemporary theories, representations that are no longer imaginable in the current sense of the word. Ponder the science it would be necessary for us to have to fill the chasm that separates from its last physical components the organ of sense so far as it is itself among the objects delivered to experience (an eye such as I see with my eyes, the skin as I see and touch it). Surmise what the attempt, barely begun, of crossing this abyss demands in artificial means, experimentations and theoretical constructions, in coordination of disciplines that are, as well, irreducible, of collaboration between scientists. This is what will let us at least glimpse in a concrete manner the point to which the sense is opaque to itself and separated from its own constitution, but also how distant it is from the intelligence to which, by and about itself, it communicates little. In fact, although intelligence depends always and essentially on the first givens of sensation as to its constant application and ultimate criterion, it is first of all by the interposition of its own works that intelligence tends to penetrate the concrete nature of sense.

In connection with the experimental sciences, which

pursue knowledge of natural things in their final concretion, we spoke of drafts of representation that are always provisional. We believe this idea is *a propos* to the considerations preliminary to a study of the soul that is based primarily on the *On the Soul* of Aristotle. In fact, in this work of the Philosopher, especially in the part devoted to the external senses and their objects, we find much material borrowed from the experimental theories expounded in his cosmology—the theory of the four elements and the first contraries, discussions on the nature and speed of light. But one would search in vain in the *Précis de la psychologie thomiste* of Professor Cantin for borrowings from contemporary science and considerations of this order. But don't we often hear that so-called rational psychology should be based on the experimental sciences? I dare to believe that one can justify this omission by considering why Aristotle and St. Thomas did otherwise. That is what we will see in the sections that follow—we warn the reader whom this problem does not interest.

14

The Ambiguity of "Sensible Matter"

We have repeated several times that natural definitions must include a sensible matter. Even in the study of the soul, we cannot abstract from it. Yet, the expression "sensible matter" is not without equivocation. Unless the ambiguity is dissipated, we risk compromising the Aristotelian and Thomistic notion of natural science. It is all the more fitting to do so because already in Aristotle it is enveloped in decidedly outdated scientific theories. In brief, it is necessary to restore in value its fundamental meaning. We can affirm that the scientific treatise on the soul depends upon it. For it happens that, even with the most evident and most sure principles, one associates opinions that are

logically a contradiction. This was the case, with the pre-Socratics, with the principle “*ex nihilo nihil fit*.” The ambiguity of the term “non-being” prompted these philosophers to deny becoming, properly speaking. In order to save the meaning of the expression, we must distinguish.

We have said that the external senses have their concretion in matter to the point that they lend themselves very little to an abstract study. Thus, hardly has Aristotle designated the different sorts of sensibles than he begins with the proper object of sight, defines it immediately, and undertakes to “explain the nature of light”⁸⁷ by means of physical and chemical theories entirely outdated. Would he not have done better to keep to a description of what we sense, to compare among themselves objects from the point of view of sensation without seeking, in a still abstract treatise, to know them in their absolute nature?

Let us note first of all that, in the work of Aristotle, *De Anima* comes after *De Caelo* and *De Generatione et Corruptione* where he has set forth his doctrine of the four elements and their “sensible qualities.” From this, one sees that Aristotle has had recourse to theories sustained in these previous treatises. But, it seems that there is here a certain circular process of which one could only become aware after a slow and long evolution of the sciences: a process hidden by the equivocacy of “sensible matter.” It is fitting to dispel this ambiguity, all the more because a good number of persons have been able to think that the role Aristotle made his theory of elements and of sensible qualities play compromises the value of the whole treatise on the soul. There it is defined as “corporeal matter so far as it is the subject of sensible qualities, cold and hot, wet and dry, etc.” For such is indeed what we understand by sensible matter: matter is that to which we attribute the qualities of which we have immediate awareness. Among these, tangible qualities impose themselves on us

87 *De Anima* II, 7.

as primary. The very term “sense” signifies first of all touch, that is, the most entitative of our senses, that which gives the greatest certitude. But here is where the expression “sensible matter” will apparently become equivocal. In fact, in *De Generatione et Corruptione*, the two couples of “tangible contrarities,” the “first” among them, hot-cold, wet-dry, will conduct us directly to the absolute elements of corporeal things: earth, fire, water and air.

Since the elementary qualities are four in number, and these four terms can be combined in six couples, but since, on the other hand, contraries, in virtue of their nature, are not able to be coupled (for the same thing cannot be hot and cold, or again dry and moist), it is evident that the couples of elementary qualities will be four in number: hot-dry, hot-moist, and, inversely, cold-moist, cold-dry. And these four couples are attributed, as a logical consequence of our theory, to the bodies that appear to us as simple, fire, air, water and earth. Fire, indeed, is hot and dry, air, hot and moist (air being a sort of exhalation), water, cold and moist, earth, cold and dry. One arrives thus at a rational distribution of the differences among the first bodies, and the number of these bodies is conformed to the logic of our theory.⁸⁸

It would not suffice to see in this theory a very primitive sketch of experimental science. Above all, it is important to grasp its fundamental hypothesis: the first and “elementary”⁸⁹

88 *De Generatione et Corruptione* II, 3, 330a30. Aristotle says “which appear simple to us” because experience does not attain them in a pure state. In the *De Caelo*, he already showed that there must be simple bodies which are the principles of simple motions—up and down. Earth is absolutely heavy and fire absolutely light, air having, in this respect, more affinity with fire, and water with earth. The *mélange* of elements was the principle of composite motions. We notice that the contraries “heavy” and “light” are still related to touch.

89 For it is necessary not to confuse the “universal” elements which are the

material causes of things are defined by *proper sensibles*, and, what is more, by the most “elementary” sensible qualities.

It is true that it is by a long detour that one arrives at this identification, but, at the end of the story, the identity is taken to be established: “*calidum et frigidum, humidum et siccum, secundum quae distinguuntur quatuor elementa,*” are indeed also the proper sensible objects of touch. The theory concludes to the coincidence between that which is most elementary *in itself* in material things and that which is most elementary *for us* in knowledge. And since, in fact, touch is *par excellence* the sense of certitude, the identification of that which is first in things from the point of view of matter, with that which is as well the most known by us, however hypothetical it may be, will be no less tenacious. It will become too reassuring to be placed in question. And so it has been maintained through many centuries. We understand that the principle of the primacy of experience in natural science, a principle on which Aristotle insists in the very treatise where he expounds the theory of the elements, has remained so long inoperative in this domain.⁹⁰

matter and form of *Physics* I, and which answer to a quite different problem. “Elementum aliorum corporum est, in quod alia corpora dividuntur seu resolvuntur. Non enim quaelibet causa potest dici elementum, sed solum illa quae intrat rei compositionem. Unde universalia elementa sunt materia et forma, ut patet in I *Physic*. Quae tamen non sunt corpora: hic autem intendit Philosophus de elementis quae sunt corpora” (*In III de Caelo*, lect. 8, n. 6). In *De Generatione et Corruptione* (II, 1, 329a20-35), Aristotle puts us expressly on guard against this confusion.

90 “The reason that prevents grasping the ensemble of concordances is insufficiency of experience. This is why those who live in very great intimacy with the phenomena of nature are also more capable of positing the fundamental principles so that they allow an extensive connection. On the contrary, those whom the misuse of dialectical reasonings has diverted from observation of the facts, having recourse to only a small number of observations, pass judgment too easily. One can recognize, from what precedes, to what point a method of examination founded on nature differs from a dialectical method: the reality of indivisible magnitudes results, in fact, for the Platonists, from the fact that

INTRODUCTION TO THE STUDY OF THE SOUL

In order to grasp, relative to the study of the soul, the scope, not so much of this fundamental hypothesis (the role of proper sensation in the search for the ultimate constituents of the universe), but of the particular theory of the four elements, one can recall an observation Aristotle makes in the *De Caelo*,⁹¹ and that St. Thomas commented on in the following terms:

It being given that all knowledge arises from certain things that are first, whence proceed definitions and demonstrations, and that manifestly it is the elements that constitute that which there is of the primordial in no matter what thing (although, indeed, anteriority can pertain to certain extrinsic principles, such as the agent and the end); it follows that in order to know the generation of bodies, we must first know what are the elements of generable and corruptible bodies, why they are elements, how many there are, and what sort of body they are.⁹²

One sees easily to what point the very notion of science in this order of things will be modified, the day when it will be observed that, not only are we ignorant of such first principles, identified with objects that are at the level of ordinary experience, but, besides, given the nature of the method, which proves to be the only fruitful one, we will never be able to know them. What St. Thomas has said on the subject of theories on the motion of the planets will take, in this respect, an amplitude that the state of natural sciences of his time did not permit him to suspect: "It is not necessary that the hypotheses (that astronomers) have imagined be true, for perhaps the appearances that the stars present could be saved by some other mode of motion as yet unknown

Triangle-itself would be many without this, while Democritus would appear to have been conducted to this opinion by arguments appropriate to the subject and drawn from the science of nature" (*De Generatione et Corruptione* I, 2, 316a5-15). -- See also *De Caelo* II, 13, 293a25; III, 7, 306a5-20.

91 III, 3, 302a10-15.

92 *In III de Caelo*, lect. 8, n. 5.

to men. Aristotle, however, has used such suppositions relative to the nature of movement as if they were true.”⁹³ Of the scientific theories contained in the *De Caelo* and in *On Generation and Corruption* one would have to say henceforth

One does not bring in a reason that proves the principle in a sufficient manner; but, the principle being posed in advance, one shows that its consequences accord with the facts; thus, in astronomy, one posits the hypothesis of epicycles and of eccentrics, because, this hypothesis being made, the sensible appearances of celestial movements can be safeguarded; but this is not a sufficiently probative reason, because they could be safeguarded by another hypothesis.⁹⁴

It is remarkable that the first signs of the uncrossable distance that separates from the first givens of sense the elements that compose sensible things, including the organs of sensation, appeared first in the heavens—that is to say, in the theories that bear on phenomena very separated from sense.

It is difficult (says the Philosopher) to conduct research at a distance, namely, on the celestial bodies, which are very distant from us, since we cannot have certain judgment on things that are far away. But the celestial bodies are not distant from us so much by the quantity of the distance according to place as by the fact that so few of their accidents fall under our senses, while it is natural for us to come to know the nature of a thing by means of sensible accidents. And this latter distance is much greater than the separation according to place . . .⁹⁵

93 *In II de Caelo*, lect. 17, n. 2.

94 *STh* I, q. 32, a. 1, ad 2. --- Even on the subject of the foundation of the entire theory of the celestial bodies, St. Thomas expressed reservations. Cf. *In I de Caelo*, lect. 7, n. 6.

95 *In II de Caelo*, lect. 4, n. 3.

It is the attempts to account for the revolutions of the spheres that will end by revealing the breach that separates us even from rock and wood of which Thomas speaks in the continuation of the passage we have just cited.

The principles that would correspond in some manner to the elements that the ancients believed they had found, are for us at the infinite. Thanks to a progressive substitution of hypotheses, we can ceaselessly approach them more and more without ever attaining them. But the principles, such as we are able to glimpse them across the evolution of physics, are of quite another nature than that of the physics of Aristotle. In fact, even the definitions and relations that serve as point of departure for the search for the principles that are first in themselves are of another order, and one scarcely sees what they have to do with sensible qualities. And if these definitions neglect all sensible matter, in what sense will they still be natural?

15

Sensible Matter and Natural Definitions

Let us consider only the science that has gone furthest in the search for the elements, of the “*prima inter ea quae insunt rebus*”⁹⁶—mathematical physics. It will be said that it is not purely natural. Let this be. But is there any other science that comes so near to the elementary foundation of natural things? Note as well that it is not purely mathematical either; it is even more natural than mathematical, given the term that it seeks to make known.⁹⁷ But how does it define the objects that constitute its point of departure? By sensible matter? The question is ambiguous. Mass, length, time, color, temperature, etc. are

96 See above, note 92. [“The first among what are within things.”]

97 *In II Phys.*, lect. 3.

defined by the description of their process of measurement; by such a number-measure, obtained by such an operation, such an instrument, etc.⁹⁸ That is to say, the one is enclosed from the outset in the domain of common sensibles, all of which come back to quantity—“*sensibilia vero communia omnia reducuntur ad quantitatem.*”⁹⁹ It is even thanks to this relative abandonment of proper sensibles that one can apply the formally abstract objects and principles of mathematics to the order of the common sensibles, and that in its turn mathematical physics can attain to unity.¹⁰⁰ But it must indeed be noted that it is not common sensibles considered in whatever manner at all that constitute the proper point of departure of physics. They are only a first datum. One must still measure them, and the process of measurement itself becomes part of the definition. It is the result of this operation—a result that is not a pure given of experience—that forms the point of departure of this science. But if the principles of which we speak are number-measures, “if one puts only the readings of scales and their equivalents into the mill of scientific calculations, how would we be able to draw from it another milling?”¹⁰¹

98 See F. Renoirte, *Eléments de critique des sciences et de cosmologie* (Louvain, 1945), 105-132. One should also read Eddington's celebrated example of the elephant who “slides along a grassy slope,” in A. Eddington, *The Nature of the Physical World: Gifford Lectures* (1927) (Cambridge University Press, 1928).

99 *STh* I, q. 78, a. 3, ad 2.

100 “While originally . . . the fundamental ideas of physics were taken from the specific sense perceptions of man, the latter are today in large number excluded from physical acoustics, optics, and the theory of heat. The physical definitions of tone, color, and of temperature are today in no wise derived from perceptions through the corresponding senses . . . The result is nothing more than the attainment of unity and compactness in our system of theoretical physics, and, in fact, the unity of the system” (Max Planck, *Eight Lectures on Theoretical Physics*, delivered at Columbia University in 1909 [New York, 1915], 4-7). A more detailed exposition of this idea can be found in *Wege zur Physikalischen Erkenntnis* (Leipzig, 1933), chap. 1, pp. 1-32.

101 Eddington, *op. cit.*

However, even after having excluded the “elements” of the ancients, the expression “sensible matter” remains equivocal. Let us first of all notice that the term *matter* should not be confused with the sensible qualities that first characterize it in the experience of the senses. Very precisely it is the subject, it is known only as the subject of sensible qualities. “*Materia enim sensibilis dicitur materia corporalis secundum quod **subjacet** qualitatibus sensibilibus, scilicet calido et frigido, duro et molli, et hujusmodi.*”¹⁰² But it is well known as such. Understood in this manner, sensible matter is the thing according as it is the subject of the different qualities that are perceived by the senses as proper sensibles. But one cannot remain there. Matter is as well the subject of common sensibles, of figure, for example, and all that we can express by a number-measure. In fact, common sensibles are always *per se* sensibles. It is true that they are first known as modalities of the proper sensibles. But we must not lose sight of the fact that these modalities are common, that they are not the proper object of a determined sense, and that if one is able to see a figure, one is able also to touch it. Yet, from this fact, the common sensibles have a communicability that is particular to them: the blind and the deaf are able to understand the physical definitions of color and sound; one can give of temperature a definition that does not make it known as proper sensible; but it is impossible to reveal the qualities of color or of sound to the blind or to the deaf. Without doubt, at every temperature, however high or low it may be, there is always quality, but one could no longer call it strictly sensible. In the final instance, this communicability of common sensibles has its principle in the quantity to which they are all returned and which is in itself the subject of all sensible quality.

102 *STh* I, q. 85, a. 1, ad 2. [“For bodily matter is called sensible matter insofar as it underlies sensible qualities, that is, hot and cold, hard and soft, and the like.”]

Already in this respect we must envisage a double relation in the common sensible. We know it at first under dependence on some proper sensible. It is necessary either to see or touch size, number, figure, movement. But that which we perceive under dependence on a proper sensible is at the same time the subject of sensible qualities. It is precisely this relation of anteriority that should attract our attention. From this point of view, common sensibles are quantitative determinations anterior to sensible qualities. The surface, for example, that I see in seeing the color of a body, is in reality the subject of this quality that is color. It is true that I do not perceive it according to this anteriority; however, the surface that I perceive by reason of the color is anterior in itself and does not for all that stop being a sensible *per se*.¹⁰³ It is precisely this priority in itself of a determination nonetheless sensible *per se* that accounts for the possibility of a physics that neglects sensible qualities. Attention to this relation of anteriority permits a first retreat before objects. One might say that in the perception of sensible qualities, we are, ourselves, too mixed with objects in their materiality to attain the detachment that the perspective of physics in particular requires. It is attention to this relation of anteriority of a *per se* sensible that

103 “Quantitas autem est proximum subjectum qualitatis alterativae, ut superficies coloris. Et ideo sensibilia communia non movent sensum primo et per se, sed ratione sensibilis qualitatis; ut superficies ratione coloris. – Nec tamen sunt sensibilia per accidens: quia huiusmodi sensibilia aliquam diversitatem faciunt in immutatione sensus. Alio enim modo immutatur sensus a magna superficie, et a parva: quia etiam ipsa albedo dicitur magna vel parva, et ideo dividitur secundum proprium subiectum” (*STh I*, q. 78, a. 3, ad 2). [“Quantity, moreover, is the proximate subject of alterative quality, such as surface of color. And therefore common sensibles do not move sense first and per se, but by reason of sensible quality; such as surfaces by reason of color. -- Neither nevertheless are they sensibles by accident: because sensibles of this kind make some diversity in the change of the sense. For the sense is changed in another way by a great surface, and by a small: because also the white is called great or small, and therefore is divided according to proper subject.”]

permits at least a first step backward in the presence of objects. Without doubt we do not take sufficiently into account all that is implied for us by the fact of being first of all a body among other bodies, and of being under dependence of corporeal organs in order to know the material world.

Let us now remark that this in no way turns us from the subject assigned to the *De Caelo*, namely, “*magnitudo et corpus: quia nihil movetur nisi quantum*.”¹⁰⁴ But this is not enough. There will have to be, in truth, yet more retreat. A confusion that impregnates this whole treatise is due to the fact that the quantitative formalities of bodies and of movement have not been isolated by critical measurement. Local movement is attributed to bodies, and simple bodies are defined, “*secundum gravitatem et levitatem*,” but these last have not been separated from the sensation we feel in lifting a weight; in order for the definition to be strictly physical, it would have to have been confined to the number-measure obtained by means of a balance, that is to say, to the operational definition of mass. Lifting a rock to put it on a balance involves two things that it is not easy to separate: the action, the very real effort that we feel, and the result of the procedure of measuring. However, the reading of the graduated scale is totally independent of what we feel in lifting the rock. Just the same, in measuring a temperature by means of a thermometer, we entirely abstract from the sensation of heat, and even if we had never felt this sensation, thermodynamics would not be changed in anything. It is in limiting ourselves to the result of measurement alone that we will be able to engage ourselves freely on the path that leads to first principles as such. As long as we confine ourselves in the very restrained field of common sensibles envisaged uniquely as modalities of sensible qualities, it is impossible to penetrate into this domain where quantitative

104 *In I de Caelo*, Proem., n. 8. [“magnitude and body; for nothing is moved unless it has size.”] See also lect. 1.

determinations can no longer be represented as modalities of proper sensibles. There is no need to go up to the electron, to the quantum, to the potential, in order to find objects that have no counterparts on the level of sensible experience. Looking more closely, even simple length, so soon as it is a number-measure defined by the description of the object and of the practical operation we have effectuated to obtain this number, is already expressible only by means of a symbol. The number-measure is not, *as such*, an object of sense; and that of which it is the sign is not an object in the manner of an apple. It is less than a name. That is why we call it symbol.

What becomes of “sensible matter” at this point of the retreat? Let us note with Eddington that in truth all scientific researches have the familiar world for point of departure and, at the end, must return to it; but the part of the voyage during which the physicist has charge of it finds itself on foreign territory:

But although we try to make a clean start, rejecting instinctive or traditional interpretations of experience and accepting only the kind of knowledge that can be inferred by strictly scientific methods, we cannot cut ourselves loose altogether from the familiar story-teller. We lay down the principle that he is always to be mistrusted; but we cannot do without him in science. What I mean is this: we rig up some delicate physical experiment with galvanometers, micrometers, etc., specially designed to eliminate the fallibility of human perceptions; but in the end we must trust to our perceptions to tell us the result of the experiment. Even if the apparatus is self-recording, we employ our senses to read the records.¹⁰⁵

One would like indeed to remark that the physical excursion

105 Eddington, *New Pathways in Science* [(New York: Macmillan, 1935); no page citation given. – Ed.].

“into foreign territory” is, under a very fundamental relation, without return. We do not comprehend any better than at the outset why the disordered motion of molecules gives us a sensation of heat. Experimental psychology will tell us nothing further. Proper sensibles are first and irreducible principles.

In short, it suffices that one abstracts from this point of departure, and from this return to the experience of sense, which is truly such only with respect to *per se* sensibles, for the world of natural science [*le monde de la physique*] to lose its entire physical [*physique*] signification: “Physical theories try to form an image of reality and attach it to the vast world of sensible impressions. Thus, our mental constructions are justified only if, and in such fashion as, our theories form such a link.”¹⁰⁶ Operational definitions depend on it. But there is more.

Perhaps you will object that, even if it does not enter into the real calculation but the reading of the dials, the problem would have no sense if it left aside all reference to another thing. Necessarily the problem implies a foundation of a certain nature. It is not the dial reading that has slid the length of the hill.¹⁰⁷

Further, in abandoning the Aristotelian theory of absolute elements characterized by simple motions and sensible qualities, we have in no way rejected the general principle that every natural definition must embrace a sensible matter, whether it is a question of man or of the electron, which, despite their extreme proximity, are very remote from us just because of that proximity.

Let us now approach, in the two sections that follow, the question of the provisional character of every theory concerning

106 Albert Einstein and Leopold Infeld, *L'évolution des idées en physique* (Paris, Flammarion, no date), p. 286. [In English, *The Evolution of Physics: From Early Concepts to Relativity and Quanta* (NY: Simon and Schuster, 1938).]

107 Eddington, *The Nature of the Physical World*. [No page citation given. – Ed.]

the first principles that constitute and that rule things in the order of material causality.

16

The Processes of Intention and of Composition

We have seen that the ancients thought they knew these first principles, but we remarked that such a knowledge is for us as a limit that cannot be reached. On this point, the testimonies of the most eminent scientists are not lacking. Einstein expresses this idea in a well-chosen image:

Physical concepts are free creations of the human mind, and are not, however it may seem, uniquely determined by the external world. In our endeavor to understand reality we are somewhat like a man trying to understand the mechanism of a closed watch. He sees the face and the moving hands, even hears its ticking, but he has no way to open the case. If he is ingenious he may form some picture of a mechanism that could be responsible for all the things he observes, but he may never be quite sure his picture is the only one that could explain his observations. He will never be able to compare his picture with the real mechanism and he cannot even imagine the possibility or the meaning of such a comparison. But he certainly believes that, as his knowledge increases, his picture of reality will become simpler and simpler and will explain a wider and wider range of his sensuous impressions. He may also believe in the existence of the ideal limit of knowledge that the human mind is able to attain. He may call this ideal limit the objective truth.¹⁰⁸

108 *Op. Cit.*, pp. 35-36.

Franco Rasetti expresses himself in unequivocal terms:

The goal of the physical sciences is in no way to attain an absolute truth: on the contrary, the progress of these sciences has shown more and more the provisional, approximative and, to a high degree, arbitrary character of every scientific construction. The physical sciences do not constitute therefore a “science” in the Aristotelian sense of the term, but only a “dialectical knowledge,” that is, the discussion of the consequences of certain principles set forth as likely. However, if we cannot say that a physical theory is “true” or “false” in the philosophical sense, it remains no less true that there are “good” and “bad” theories. The former are those whose consequences are not contradicted by experience. Moreover, one wants a theory to be more simple and more general. We have often seen that the desire to synthesize the knowledge of one branch of the physical sciences into a more simple theory led to the discovery of new phenomena.¹⁰⁹

But why is it so? The answer is unanimous: the measures on which every scientific construction is established are always only approximations. On this subject, we must consider first of all the impossibility of an infinitely precise measure in the domain of the continuous. It would be necessary, in fact, that the standard of measurement had a length equal to zero. In reality, this standard, as small as it may be, is simple only by hypothesis: “*accipitur ut simplex per suppositionem.*”¹¹⁰ But as soon as it is a question of seeking universal and fundamental principles of this order, every imprecision is of consequence. In the second place, it is necessary to define physical properties by the description of their process of measurement, which, in order to be adequate,

109 *La méthode des sciences physiques* (Quebec: Université Laval, 1942), 10.

110 *In I Post. Analytic.*, lect. 36, n. 11. [“it is taken as simply, by supposition.”] Above all, see *In X Metaph.*, lect. 2.

has to include and express *all* the circumstances of the mensuration. But, that is impossible; for that, it would be necessary already to know precisely the principles that govern the totality of the physical world: there would have to be a separated intelligence that would have no need of experience in order to know the world—"a god contemplating the external world," as Eddington put it.¹¹¹

But why can we not proceed, in this order of things, as we have done in the *Physics* and as we will do in the abstract study of soul? The definition of movement, for example, is not provisional, and that of the soul will be just as definitive. On the other hand, a similar definition of the nature of light would be an intolerable barrier. Why, in physics, must strictly scientific truth presuppose a knowledge of the first principles in themselves that is rigorous from the beginning? Why isn't the path toward these principles that of the process of concretion? We will find the answer to this question by basing ourselves on the Prooemium of Saint Thomas to the *De Caelo*.¹¹²

In the consideration of a house by practical reason, we can distinguish four processes. First of all, there is the process according to the order of *apprehension*. The builder of the house, for example, knows in the first place the form of the house in an absolute manner, in order then to apply it to matter. In the second place, there is the process according to the order of *intention*: the artisan intends to construct the house in its entirety, and it is in view of this ensemble that he does all that he does concerning the parts. In the third place, comes the process according to the order of *composition*, where one sizes the stones, for example, to assemble them into a wall. And in the fourth place, there is the order of the *sustaining* of the work, according to which the artisan first of all lays the foundations on which the other parts of the house rest.

111 *The Mathematical Theory of Relativity* (Cambridge, 1930), 1.

112 Nn. 1-3.

In the consideration by speculative reason, we can find processes corresponding to those of practical reason. It is thus that we will consider first of all the most general, in order to consider next the less general. It is this that we have called the process of determination, which corresponds to the order of apprehension in the arts. It is thus that in the study of nature, we commence with the *communissima* of the book of the *Physics*, which has for subject mobile being so far as it is mobile; and we will do the same in the study of the living, which begins with the consideration of the “*communia omnibus animatis, postquam vero illa quae sunt propria cuilibet rei animatae.*”¹¹³

Next comes the order that corresponds to that of intention, where we proceed from the ensemble, from the whole, to its parts. But it is to be noted that this whole that we will consider thus in the first place is opposed, not to any parts whatsoever, but very precisely to the parts according to matter, by opposition to the parts according to species—“*prout scilicet totum est prius in considerationem quam partes, non qualescumque, sed partes quae sunt secundum materiam et quae sunt individui.*”¹¹⁴ Material parts are those parts without which one can nevertheless consider the whole. Thus we can consider the circle without considering the semi-circle, or the animal without considering the foot, or man without Socrates; by contrast, we would not be able to define the semicircle without the circle, or the foot without the animal, nor consider Socrates without man. On the other hand, the formal parts (*partes speciei et formae*) are essential to the consideration of the whole. The three lines of the triangle, the rational soul, and the body composed of flesh and bone, are

113 *Supra*, n. 6. [“The things common to all animate things, and after the things that are proper to each animate thing.”]

114 *In I de Caelo*, loc. cit., n. 2. [“Namely, insofar as the whole is prior in consideration to the parts—but not parts of just any sort, but parts that are according to matter, and that are individuals.”]

essential to the definition of triangle and of man. Note as well that in order to have the perfect definition of man, it would be necessary to know him as far as the elements without which he could not be man.¹¹⁵ Therefore, the consideration of the whole according to the order that corresponds to the intention of practical reason, will depend on knowledge of the formal parts, without which it cannot be truly known: "*hujusmodi enim partes sunt priores in consideratione quam totum, et ponuntur in definitione totius, sicut carnes et ossa in definitione hominis.*"¹¹⁶ Applied to the science of nature, this means that we can attain knowledge of the material universe in its ensemble only in the measure that we know its formal parts, that is to say the parts that are essential to everything so far as it makes a part of the universe. For the ancients, these *partes speciei* of the universe were nothing other than the elements, that is, the simple bodies, envisaged from the point of view of gravitation.¹¹⁷ This is why we make the treatise

115 "Per se competit homini quod inveniatur in eo anima rationalis, et corpus compositum ex quatuor elementis, unde sine his partibus homo intelligi non potest . . . sive enim habeat pedes, sive non, dummodo ponatur conjunctus ex anima rationali et corpore composito ex quatuor elementis propria commixtione, quam requirit talis forma, est homo" (*In de Trinitate*, q. 5, a. 3, c.). ["It agrees with man per se that there be found in him a rational soul, and a body composed from the four elements, whence without these parts man cannot be understood . . . for whether he has feet, or not, so long as he is posited conjoined from rational soul and body composed from proper mixing of the four elements, which such a form requires, he is a man."]

116 *In I de Caelo*, *ibid.* ["For parts of this sort are prior in consideration to the whole, and are placed in the definition of the whole, just as flesh and bone are in the definition of man."] See *In VII Metaph.*, lect. 10.

117 "Et ideo rationabiliter videtur sententia Alexandri, quod subiectum hujus libri sit ipsum universum, quod dicitur caelum vel mundus: et quod de simplicibus corporibus determinatur in hoc libro, secundum quod sunt partes universi. Constituitur autem universum corporeum ex suis partibus secundum ordinem situs: et ideo de illis solis partibus universi determinatur in hoc libro, quae primo et per se habent situm in universo, scilicet de corporibus simplicibus. Unde et de quatuor elementis non determinatur in hoc libro secundum quod sunt calida et frigida, vel aliquid hujusmodi; sed solum secundum

De Caelo correspond to experimental physics. These parts of the universe and the laws that govern them are common. The weight of a man placed on a scale is registered entirely as that of a rock. The principles that are first in this universal order—that is, the principles of the physical world considered in itself—are applied just as well to living bodies as to non-living bodies. From the point of view that occupies us at present, living beings, principal parts of the universe in other respects, are *partes materiae* and not *partes speciei et formae*—they do not make a part of the definition of the whole in question.

In the third place, there is a process that corresponds to that of the composition in the arts. It is especially this order of composition that will occupy us, and the reason will soon be seen. Following this order, we go from simple things toward composed things in order to know the latter, as much as one can

gravitatem et levitatem, ex quibus determinatur eis situs in universo. Aliis autem partibus universi, puta lapidibus, plantis et animalibus, non determinatur situs secundum se, sed secundum simplicia corpora: et ideo de his non erat in hoc libro agendum. Et hoc consonant ei quod consuevit Latinos dici, quod in hoc libro agitur de corpore mobili ad situm, sive secundum locum: qui quidem motus communis est omnibus partibus universi” (*ibid.*, n. 5). [“And therefore the opinion of Alexander appears more reasonable, that the subject of this book be the universe itself, which is called *heaven* or *world*; and that in this book it is determined concerning simple bodies, according as they are parts of the universe. Moreover, the corporeal universe is constituted from its parts according to the order of position: and therefore is determined in this book only concerning those parts of the universe, which first and per se have position in the universe, namely concerning simple bodies. Whence also it is not determined in this book concerning the four elements according as they are hot or cold, or something of this kind; but only according to heaviness and lightness, from which is determined for them position in the universe. Moreover, for other parts of the universe, such as stones, plants and animals, position is not determined according to themselves, but according to simple bodies: and therefore concerning these was not to be done in this book. And this is in accord with what the Latins used to say, that in this book is treated “concerning mobile body and position, or according to place: which motion, indeed, is common to all parts of the universe.”]

know them through their simple components, in short, to see the role of the components in the constitution of the ensemble. Knowing the formal parts of the universe, we would understand the whole that they compose. However, such comprehension of the ensemble would be limited to what it is in virtue of these common parts taken as such. For there are, in the universe, wholes that do not owe all they are to the formal parts alone, which constitute them as parts of the universe. This is manifestly the case with living bodies. Although they are verified of these bodies, the universal principles do not suffice to explain the living body so far as it is living. In digesting nourishment or raising an arm, one is not acting contrary to the laws of the physical world. However, such activities cannot be reduced to knowledge of the formal parts of the universe and their laws alone, no matter however perfect it may be.

We are here in the presence of a composition that is other than that of the universe, but which, however, engages the same parts of the universe. These wholes, in fact, have in their turn proper formal parts by which they differ specifically from every other ensemble. The *partes diffinitivae* of man are not those of other natural beings. But notice that these proper parts presuppose the first ones. But it is necessary not to conceive the parts that distinguish one thing from the other as inserted, in the manner of a wedge, into the parts of the universe; the ones are not mixed up with the others. It is a question, in fact, of parts by which the whole is defined, not of pieces. In man, the formal parts of the universe, whatever they may be, are parts of man by his form as man. Of course, as soon as we are placed in the sole point of view of these parts of the universe envisaged as such, the ensembles in question no longer count in their specificity: the difference of a man and of a paving stone placed in a balance is not registered. But it remains just as true that man is not a soul associated with the parts of the universe: the latter are indeed

parts that compose the body of man, and this body is a formal part of man so far as he is man.

It is in pursuing this path that we would soon see the parts of the universe take on at the same time an entirely different aspect. In fact, beings that are born and perish are composed of parts of the universe, given that those parts are first and universal for all that is in this cosmos.¹¹⁸ But we will agree that for the living body taken as such, this composition is not indifferent. Hot water, whose degree of temperature can be seen on a thermometer, gives me a sensation of heat without any doubt. I undergo something. And that can go further—when I burn my fingers, for example. Put an egg on to boil (more precisely, place it in water whose molecules are in disordered motion, and raise the column of mercury in the thermometer to 100 degrees) and it will no longer serve to multiply the species of chicken. Of course, neither the study of sensation so far as it is sensation, or that of eggs, does the physicist regard as such. But it remains no less that I *undergo* the temperature of the water, and that to *undergo* this temperature means, for me, to have a sensation of heat that I perceive as a tangible quality that, moreover, affects my physical constitution. The physicist will not doubt for a minute that my own temperature, measured by means of a thermometer, is of the same nature as that of the water. He is equally certain that the sensation I feel cannot concern him—any more than does the sterilization of the egg—but however incommunicable it is, it is there. If the physicist is necessarily indifferent to the way in which the molecular state of my body and the objects that surround me affect me, this state that he can

118 I do not mean by that that each natural being has to contain all the kinds of parts of the universe, but that for each of them, the first parts, whatever they may be, are parts of the universe. Recall too that, in this whole context, “parts” must be understood in the sense of “partes [quae] ponuntur in definitione totius” (*In I de Caelo*, Prooem., n. 2).

measure profoundly involves my physical being as living—this can be for me a question of being or not being, whatever the scale says!

This returns us to the *De Generatione et Corruptione*, whose object is movement according to quality. From the point of view of living things, the formal parts of the universe of which they are composed manifest qualities. Certainly, they do not reveal them insofar as they are parts of the universe, but formally insofar as they are principles of changes according to quality. We recognize these changes most surely at the level of living things,¹¹⁹ which, in the last instance, owe to them becoming, being, and death. So many things are indefinable in physics. From the point of view of the physicist, the statement: “radioactivity can kill,” is deprived of meaning. And yet, it kills.

Only common sensibles can conduct us toward the formal parts of the universe. But they all come down to quantity: they cannot reveal to us the formal principles of alterations, which are qualities. As well, quantity is ordered to quality, as matter to form. We ought not, therefore, show ourselves in too much of a hurry to reject *en bloc* that:

local movement is attributed to the elements, not according to the hot and the cold, the moist and the dry, according to which the four elements are distinguished . . . since the latter are principles of alterations. On the contrary, local movement is attributed to the elements according to heaviness.¹²⁰

119 I do not mean by that that alterations are limited to the realm of the living. When it is a question of preserving the essential, one presents first the least discussable case. Soon chemistry would disappear into physics—despite the resistance of the proper sensible of the nose!

120 *In I de Caelo*, lect. 4, n. 2.

The senses reveal to us contrary qualities, and we do not hesitate to say that Socrates is mortal because he is composed of contraries. As far as knowing what these contrary elements are, that is another question. What precisely are the formal parts of the universe? Physics will never say in a definitive manner: here they are! Since these same parts must be the parts that are principles of alteration, we are no more advanced.

17

The Provisional Character of Scientific Theories

Why is the provisional character of scientific theories¹²¹ implied in those processes of the science of nature that have been compared to the orders of intention and of composition of practical reason? Recall what St. Thomas said about the order of intention: “*artifex intendit **totam** domum perficere.*” It is the house in its entirety that the artisan intends to construct. Applied to the science of nature, that means that the physicist reaches toward knowing the whole universe. But in order to have a strictly scientific knowledge (we mean the term in its Aristotelian senses) of the universe, it would be necessary to know it not according to just any of its parts, but according to those of the parts that define the whole—*partes [quae] sunt priores in consideratione quam totum, et ponuntur in definitione totius.*¹²² We can say that these parts must be those that are the most common, that their movement must be the most common—since it is a question of the universe. But what are these parts? What are the laws of motion in question? The laws that govern the parts of the

121 It will be noted that it is the most eminent scientists, versed in the most exact of the experimental sciences, who affirm this with the most clarity. To the degree that one recedes from the exactitude of physics, the opposite increases in the same proportion.

122 *In I de Caelo*, prooem., n. 2.

universe are necessarily, in this order, the most universal laws—in *in causando*. But we do not know these laws.

It will be said that if we do not truly know the general laws, we can at least know particular physical laws. To that we respond first of all that in stopping thus at a particular law we abandon precisely the point of view of the universe. On the other hand, every particular physical law, by the very fact that it is physical, regards the parts of the universe as such; its sufficiency in a closed field can only be apparent. If it truly were, one would have to be able deduce the general laws from it. That is what *cognitio certa per causas* requires. In reality, the general laws that we posit are never other than hypotheses from which we can logically infer particular laws as conclusions.

Is this to say that everything experience teaches us in physics is uncertain? Not at all. One does not doubt observed regularities nor that they are natural. But it does not suffice to be certain that nature is the cause of a phenomenon in order to have a scientific knowledge of it. Moreover, laws, such as physics expresses them, that is, under the form of algebraic relations between number-measures, are themselves provisional.¹²³ It is certain that if we knew the nature that is the reason for the regularity that we express provisionally under such a form, this expression would have to be considerably modified. This nature being nothing other than that of the formal parts of the universe,¹²⁴ we would not be able to account for regularities—but

123 “Laws are relations of constant form between certain measurements. The approximative character of the measurements makes this form to be always provisory; yet the modifications that a greater precision of measurements brings to the laws, change only its mathematical form or the value of the coefficients it contains. But the laws too ought to be modified because they are schematic, and that in two respects: first, the definitions of properties which enter into the law are schematics; next, the relation which unites certain properties to the exclusion of others is itself a provisory simplification” (F. Renoirte, *op. cit.*, p. 141).

124 Explaining the definition of nature (“principium et causa motus et quietis

it is this that one attempts to do in hypotheses—unless we truly knew these parts. That is why we cannot even have a science *quia* in this domain. In fact, that would suppose at least the sufficiency of a closed system. But there is no closed system for the parts of the universe.

However, when we speak of probability regarding physical laws, which are schematic and hence provisional, or regarding theories, which are hypotheses, the term should not be understood in the sense that we give it when we say, for example, “it is probable that yesterday Mister X was at such a place”; or, “it is probable that that there cannot be a multitude infinite in act.” The truth, in these cases, can be quite the contrary; while the laws, and the theories that are their synthesis, converge toward truth as toward a limit. In the given examples, truth or falsity will not affect the terms “Mister X” or “at such a place,” nor “multitude infinite in act” and “possible.” Instead the terms themselves of laws and theories are always something provisional. The “atom” is a striking example. Even while ignoring its original sense of “indivisible,” and defining the atom only through the entire process that makes it known to us, it is very certain that the term of this process is not there in the manner of an apple, or, if you wish, it is there in the manner of an apple that is perhaps a bunch of grapes that could be a tree, etc. To say “*that* is perhaps” is already to say too much “in the manner of an apple.” So too the physicist knows that the atom, *as he conceives it*, is something quite impossible and that if the universe had to follow the laws of physics, it would immediately collapse.

in eo in quo est primo et per se et non secundum accidens”), St. Thomas tells us the reason for the term *primo*: “Addit autem ‘primum,’ quia natura, etsi sit principium motus compositorum, non tamen primo. Unde quod animal movetur deorsum, non est ex natura animalis in quantum est animal, sed ex natura dominantis elementis” (*In II Physic.*, lect. 1, n. 5). [“He adds, ‘first’ because nature, although it is a principle of the motion of composite things, it is still not first. Whence that an animal moves downward is not from the nature of the animal as animal, but from the nature of the dominant element.”]

In certain respects, the scientist resembles the artisan. A man is truly a builder of houses only if he knows the matter necessary to make one.¹²⁵ However furiously convinced he may be of the necessity of a habitation for the featherless biped, as long as he does not know with what materials a house can be made, nor how to use them, he is not truly a builder; his ideas on the workable matter, however proximate, are still dialectical. In short, he must know the elements, not in just any way, but in a sufficiently precise way that the house stands upright and answers to its purpose. The scientist has a vague idea of all that he seeks to know better. He knows that there are universal rules that govern the behavior of the universe, and he knows it better and better. Seeking to know what these rules are, he gives himself for a limit a knowledge whose demands are compared to the building of a house. Were it only to arrive at speculative truth, it would be necessary that he know exactly the rules that define the whole. Restrained by the invincible imprecision of his measurements—an account of it is made in proportion as they are made precise—not being a separated observer—the slowness of the light reminds him of it—he will have to compromise with the truth in order to keep himself to an indefinite approximation of it. He becomes an apprentice-builder. He tests the materials, he knows that some will do better than others, but he knows just as well that neither the ones nor the others will ever be [*ne sieront jamais*].

This analogy helps us to understand the illusion of which scientific truth can be the object in physics. In fact, the artisan attains truth as soon as he knows how to produce his work—a true house, a shoe that responds to its end. On his side, the physicist has this knowledge that is at the origin of all that is

125 Lest some architect deficient in the art of the mason take offense, let us agree that the builder in question embraces several citizens: an architect, carpenters, a plumber, bricklayers, etc.

most imposing in modern technology, from the whistle of the locomotive right up to the bomb of nuclear physics. Will he be denied scientific truth in the face of such dazzling proofs? Without doubt there is a truth there. But does the explosion of the bomb make the truth of the theory of relativity? We have seen that the author of the fundamental equation is the first to deny it. That proves only that one is on the right track, and not that one attained speculative truth of the phenomenon. It is not the physicist as such who makes the engine. Precisely, practical truth does not require that one know the physical nature of the workable matter. If it were necessary, the sculptor could not carve the stone of his statue, nor the cobbler make shoes. Indeed the artisan judges the matter so far as it is workable, that is, in its relation to the work, to the good of the work, and not in an absolute manner. No doubt the artisan is in speculative truth when he judges that this is stone and that is water. But one does not thus attain to a truth of physical science. Such givens represent at most a remote starting point. The physicist sets himself to measure, and then begins the spiral movement.

The physicist as such does not seek to know in order to construct. However, he must act "as if." Practical power over reality will always be his criterion of the true path. "The power over matter that his knowledge gives him is, ultimately, the sole assurance of being on the right track."¹²⁶ If you like, physics is supported by practical truth, but it does not consist of that truth. In insisting on the provisional character of his knowledge, the physicist does not become a skeptic. He reveals, on the contrary, his sense of truth; he knows henceforth that it is a matter of that which defines the universe, and as one does not know the truth at the beginning, one will no more be able to rejoin it at the end. The "*aliqua prima, ex quibus definitiones et demonstrationes procedunt*" are found, for us, at infinity; it would be necessary in

126 F. Rasetti, *op. cit.*, p. 11.

effect “*quod . . . prius cognoscantur quae sunt elementa.*”¹²⁷

But, it will be said, how do we conclude, from the provisional and dialectical character of physics, to the same character for all the experimental sciences? Let us recall what St. Thomas said *a propos* of the complete definition of man. It does not suffice to know that he is composed of body and of a rational soul; it is further necessary to specify what this body is, right down to the elements. These elements are, indeed, the *partes speciei* for all natural things. In the measure that experimental biology studies the corporeal organization of the living by basing itself on external experience, it depends, as well, on the knowledge of those elements without which the organized body cannot strictly be defined. The most primitive biological units are not what they are when abstraction has been made from the parts of the universe that compose them. However, it would not be necessary to conclude from this that before undertaking its proper researches biology must wait for physics—that is to say, indefinitely! It has its proper givens and a method to it, but not a strict independence. In brief, these two branches of natural science, physics and biology, converge toward a common limit that they can approach indefinitely without, however, ever attaining it.

We were saying that in the measure that the artisan judges a matter in its relation to the work, he knows it truly without however knowing its absolute nature. Likewise biology, in the measure that it can be based on internal experience, will succeed in recognizing certain organizations of matter, of structures and functions observable externally, as necessary not only in fact, but for a veritable reason to such and such a vital operation. The most evident case is that of the hand, the bodily instrument quite particularly at the service of practical reason. Of all the

127 *In III de Caelo*, lect. 8, n. 5. [“These first things, from which definitions and demonstrations proceed” . . . “that beforehand are known the things that are the elements.”]

organs of the body, it is at once the most physical and the most evident expression of intelligence. We observe, indeed, that the hand, which obeys reason, must be what it is, for intelligence to be able to exteriorize its works: we recognize in it a certain infinity proportioned to reason. From this we can descend toward its characteristic anatomy and toward its physiology in order to see what needs to be in order that the hand fulfill its function as the instrument of instruments. In the precise measure that one proceeds thus, one surpasses the dialectical phase: it is possible to attain scientific knowledge properly so called without having an exact knowledge of that which is most elementary. Here one can apply, yet one more time, what we said above about confused knowledge. But as soon as one wishes, in some way, to reconstruct the organ from the point of view of material cause and of an external experience that makes abstraction from its function as known by inner experience, one cannot surpass the level of tentative knowledge.

Among the observations that we read in Aristotle, those that repose on such a foundation are as valuable today as they were in the past. But it is not always easy to separate the obsolete from the permanent.

Here therefore are some reasons that appear to me to justify the omission, in an abstract treatise on the soul, certain problems that arise from experience and from theories of which Aristotle could suspect neither the complexity, nor the extent, nor, especially, the provisional character. One thinks only of the amplitude of the studies in physics and experimental psychology that correspond to his observations "on the nature of light." It

seems surely that, for reasons laid out in sections 11 to 13 above, it is better to confine ourselves at first to what can be considered in a certain abstraction, and to that which, as the substance of the *Physics*, can be taught more *per modum doctrinae*.

18

Life in the Universe

As soon as one is engaged on the path of the “*necessitas materiae*,”¹²⁸ science properly so called depends on a rigorous knowledge of principles that are first in themselves. But do these principles form in reality an order that is sufficient to itself, a field closed in its manner and separable? Is there such a system at the limits of physics? The universe, in its formal parts, is not a system so simple. In living bodies, the laws of the physical world are as rigorously observed as in inert things. Life does not enter by the physical world by breaking in. If the physicist can give an account of neither the structure nor the behavior of the living, this is not simply because he is not a biologist. Life is not a phenomenon inserted into the matter and light of the physicist; the soul is not superimposed on a portion of the universe. My elements (simple bodies or torsions of space, it matters little) are mine and I do not doubt that their behavior is as legal as that of the elements of a pebble. Let us agree that my case will complicate things for the physics of the physicist (already the elements of the pebble are rather remote); however that would keep to the sort of physical nature that is fundamentally mine, while being strictly of the universe that is not a someone. It is certain that, in walking where I wish, I give birth to no wrinkle in the physical world, no more than does the pebble that rolls or the cat that does not take counsel. Certainly, physics succeeds best where

128 *In II Physic.*, lect. 15.

things are most homogeneous and are exposed to the rigor of the abstract immobile, where motion itself is in the manner of a state—a coordinate. The physicist whom the living disconcerts would be like a brickmaker who would be disconcerted at seeing his bricks ordered in a building whereas in the brickyard they were so well ordered in uniform piles. This brickmaker (who doesn't exist) would evidently have forgotten something essential—he would be turned against himself, against his own trade. At the limit, a physics closed on itself is doubtless no less contradictory. In sum, the physicist who dreams of such a future for science will be like those ancient philosophers of whom Aristotle spoke in the *Physics*, who thought

that what is by necessity is in the coming to be, as if someone were to think that a wall came to be by necessity because heavy things are naturally apt to be carried down but light things up, whence the stones and the foundation are below, but the earth, because of its lightness, is above, and the timber is furthest up. For it is lightest. But, although it did not come to be without these things, it did not come to be through these things, except as through material, but it came to be for the sake of sheltering and guarding some things. So too in all other things in which that for the sake of which exists: these do not come to be without what have a necessary nature, yet they do not come to be through these latter, except as material, but for the sake of something. For example, why is a saw such? That this may be and for the sake of this. Still, it would be impossible that “that for the sake of which” come to be were the saw not of iron. So it is necessary, if there is to be a saw and its work, that the saw be of iron.¹²⁹

It would be absurd to suggest that the physico-mathematician should occupy himself with finality, given that the whole

129 *Physics* II, 9, 200a1-8. [Coughlin translation. – Tr.]

universe, understood in the sense that we have made precise, is accessible only through measurements and the application of mathematics. Those, indeed, remain in the genus of formal causality,¹³⁰ in forms, relations and proportions. But, precisely, if by its method physics is perforce closed to natural things (even with respect to the strictly physical depths that are theirs) as soon as they do not lend themselves to a quantitative form, must we not see there the proof that the physicist is not, by himself alone, the *physicus*, the *naturalis*, and that, to speak absolutely, he is even less so than the biologist?

The integral *physicus* has become an impossible being. Certainly, we should rejoice at this, but not without regretting these limits of the individual intelligence.

It is with a certain perplexity that I deliver to my old student, the author of this *Précis de psychologie thomiste* these hastily composed and provisional notes. They will contrast with a treatise well ordered, rigorous and sober, where one will find faithfully expressed the substance of the most abstract part of the study of the soul. Father Cantin only made the mistake of soliciting an introduction to this branch of the philosophy of nature, which he teaches with so much competence.

130 *In I Post. Anal.*, lect. 25, n. 4. – Even biological phenomena can be mathematized only to the degree that they keep the homogeneity of corporeity. See W. R. Thompson, *Laval Théologique et Philosophique* III.1 (1947): 77-88 (same issue as this introduction), and later articles by him which will follow, on this subject.

A RESPONSE TO THE SCANDAL OF DISAGREEMENT¹

Robert M. Augros

I would like to dedicate my remarks this evening to the memory of Dr. Duane Berquist, a great philosopher and teacher, well known to Thomas Aquinas College. He has been my guide and mentor for my entire adult life and were it not for his rich teachings, which originally attracted me to philosophy, I would not be standing here before you tonight.

Thomas Aquinas College is well-known for centering its curriculum on the *Great Books of the Western World*. But one of the first things a student notices about these books is that many of them say opposite things. This poses a problem for how the beginner can learn from them and also raises the larger question of whether we can learn anything from philosophers, if they cannot agree among themselves.

Robert M. Augros has a Ph.D. in philosophy from Université Laval. He is semi-retired and currently teaching one course at Thomas More College in Merrimack, N.H. Dr. Augros has written numerous scholarly articles and has co-authored two books: *The New Story of Science: Mind and the Universe* and *The New Biology: Discovering the Wisdom in Nature*.

¹ This essay is based on a lecture given on the Northfield campus of Thomas Aquinas College on January 17, 2020. *The author would like to thank all the students and faculty who participated in the Q & A after this talk. The questions and contributions allowed him to sharpen and clarify many points presented in this version of the essay. (By the way, doesn't this also illustrate how opposition can advance the truth?)*

Imagine if carpenters could never agree on anything. If you ask one, he insists plywood is the only sensible choice for your project. If you ask another, he says, above all, you should use anything but plywood. Every book published on carpentry is quickly followed by another book that attacks all the principles and conclusions of the first. No two carpenters can agree on how to build a deck, a chair, a wall, or a house; nor on what tool to use for any procedure, or even on what carpentry is. Would this not provoke anyone to despair and justify concluding that there is no such thing as the art of carpentry?

Philosophy seems to be in this very predicament. From its inception it has been plagued by disagreement. Some philosophers have said there is only one elementary substance, others that elementary substances are infinite in number and in kind. Others deny that any substance can be known. Some philosophers say all human knowledge is derived from sense experience; others, that intellectual knowledge does not at all depend on the senses; and still others, that there is no human knowledge. Some say happiness is pleasure; others, wealth; others, honor; still others, that the highest good is different for every individual. Philosophers say contrary things both about the starting points and about how to proceed in philosophy. They even disagree on what philosophy is. David Hume writes, "There is nothing which is not the subject of debate, and in which men of learning are not of contrary opinions. The most trivial question escapes not our controversy, and in the most momentous we are not able to give any certain decision. Disputes are multiplied, as if everything was uncertain."² No subject is free from these conflicting opinions. It seems every philosopher has a philosophy all his own. This universal disagreement appears to discredit philosophy completely and is a perennial scandal.

What is the most reasonable thing to do when authorities

² *Treatise on Human Nature*, p. 3.

disagree on an important question? Historically, there have been three different reactions. The first is typified by Michel de Montaigne, a 16th-century essayist, for whom the many opposing views of philosophers is itself sufficient proof that no resolutions are possible. For Montaigne philosophy consists in merely listing the opinions and then moving on to the next topic, without ever attempting to resolve the question. This kind of radical skepticism actually dominates academia today. Philosophy can be no more than the history of what philosophers have thought and said, we are told. Unlike the sign above the entrance to Plato's academy, which read, "Let no one ignorant of geometry enter here," the sign above the entrance to the modern academy says, "Abandon all hope of the truth ye who enter here." Anyone who dares to say he has found some "truth" outside of science, is scorned and ridiculed. Believing that there is such a thing as truth is taken as proof of arrogance.³

What should we make of this utter skepticism which is the expression of a profound intellectual despair? First of all, we

3 During the discussion period, a student asked for a proof that proofs are possible. Attempting that would be circular and futile. It doesn't work that way. What's the best way to prove that a human being can run a mile in less than four minutes? Not *a priori* arguments from anatomy and physiology. Just have someone do it. "Ab esse ad posse valet illatio," said the scholastics, the inference from being to possibility is valid. The ancient Greeks did not try to prove that proofs are possible. They first proved some particular thing to everyone's satisfaction. Then they said, "Hey, we really proved that the base angles of an isosceles triangle are equal! Always and necessarily. Now, how the heck did we do that?" We first find proofs of things and then, by reflection, realize that proofs are possible and subsequently discern the general tools for proving things. Modern philosophers err when they begin with the question, "Can we know anything?" Every question presupposes we know some things already. You have to have some awareness of what knowledge is and what it means to say something is possible before you can ask, "Can we know anything?" The first question is not "Can we know?" but "What do we know?," and the second is "How do we know?" Socrates spent his life on the first of these. Plato and Aristotle explored the second, developing dialectic and logic.

should point out the self-contradictory nature of radical skepticism. If someone says, “No truth can be known,” then he is asserting something he thinks is true and that can be known. Every denial of the possibility of truth, assumes truth exists. Thus, there is no need to argue against radical skepticism. It self-destructs. It is absurd to use reason to attack reason. The skeptic is sawing off the limb he is sitting on.

But we can say more. Montaigne and modern thinkers are counseling that we give up the enterprise. Is philosophy that impossible? If something is difficult, there are always those who will call it impossible. For decades field and track commentators proclaimed that it is physiologically impossible for a human being to run a mile in less than four minutes—until May 6, 1964 when Roger Bannister ran a mile in 3 minutes and 59.4 seconds, a record that lasted only 46 days. The four-minute barrier has since been broken by over 1000 male athletes, some of whom were in high school at the time. In our criminal justice system, disagreement does not cripple a trial. The prosecution and the defense each present the strongest case they possibly can, but we do not conclude that no verdict can be reached because of the opposing views.

Also, the skeptics may be making more of a statement about their own personal incapacity than about the impossibility of finding solutions. Perhaps Montaigne, when he throws up his hands, is telling us more about his own inability than about philosophy. There is, after all, the eight-year-old boy who declared, “No one can lift 100 pounds. I know. I tried it.”

But the most telling rejoinder to the skeptic comes from nature herself. Every man has a natural desire to know and natural desires are not in vain. For example, every animal has a natural desire for food. This does not mean no animal ever starves, but it does mean that the food for each species exists in nature and is, in principle, possible to attain. Likewise, man’s natural

desire to know does not mean everyone attains the truth, but that truth exists and is possible to reach with the equipment nature has given us, senses and a mind. Even the skeptic gives witness to the natural desire to know because he has despaired, and no one despairs over something he never desired in the first place. One thinks of the Aesop's fable with the fox and the "sour" grapes. There is something too facile and cowardly in this first reaction. It is unworthy of a wise man.⁴

René Descartes, the father of modern philosophy, read Montaigne and was dissatisfied with his skepticism. In response to disagreement, Descartes offers a different proposal. He explains that he experienced bad teachers in college and concluded that none of the persons who taught him really knew anything. And since earlier philosophers disagree with each other, he concluded none of them had the truth either, because if one did, he would have convinced the others:

There is in the sciences scarce any question about which men of ability have not disagreed. Now whenever two such men are carried to opposite conclusions regarding one and the same matter, one at least must be in error; indeed, neither of them, it would seem has the required knowledge. For if the reasoning of either of them were certain and evident, he would be in a position to propound it to the other in such wise as to convince him also of its truth.⁵

4 The desire for agreement is not entirely misguided. It is natural for the mind to want to see how all things harmonize, even opposing opinions. We might compare it to a desire for world peace. But it is unrealistic to expect that everyone will agree even when the truth has been thoroughly and definitively proven. The purpose of philosophy is not to force people into agreement. It is to understand the truth.

5 René Descartes, *Rules for the Guidance of Our Native Powers*, Rule II. This is the ultimate reason why Descartes rejects his predecessors. Please notice that Montaigne would agree whole-heartedly with this principle. An interesting hidden agreement. "Where learned people disagree, no one knows the

So, Descartes decides to reject his predecessors and contemporaries and begin philosophy again by himself. If you want something done right, do it yourself. Now, this proposal is an improvement over Montaigne. Descartes has hope that we can attain truth and satisfy our natural desire to know. But Descartes' reaction has shortcomings of its own.

To accomplish difficult things, we need all the help we can get. In waging a war, for example, we need as many allies as possible. So Descartes seems to be assuming that finding the truth in philosophy is easy. It is so easy you can do it without anyone's help. A sign that this is false is the disagreement that Descartes admits. People do not disagree on easy and obvious things, like what the square root of nine is.

Also, there are some areas of knowledge where Descartes' proposal is impossible. To learn a language, for example, we necessarily depend on other persons who already speak that language. Did Descartes make all of his own clothing, grow his own

truth" sounds plausible but is a false principle. If it were true, we'd have to say that Galileo could not have known that Jupiter had satellites, since many natural scientists of his time thought the idea was preposterous and even refused to look through his telescope. Or, despite many successful experiments and control groups, Louis Pasteur could not have known that vaccination prevents anthrax in animals, since his scientific colleagues ridiculed the idea at the time. Therefore, the reason why Montaigne and Descartes reject their predecessors is unsound and unreasonable. We notice in this principle that Descartes concedes too much to skepticism.

A further point: If something has been genuinely demonstrated, is dissent always based on ignorance and prejudice? Even unbiased, intelligent persons can be deceived by a strong, misleading appearance. Something true can lead us into error, if it masks some more important truth that is difficult to see. A false \$20 bill can deceive us, not because it is counterfeit but because it looks so much like the real thing. Why for so many centuries did everyone think the sun revolves around the earth? Because this certainly seems to be true to the casual observer. There is immediately available to everyone a strong, misleading appearance. In the same way, people are deceived by the obvious disagreement among philosophers, which masks their more profound, hidden agreements.

food, heal himself when sick, and manufacture all the items he used? Human beings naturally depend on others in many ways. It is natural for us to do so in the intellectual life also. Venerable Bede once wrote: "As no one receives existence from himself, so no one can from himself be wise."⁶ In my opinion the four wisest men in human history were Plato, Aristotle, St. Augustine, and St. Thomas Aquinas. None of these men tried to achieve wisdom all alone. Plato spent ten years as a disciple of Socrates. Aristotle spent 20 years studying under Plato. St. Augustine had St. Ambrose and St. Thomas was formed by St. Albert the Great.

Furthermore, why not use the insights of those who have gone before us? If ten men sincerely try to solve a problem, even if they all fail, one or more is bound to stumble upon some useful insight. To reject them is to throw all this away. Even if they fall into grave errors, we can still learn from them not to make the same mistakes. But we cannot do this if we reject their views wholesale. If one man investigates without the help of others, he is more likely to discover only a part of the truth rather than the whole of the truth. But why not gather the parts? If you refuse to, you run the risk of never knowing the whole truth about anything. We may also ask, what is Descartes assuming about his own mental ability? He seems to be saying, "Where all these other great minds have failed, I will succeed with help from no one." This is a far cry from the humility that characterized Pythagoras and the ancient philosophers.

Moreover, Descartes cannot avoid inconsistency. If we follow his example by rejecting our predecessors, we will reject all of his ideas and begin anew ourselves.⁷ So he leaves a self-defeating

6 *Sunday Sermons of the Church Fathers*, p. 144.

7 Someone might object that Descartes explicitly says he intends his method for himself alone. But what can such a claim be except rhetoric or false modesty? After all, he publishes his principles in a book entitled *Discourse on the Method of Rightly Conducting One's Reason and of Seeking Truth in the Sciences*. He's talking about everyone's reason, not just his own. Further, he claims to

heritage. Philosopher Thomas Hobbes wrote elaborate objections to Descartes' *Meditations*. Descartes subsequently published all of Hobbes' objections along with his own rebuttals in the next edition of the *Meditations*. Hobbes, however, still persisted in his criticisms. This so angered Descartes that, after several exchanges, he refused to have anything further to do with "that Englishman." But since Descartes failed to convince Hobbes, we must conclude, by Descartes' own principle, that he did not possess the truth. Thus, Descartes refutes himself.

Philosophers after Descartes disagreed with him on most of the important matters.⁸ By his own standard, then, he would have to admit he did not know what he was talking about. Descartes is not at all solving the problem of disagreement; he is making it worse. His position will be just adding one more opinion to the collection of conflicting opinions that already exists, with nothing to distinguish itself from the rest.

A third response to disagreement is found in thinkers like Aristotle, St. Thomas and many others. It counsels this: When faced with disagreement, begin again, but with the help have found a universal method applicable to all the sciences. Clearly, he thinks his method is big world news and not just autobiography.

⁸ Even universal agreement does not guarantee that we have the truth. Bishop Fulton Sheen once said, "If something is true, it's true, even if no one believes it. And if something is false, it's false, even if everyone believes it." During the discussion, the example we gave is the belief that the sun travels around the earth each day. For more than a thousand years everyone believed this, astronomers and lay people alike. We decided that agreement is not a cause of truth but at most a sign of it. And we should add it is a fallible sign, as the example just cited shows. (For the distinction between fallible and infallible signs, see Aristotle's *Prior Analytics* II, 27.) The most that agreement can produce is probability, not truth. If all economists agree that tariffs are harmful even for the country imposing them, that does not make it true, but it does make it probable. As long as you speak in terms of agreement and disagreement, you are in the realm of dialectic, with greater or less degrees of probability, not certainty. One of the uses of dialectic, the kind of debating found in Platonic dialogues, is to investigate both sides of questions in the sciences and also to discover the principles of the sciences. (See Aristotle's *Topics* I, 2.)

of your predecessors. This alternative avoids the contradictions and other defects of the first two reactions. Any opinion that somehow incorporates the parts of the truth in previous views is qualitatively superior to them all. Surely this is the most reasonable approach, but exactly how can it be accomplished? Let me illustrate using the two previous approaches to disagreement we have just discussed.

Montaigne and Descartes represent two extremes; Montaigne says wisdom is impossible; Descartes says it is easy, you don't even need help to attain it. As they stand, these two positions are utterly incompatible. Though each has some part of the truth, neither side can acknowledge the truth that the other side has seen. Descartes will never admit philosophy is impossible and Montaigne will never agree that it is easy.

Let us see if we can't reconcile these two irreconcilable opinions. We can begin with a very general principle: The more contains the less. For example, if Achilles can lift 200 pounds, then even more so, he can lift 100 pounds. The more contains the less.

In the same way, anyone who says something is easy must also say that it is at least possible. And anyone who says something is impossible must also say that it is at least difficult.⁹ Now possible and difficult are not opposites. In fact, they are quite compatible. It is difficult but possible to run a mile is less than four minutes; difficult but possible to pass the bar exam. The

⁹ During the discussion period, a student objected that Montaigne would never admit this because what is impossible is an absolute and admits of no degrees. Another student very helpfully distinguished two meanings of the word "impossible." The strictest meaning is something that is intrinsically self-contradictory, like saying seven is both an odd number and an even number. Another sense of the word is something that is not self-contradictory but is absurdly out of the question and will in fact never happen, say Donald Trump being elected king of France tomorrow. Montaigne is probably not saying that finding the truth is self-contradictory, but that it is so difficult as to be impossible in practice.

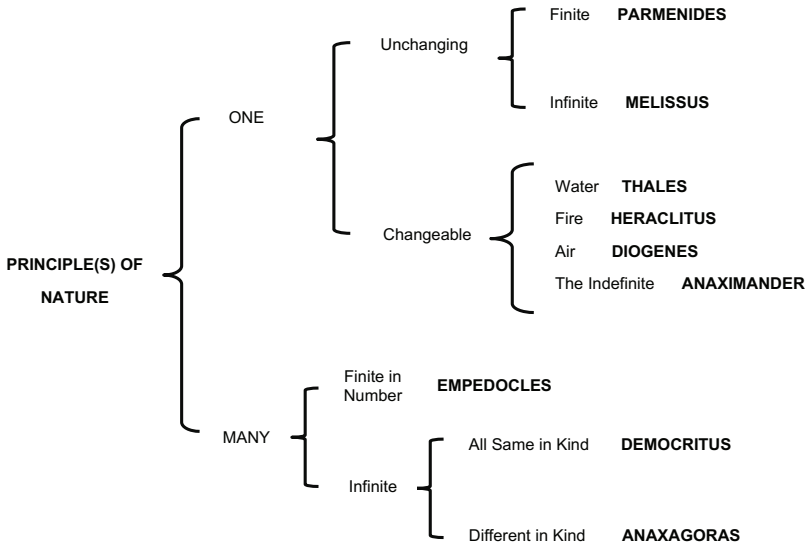
common ground between impossible and easy is to say finding the truth amid disagreement is difficult but possible. This puts us in a position to see the part of the truth in what each of these men is saying. The middle position is more probable than either extreme and has none of their defects or self-contradictions. This resolution of opposites is like a sieve that filters out the dross and preserves only the gold. Behold the disagreement resolved! And here's the important part: we did it with the *help* of our predecessors, Montaigne and Descartes.

We can draw a further valuable lesson from this disagreement. Plato and Aristotle teach that the catalyst for philosophy is wonder, an emotion compounded of three elements: the desire to know, the fear of error, and the hope of overcoming the obstacles that stand in the way of the truth. If any of these components gets out of balance, wonder is destroyed and the whole intellectual life is compromised. If there is too much fear, it paralyzes the mind and produces the despair of skepticism, as with Montaigne. Overconfidence, on the other hand, causes the rashness we see in Descartes. Again, their conflicting opinions have been extremely instructive.

Philosophers agree much more than is realized.¹⁰ The agreement is seldom on the surface, however. For example, the first Greek philosophers disagreed radically on what the principles of nature are. Please direct your attention to the chart on the next page which divides out their opposing opinions about the principles of nature.

Quite a smorgasbord of opinions. Nine possibilities and a

¹⁰ Does resolving a disagreement require that all parties end up agreeing? No. We should not expect the resolution of every disagreement to end with singing Kumbaya and hugs all around. Truth depends on evidence, not on counting heads. Otherwise, the existence of the holocaust would become doubtful and unknowable, if just one person adamantly denies it. The most stubborn person in the room is not granted arbitrary veto power over a validly demonstrated conclusion.



Opinions of the First Philosophers on the Principles of Nature

(Based on Aristotle's *Physics* 1, ch. 2)

thinker in every slot. Every opinion here is contradicted by eight other opinions. What could be more hopeless? Yet Aristotle says something very shocking about these opinions. In effect he says, all these men are saying the same thing.¹¹ What??? How can you say that, Aristotle, when their claims all contradict each other? It would be difficult to invent a more divergent set of opinions.

Nevertheless, Aristotle sagely points out that Thales explains change by *expansion* and *contraction* of water. Empedocles accounts for change by *assembly* and *disassembly* of his four elements. The atomists, Democritus and Anaxagoras, use *congregation* and *separation* to explain change. “Even Parmenides,” Aristotle remarks, “treats *hot* and *cold* as principles under the names of fire and earth.”

What do all these pairs have in common? They are all opposites. Aristotle is right. All of these men take it for granted that change is between opposites. This hidden agreement is astonishing! The surface discord hides a deeper harmony that provokes wonder. These philosophers seem to have a secret pact that even they themselves are not fully aware of. And it is especially encouraging because whatever they all agree on is more probable than what only one of them says. Aristotle then verifies this insight with an induction, looking at the various kinds of change. Then he confirms it further with reason, showing if there is no opposition, no change is possible. If something goes from being white at 10 A.M. to being sweet at 11:00 A.M., there is no guarantee of a change, because white and sweet are not opposed. Sugar is both. So, the disagreement of the First Philosophers leads us, with the help of Aristotle, to discover the first and most evident principle of changing things: change occurs only between opposites. By the way, Aristotle draws not just this insight from the first philosophers, but many others as well. This is the very finest use one can make of one’s predecessors. Many

¹¹ *Physics* I, 5, 188a 18.

winters ago, when I was an undergraduate just beginning in philosophy, merely seeing this would have been sufficient to make me a disciple of Aristotle for the rest of my life.

We must not allow the surface disagreements among philosophers to make us overlook any hidden agreements they might have. By the way, this is a good illustration of tradition at its very best. Tradition is not mindlessly repeating the past. Tradition is advancing a science or an art by building on what is best in your predecessors and using their help.

Sometimes what thinkers agree on is true and insightful, but at other times, they agree on a common error. Take the current conflict between the evolutionists and the creationists. One side says natural selection produced all species of animals and plants so there is no need for God. The other side insists that because God created all animals and plants, evolution is a hoax. Despite their opposition, both sides agree on an unspoken premise. Both assume that if one agent is responsible for the entirety of an effect, then another agent cannot also be responsible for the entirety of that same effect. You can paint part of this wall green and I can paint the rest. But if you paint the entire wall green, I cannot also be the agent cause of the same effect at the same time. In such cases a second agent is superfluous.

This tacit premise certainly seems true, even obvious. But it is false. I and my paint brush are both at the same time agent causes of this entire wall being painted green. There is no impossibility as long as one of the agents gives the other one its causation. I move and direct the paint brush to paint the wall. It is an instrumental agent while I am the principal agent. We can even add a third agent. My foreman directs me to paint the entire wall green.

If you remove this error the disagreement vanishes! There is no impossibility in both God and evolution being agent causes of all animal and plant species, provided God uses evolution as a

tool. This is an especially satisfying resolution because it enables us to agree completely with the positive premises on both sides.¹²

We notice a pattern here. Not only is there often surprising agreement below the surface, but that agreement or some other common ground offers a key to resolving the question. Let's test this with more examples.

One of the most extreme clashes of opinion in the history of philosophy occurred between Heraclitus and Parmenides. Heraclitus insists that all things are constantly changing, while Parmenides contends that nothing changes because change is impossible. How could there be any common ground between these two opinions? A careful reading of their views reveals that they both agree that change entails a contradiction. They say this because change is between opposites, but how can hot itself become cold without a contradiction? Agreeing that change entails a contradiction, they then go their separate ways. Heraclitus argues that change is evident to the senses and therefore change exists. And if it entails a contradiction, so be it. Parmenides asserts that contradictions are impossible and therefore change is impossible, and we must not trust our senses

12 To open the discussion period, Dr. Kaiser asked, "If the hidden agreement between disputing parties is sometimes true and sometimes false, then how does it help us resolve the disagreement?" The final resolution of a problem must eventually get beyond opinions and find the truth in things. The only utility of finding hidden agreement is that it helps us toward an eventual rigorous and definitive judgment about things. Aristotle gets a clue from the first philosophers about opposites, but then forms an induction from the different species of change to confirm their insight, and finally shows how opposites are necessarily in the definition of change.

Thus, in the present example, distinguishing different kinds of agent causes alone does not prove that both God and evolution produced all species, but shows that such a thing is a possibility and that the two sides are not really disagreeing. This does not settle the matter with certainty, much more work must be done, but it has broken the stalemate and pointed us in the right direction.

in this matter. Their conflicting conclusions, that everything is changing and that nothing changes, point to the premise they agree on: change incorporates a contradiction. This is the questionable common assertion in their reasoning and if we can show it to be false, we shall not only learn something important about change, but we will have resolved the opposition between Heraclitus and Parmenides. We can then agree with Heraclitus that motion exists and with Parmenides that contradictory things are impossible. The common ground underlying their disagreement told us where to look.¹³

Here's another case. In 1914, the southern United States was blighted by pellagra. Two expert research teams composed of famous doctors could not find a solution, but surmised that pellagra was a contagious disease caused by an unknown microorganism, a bacterium, probably spread by the stable fly. Then the Surgeon General of the United States sent Dr. Joseph Goldberger, an experienced epidemiologist, to take a fresh look at the case. After pains-taking study, Dr. Goldberger concluded that pellagra was not a contagious disease at all but resulted from a dietary deficiency. The southern experts scoffed at Goldberger and tried to discredit him. A hopeless impasse that calls for despair? Not at all. If we look for what both sides agreed on, we shall find the key to resolving the dispute. Both sides agreed that the matter should be settled by a scrupulous application of the scientific method. The southern team pointed to the great success of Louis Pasteur and others in explaining diseases by isolating their bacterial agents. Pellagra was likely to

13 To resolve this conflict definitively, we would first need to show that their reason for saying change entails a contradiction is defective. All the first philosophers not only used opposites but also asserted a third thing in change which is not an opposite. Thales says its water, Heraclitus, fire; Democritus and Anaxagoras, atoms; etc. To say heat becomes coldness is contradictory, but there is no contradiction in saying *water* changes from hot to cold. This, of course, is all in Aristotle (*Physics* I, 7).

be a similar case. Dr. Goldberger, while not denying any of this, devised multiple, meticulous experiments and control groups that conclusively proved pellagra was not contagious but was caused by lack of sufficient niacin in the diet. He simply applied the scientific method more rigorously and thoroughly than his critics. Both sides accepted the scientific method as authoritative in this question and it finally led to the truth, despite the southerners who continued to reject it, even after the evidence was in. Behind many disagreements there lies a deeper, more significant agreement that incorporates the resolution to the problem.

There is another important kind of hidden agreement. We may call it unconscious and involuntary. Suppose someone denies freewill. After we have shown that his arguments against it are no good, we can take the refutation one step further. We can point out in what the opponent says or does something that shows he himself also believes in freewill, despite his protests to the contrary. In his unguarded moments, he will praise or blame someone, or say what he is planning to do this afternoon. Neither of these makes sense unless we are free. This means if we look beyond what the determinist says with his mouth and pay attention to how he lives, he, too, will give witness to freewill. It is a strong confirmation of freewill that even those who try to deny it cannot avoid assuming it.

It is the same for anyone who denies any self-evident truth. Some philosophers have denied and ridiculed universal ideas. Not only can we show their arguments are fallacious in this regard, we can easily catch them thinking and reasoning with universal ideas. This is because they think with human minds just like our own and everyone else's.

So far, we have examined several cases of disagreement and shown how they can be resolved. Now we are in a position to make a much stronger statement. Not only can conflicting opinions be resolved, they are a necessary step in searching for

the truth. In fact, the absence of disagreement can prove a hazard. If we encounter a statement that happens to be false, we are more likely to be taken in by it if there is no opposition to it. For example, the poet Baudelaire claims that the imagination is the “queen of the faculties” and makes a persuasive case for it. Blaise Pascal, however, calls the imagination “the mistress of error.” Without this opposing view, we might adopt Baudelaire’s assertion uncritically. The most productive thing you can do with an extreme opinion is to put it up against its opposite. That will always tame it somewhat. Similarly, we might be taken in by Descartes’ declaration that motion is so easy and obvious that it does not even need a definition, were it not for Zeno’s serious objections against the very existence of motion.

Opposition fosters the element of caution in wonder and prevents us from rashly grabbing at the truth. Opposing opinions also help to prevent us from overstating our case, and are likely to expose any ambiguity in our premises and assumptions. We see this principle applied in politics. One function of the loyal opposition party that is out of power, is to keep honest the party that is in power. Analyzing conflicting opinions before trying to judge a difficult matter is like listening to the advice of many people before making a difficult decision. There is a much better chance of taking into account all important aspects. Not being exposed to disagreement on a topic is like someone raised in a germ-free atmosphere. His immune system has not developed and he will fall victim to the first bacteria he encounters when he leaves his sterile environment. Similarly, by considering opposing points of view we develop an immunity to weak arguments.

Aristotle, in all of his treatises, before trying to settle a matter definitively, develops the opinions of his predecessors, using dialectic to argue to opposite conclusions. He explains the need for this procedure:

To doubt well¹⁴ . . . is necessary for those wishing to discover. For the discovery afterwards is an untying of the difficulties before. . . [T]hose investigating without having first considered the difficulties are like those who do not know where they ought to go; and, in addition, do not know whether the thing sought has been found or not.¹⁵

Someone who does not see the difficulties does not know how to proceed and will not recognize a solution even if he happens to stumble onto it by chance.

Opposite opinions not only help us *discover* the truth but can also confirm it, after it is discovered. In the *Nicomachean Ethics*, Aristotle begins the discussion of happiness by carefully consulting his predecessors on the subject.¹⁶ Then he rigorously reasons out the definition of happiness. Then, in the next chapter, he takes the trouble to show how his own answer takes into account all the parts of the truth found in the views of others,

14 “Bene dubitare,” or doubting well, implies not merely recognizing conflicting opinions, but developing persuasive reasons for both sides. The universal doubt of Descartes is not a principle either in science or in philosophy. It is unreasonable to doubt everything indiscriminately. We should doubt only those things we have good reason to doubt. Those are the only kinds of doubts that advance the discussion. Imagine someone presenting an impeccable proof for the Pythagorean theorem and someone objects, “But how do we know we are not all insane?” Such a “doubt” is not pertinent to the question at hand. If the objector pointed out in the proof that two lines were assumed to be equal with no evidence, he would be saying something helpful.

One should also distinguish doubt from ignorance and error. Ignorance is having no opinion on a topic either pro or con. You just have never considered the issue. Error is having a definite but false opinion on a subject. Doubt is the indeterminacy of the mind that does not yet know enough about the subject to settle the matter conclusively or even with strong probability. Note that the slave boy in the *Meno* passes through all these states and finally reaches knowledge about doubling the square, guided throughout by the careful and orderly questions of Socrates.

15 *Metaphysics*, III, ch. 1, 995a 27 seq.

16 *Nicomachean Ethics* I, ch. 4.

saying, “With a true view all data harmonize, but with a false one the facts soon clash.”¹⁷ For he maintains it is not probable that their opinions are entirely mistaken, “but rather that they should be right in at least some one respect or even in most respects.”¹⁸ In this way, we learn that Aristotle’s conclusion is more probable than any of the others, since it unites in a single definition all the parts of the truth found separately in theirs, without any of their defects. Thus, he has used conflicting opinions in a wonderful way to confirm the truth.

But what happens if no one before you has addressed the topic you wish to investigate? Aristotle was the first to write a treatise on metaphysics. Thus, he had no conflicting opinions of predecessors to work with. So, what does he do? He himself constructs opposing arguments on all the most important questions in this new science! He devotes the entirety of Book III of the *Metaphysics* to this, before trying to resolve the questions definitively. Conflicting opinions are to the wise man what lumber is to the carpenter. Without lumber, a carpenter cannot proceed to make anything. Likewise, without disputes and disagreements, a wise man cannot resolve difficult matters.

In theology we find the same role of disagreement. Theology was born with the Fathers of the Church working to resolve apparent contradictions between different passages of Sacred Scripture. Reconciling these seeming contradictions led to a deeper understanding of the faith. We notice in the *Summa Theologica* that every article begins by giving the reader several reasons for disagreeing with what St. Thomas is about to say. Then, after giving definitive reasons for his own teaching, he shows how it enables us to answer the arguments to the contrary.

Hence, disagreements are not an embarrassment or an occupational hazard in the life of the mind. They are an essential

17 Ibid. Ch. 8, 1098b 10-12.

18 1098b 28-30.

part of the enterprise. To discover and confirm the truth, the philosopher and the theologian must seek out and actively cultivate difficulties and disagreements.¹⁹

The resolution of any disagreement requires finding a deeper level of agreement, some kind of common ground²⁰ between the disputants. In some cases, this will be a common premise, true or false, that both sides agree on. In other cases, we can reduce both sides to a more probable middle position. If neither of these options is available, we can still have recourse to some neutral, reasonable procedure to settle the matter. Even where opponents do not agree on a conclusion, they can often agree on the method to settle their differences. For example, let's say you and I disagree on how many square feet of floor space there are in a certain room. You say its 450 and I say 600. We do not agree on the conclusion but we do agree on a valid and rigorous way to decide who is right: measure the length and width of the room and multiply the two numbers.

In legal matters, two litigants who disagree about who owes who money can settle their dispute if they agree to submit themselves to the authority of the law. The unbiased procedures of the court are common ground.

19 Do we have to assume that all disagreements can be resolved? No. There are cases where there are probable reasons on both sides but insufficient evidence to settle the issue once and for all. Aristotle gives the question, "Whether the universe is eternal or not" as an example (*Topics* I, ch. 11). Similarly, we cannot prove or disprove the existence of extinct animals that left no fossils or other traces. The only thing I insist on is that not all cases of disagreement are impossible to resolve. If they were, then philosophy would be pointless. We have given several examples where disagreement actually helps us to resolve the dispute and discover the truth. Beginners in philosophy do not have to be able to resolve all disagreements. They just need encouragement that such resolutions are possible. This gives them hope, takes the sting out of disagreement, and removes the scandal, which is the goal of this essay.

20 Common ground is not necessarily middle ground. If one man says all right angles are equal and another says none are equal, the truth does not lie in the middle: some are equal and some are not.

Recourse to a common method can resolve conflicts of opinion in science. If two physicists have contrary hypotheses that explain the same phenomenon, they can resolve their disagreement by devising an experiment that will lead to different results for each hypothesis.²¹

In philosophical disagreements we can always fall back on the common ground of statements that are self-evident to everyone²² and the laws of valid reasoning common to all human minds. No disagreement can be resolved without having recourse to some kind of common ground.²³ Many centuries

21 A student raised the difficulty that if each new scientific theory replaces the old one completely, then how can we ever be sure of knowing the truth about anything, since it might be replaced in a few years. This is a concern only if the new theory annihilates the previous one. The history of science shows otherwise. Every new paradigm has to incorporate all that is true and well-established in the old, while fine-tuning other parts and adding new insights. For example, relativity theory retains Newton's laws for every-day objects and makes adjustments only in special circumstances. This is the natural way human knowledge progresses. This connects with what we say about tradition elsewhere. If on campus I identify an organism as a tree, that is real knowledge, though vague and incomplete. If I later classify it as an eastern white pine, that adds to my knowledge of it without destroying what I knew before. It is still a tree. During the discussion, Dr. Kaiser pointed out that Foucault pendulum demonstrations prove once and for all that the earth rotates.

22 Self-evident principles are found not just in geometry but in every science and art. In natural science there is "Nothing comes from nothing"; in ethics, "The end is more desirable than the means".

23 But what if somebody denies the common ground, claiming he has his own logic and his own truth? You are allowed to have your own opinion but not your own facts. A man who refuses to accept anything common can no longer disagree with anyone! What if someone says, "I choose to reject the laws of physics and the legitimacy of experiment"? Then he has also chosen to take himself out of any scientific conversation. Do you reject ordinary language? Then you cannot communicate with anyone. What is more, you will not be able to express your own opinions even to yourself. You have rejected the life of the mind and embraced the vegetative life. You can deny anything you please, but some denials incur natural consequences and penalties.

ago, Heraclitus said, “Those who speak with understanding must be strong in what is common to all.”²⁴

In conclusion, we have seen that disagreement is a potential obstacle to truth, but that is not the whole picture. Disagreement is also a necessary means to the truth. Even when one side is entirely correct, its truth will become more evident when we see its power to dismantle the apparent evidence supporting the opposite side. The wise Roman stoic, Epictetus, once said,

The beginning of philosophy is the recognition of disagreement. Then it seeks the cause of it. And then discovers some principle to distinguish what seems to be true from what is really true.

That philosophers disagree is obvious. Nobody misses that. What many people do miss, however, is the underlying common ground and the many discoveries that a study of the conflicting opinions can bring to light. The philosopher does not give up in despair when there are opposing arguments on a given subject. Instead he seeks a solution. The skeptics say that philosophy ends with disagreement. Wise men say it *begins* there. For the philosopher, then, disagreement is not a scandal... but an opportunity.

24 DK 114. Every disagreement is built on agreement. The disputing parties must agree on the subject they are discussing. If you tell me all right angles are equal and I say, “No, no, no! All frogs are amphibians,” we are not disagreeing. And the two parties have to be saying incompatible things about the same subject. If you tell me all horses have four legs and I protest that all horses are mammals, we are not disagreeing. Both statements are true. There can also be pseudo-disagreements, as seen in the creationist-evolutionist example above.

NEUROSCIENCE AND THE HUMAN SOUL¹

Marie I. George

Neuroscience is the part of biology that studies the nervous system. The branches of neuroscience that have the most direct bearing on whether humans have a soul are those concerned with understanding the brain and its relationship to cognition and emotion.

In order to understand what the human soul is, the Thomistic tradition maintains that one must first talk about what the soul is in general and then about what is distinctive about the human soul, namely, that it is the cause of the life activities of thinking abstractly and of making free choices. Many of those who think that the findings of neuroscience challenge the notion that humans have souls do not make these considerations; for example, they often conflate soul and mind. Since what these people propose in many cases has more immediate bearing on

Marie I. George is Professor of Philosophy at St. John's University, NY. She received her Ph.D. in philosophy from Laval University, and has a Masters degree in biology from Queens College, NY. She is an Aristotelian-Thomist whose interests lie primarily in the areas of natural philosophy and philosophy of science.

¹ This paper is adapted from Thomistic Institute talks given on Sept. 12, 2019 at Duke University and Feb. 29, 2020 at the Dominican House of Studies, Washington, DC. The material in the first section is also covered in "Thomas Aquinas Meets Nim Chimpsky: On the Debate about Human Nature and the Nature of Other Animals," *The Aquinas Review* 10 (2003): 1-50.

the faculties of the human soul, intellect and free will, than on the soul itself, I will begin by looking at these faculties, and later consider the soul.

In regard to the intellect, some claim that neuroscience shows that our thoughts have physical causes; and so they maintain that scientists are able to “read people’s minds” by identifying the physical causes in question. And as for free will, certain experiments done by neuroscientists appear to show that our choices are determined by our brains and that free will is an illusion. I will elaborate further on these claims, but I’m going to begin by explaining why the Thomistic tradition maintains that the intellect is immaterial—from which it would follow that neuroscience can say nothing about the intellect as such.

A Defense of the Immateriality of the Intellect

There is any number of different meanings of the word “intelligence.” An animal that can learn is in some sense intelligent. But the word “intellect” generally names a very specific form of intelligence, one that is different from the sensory knowledge that makes animals capable of learning.

How exactly does intellectual knowledge differ from sense knowledge? The intellect is capable of grasping universal truths, such as physical and chemical laws, various philosophical truths, and very simple truths, basic principles, such as the whole is greater than the part and equals added to equals give equals. In order to understand these truths we must first form the individual concepts involved, e.g., whole, part, greater.

A number of thinkers maintain that there is no difference between a concept or abstract thought and a sense perception. However, the senses only know particular things: I see and smell this rose, not rose in general. Imagination is a type of sense ability as it too apprehends what is particular. I imagine a specific

rose, again, not rose in general. The intellect forms the universal concept “rose,” which it understands to belong to every particular rose that is, was, or will be. (Many thinkers confuse intellect with imagination.) It is not hard to see that image and idea (or thought) are not the same thing. If you are asked to think of a dog, you do two things: you picture a particular dog and you bring to mind the concept “dog.” It is obvious that these two things differ. For example, when asked to think of a dog, you will imagine a dog of a certain size, e.g., a large dog such as a German Shepherd. Yet upon being asked whether a small dog such as a Chihuahua is a dog, you will reply “yes.” If your concept of dog was the same as the image you initially formed, you could not know that a small dog was a dog.

The difference between the universal and the particular is reflected in the way we speak: We can’t say this dog is that dog, but we can say of every particular dog that it is a dog. The concept “dog” abstracts from the features that make a particular dog the particular dog that it is.

A corollary of this is that concepts are not physical things— all physical things have some quantitative dimension. So go back to the example “think of a dog.” The dog that you imagine has a size in your imagination—you can imagine a bigger or smaller dog next to the dog you initially imagined. Now, in reality a dog that is three-feet high is taller than one that is one-foot high, and the image of a three-foot high dog is greater in height than the image of a dog that is one-foot high. But the concept three-feet is not a bigger concept than the concept one-foot. It is a concept of a bigger length, but it itself has no size. If the concept had a specific size, it would be an image of sorts and would not be applicable to everything that has a dimension of three feet.²

If we form and consider ideas with our intellect, the intellect cannot be an ability belonging to a merely physical thing.

2 See Aquinas, *Summa contra Gentiles*, Bk. II, chaps. 49-51.

Physical things can act upon other physical things, either imparting new accidents to them, such as warmth or a new location, or causing them to be transformed into another substance, as when a spark causes oxygen and hydrogen to form water. But physical things can't act on another physical thing and thereby turn it into a non-physical thing—there is always some underlying matter involved in physical changes that persists through the change. So neither the brain, nor any body part, can produce an idea. This shows that our intellects must be immaterial.

A complementary argument for the immateriality of the intellect stems from considering the way in which less general concepts fall under a more general concept. In the Platonic dialogue the *Parmenides* (131b), it is suggested that the more general concept is like a tent that covers a number of different things; so, for example, the concept “animal” would cover the concepts of dog and pig and frog, etc. The problem with this view is that only part of the tent covers each thing under the tent. Yet the whole concept animal applies to the concepts of dog and pig and frog. Everything that is true of animal is true of dog, pig, etc., and not just part of what is true of animal. So the extension the concept “animal” has cannot be some type of physical extension. In which case, the intellect that forms the concept also cannot be a physical thing.

*The Activity of Thinking Depends
on the Activity of Imagining*

One thing that causes many people to dismiss the notion that thinking is a non-physical activity is that it seems that if this was true, then thinking thoughts could not be affected by damage to a physical organ, namely, the brain. And strictly speaking it is true that brain damage cannot affect the intellect's ability to form and consider concepts. However, as Aristotle points out,

thinking depends on imagining (which in turn is dependent on sensing with one or more of the five senses). Just as cooking dinner depends on having obtained food to cook, but those are two different activities, so too thinking depends on imagining, and imagination is an activity that is carried on using the brain. Just as I can't cook if I have no food, the intellect cannot think without an appropriate image. Why is that?

We cannot form a concept of a tree or a cat without first sensing those things. If what we perceive leaves no lasting impression, we are not going to be able to form a thought. If someone were to ask a person: "what did you see?" and the person were to respond, "I don't know, I don't remember," that person is not going to have thoughts about that thing. So what we sense needs to be retained in our imagination if we are going to form a concept. (Imagination here is taken in a broad sense that includes memory.)

Even once we've formed concepts, when thinking those thoughts there is still a need to do so in conjunction with imagining. Why? Well, the natures of material things exist in particular individuals. Thus, we cannot completely and truly conceive the natures of these things without reference to a particular individual; and particulars are apprehended by sense and imagination.³

3 As Aquinas puts it: "The proper object of the human intellect—which is united to a body—is the whatness or nature existing in a material body (and through the natures of visible things it ascends to a certain knowledge of invisible things). Of the notion of this nature is that it exists in some individual which is not without bodily matter; as it belongs to the notion of the nature of stone that it exist in this stone, and it belongs to the nature of horse that it exists in this horse, and so on for the rest. Whence, the nature of stone, or of any material things whatsoever, cannot be completely and truly known except according as it is known as existing in a particular. We apprehend the particular through sense and imagination. And therefore it is necessary in order for the intellect to understand its proper object to turn itself to the images in the imagination, so that it may observe the universal nature existing in the particular" (*Summa Theologiae*, I, q. 84, a. 7).

Thus, when we want to understand in a clear way what some abstract statement means, we spontaneously relate it back to what is concrete and imaginable. So, for example, the statement “as a thing is, so it acts” comes into sharp focus when we imagine a concrete example, such as a strong person can lift a heavy object, while a weak person cannot. And the organ of imagination is a part or parts of the brain. So again, thinking thoughts is an immaterial activity, but it depends on an activity exercised by using the brain, namely, imagining. This is why, if the parts of the brain required for imagining are affected, thinking thoughts is also affected.

One might object that many times we do not picture anything particular when we think. When most people think, what they most obviously imagine most of the time are words.⁴ People generally have a mental verbal stream and/or imagine written words. It still remains the case, however, that if we are to truly and completely understand a material thing, we have to relate it back to more than this—not just to signs, but to something concrete and imaginable. Otherwise whatever words might be in our minds are finally just words.⁵ They would lack a connection with reality. Most of the time, when thinking about

4 Some people use images more than words when they think. One such person is Temple Grandin, who is autistic: “I THINK IN PICTURES. Words are like a second language to me. I translate both spoken and written words into full-color movies, complete with sound, which run like a VCR tape in my head. When somebody speaks to me, his words are instantly translated into a picture. ... When I was a child and a teenager, I thought everybody thought in pictures” (*Thinking in Pictures* [New York: Vintage Books, 2016], 3-4).

5 Aquinas, commenting on Aristotle, notes that young people sometimes toss words around without actually understanding them: “As for wisdom, however, he adds that they do not have conviction about matters sapiential, i.e., metaphysical, that is they do not attain them with their minds, granted they may say things with their mouths ... for the notions of mathematical things are imaginable, whereas sapiential things are purely intelligible” (*Commentary on the Nicomachean Ethics*, Bk. VI, lec. 7 [#1210 in the Marietti]).

speculative matters, we are habitually capable of imagining an appropriate image and simply do not bother to do so.⁶ Yet even in those cases imagination seems important to the extent that we imagine words. It is possible to think without words. This can be seen from the fact that sometimes we think of something and cannot remember its name. Words do, however, help us remember our thoughts. If I ask myself what motion is, the words of Aristotle's definition pop up in my mind, seemingly even before I think about exactly what I take these words to mean. It has become second nature for us to think in terms of words, and consequently it is irksome when we can't find the word we are looking for. So it seems that if the part or parts of our brain that have to do with language were damaged that this would at least initially impede thinking, until such time as we became habituated to thinking without words.⁷

There are people who are capable of thinking while being unable to picture things at will (a condition called "aphantasia"). This seems to show that thinking does not always depend on imagining. However, the fact that it is only recently that research has been done on aphantasia and that it is not very well

6 In the case of thinking about practical matters, not in a speculative mode, but in order to actually do something, we generally use images of things, and generally the more so when it comes to immediate action than in remote planning.

7 Tom Lubbock, who lost much of his ability to name things, claims that his ability to think was not thereby impeded. Note, however, that it is hard to be sure how much language he lost and it is also hard to be sure whether his claims about his thought being unimpeded are accurate. Lubbock says: "My language to describe things in the world is very small, limited. My thoughts when I look at the world are vast, limitless and normal, same as they ever were. My experience of the world is not made less by lack of language but is essentially unchanged" (quoted by Evelino Fedorenko and Rosemary Varley, "Language and thought are not the same thing: evidence from neuroimaging and neurological patients," *Annals of the New York Academy of Sciences*, 1369, 1 [April 2016], 132).

understood gives us reason to hesitate in drawing this conclusion. In addition, various alternative explanations come to mind. A blind person cannot imagine what a dog looks like, but can know what a dog is from touching it, hearing it, and smelling it. So perhaps those with aphantasia have tactile, auditory, or olfactory images that take the place of what in most people would be primarily a visual image.

An alternative explanation is that these individuals have the equivalent of blindsight when it comes to their imagination. People with blindsight, a condition caused by damage to the primary visual cortex, claim to not see anything, and yet when forced to guess what is there, they do so correctly in more cases than would occur by mere chance. Perhaps, similarly, individuals with aphantasia do imagine, but they are unaware that they are imagining. Note that most of the individuals who are unable to voluntarily imagine things do dream, which presumably is an operation of our imaginative power.

Yet another possible explanation is that the visual images of people with aphantasia are so vague and ephemeral that they do recognize them as such. Consider how many people cannot imagine the smell of a lemon and yet are capable of recognizing the smell. They must in some way remember it, otherwise every time they would smell a lemon it would be a new smell to them. It is hard to see how the memory of the smell could be possible in the absence of a stored image⁸ of the smell. Similarly, then, if people with aphantasia can recognize a dog upon seeing it, one would think that they had some image of its appearance, but one that is so fuzzy and/or fleeting that they do not recognize it.⁹

8 "Image" refers to anything the imagination produces. In this sense, people with the sense of hearing can produce images of sounds; and some people can produce images of smells and flavors.

9 When I try to imagine color, I am never entirely sure that I have succeeded.

Marie I. George

Mindreading

There are all kinds of fascinating studies done by neuroscientists that involve “reading people’s minds.” What’s really happening, however, is that scientists are correlating what people are perceiving or imagining with their brain activity, and then using the correlation to interpret the brain activity into what people are likely to be perceiving or imagining.

For example, scientists have found a way to identify by looking at brain activity which picture among a thousand pictures an individual happens to be looking at. The author of the study, Jack Gallant, presented data that went even further—actually reconstructing what volunteers were seeing from their visual cortex activity, as they viewed a series of movie trailers. For instance, “the program would spit out an outline of a white torso just when a man in a white shirt was shown to the subject.”¹⁰ And T. Horikawa *et al.* have even been able to tell some of the contents of people’s dreams from brain scans (verified by waking them).¹¹ What is being decoded in this case is what these people are imagining.

Another type of mind-reading has to do with reading people’s intentions. In an experiment carried out by Kathinka Evers and Mariano Sigman, “Subjects were given the choice between two tasks to perform: adding or subtracting two numbers, and asked to hold onto their intention during a variable period of delay during which fMRI measurements were taken.”¹² Measurements of activity in the prefrontal cortex were found to predict with 71% accuracy which operation the subject intended.

10 “The Mechanics of Mind-Reading” (2009), <https://www.scientificamerican.com/article/the-mechanics-of-mind-rea/>.

11 T. Horikawa, M. Tamaki, Y. Miyawaki, and Y. Kamitani, “Neural Decoding of Visual Imagery During Sleep,” *Science*, 3 (May 2013), 639-642.

12 Kathinka Evers & Mariano Sigman, “Possibilities and limits of mind-reading: A neurophilosophical perspective,” *Consciousness and Cognition* 22 (2013), 893.

However, it is not really surprising that this can be done. When we intend to do something, it is always specific—we can't add or subtract in general, but perform this or that act of adding and subtracting, and our intention to add or subtract necessarily involves an image, and forming an image involves brain activity, something that fMRI can detect.

Those who belong to the Thomistic tradition look upon the aforesaid feats with admiration, but not with consternation. Scientists and philosophers involved with this kind of research will talk about “reading thoughts from brain activity”¹³ and make claims such as:¹⁴ “We’ve shown that, with the right technology, these people’s thoughts could be decoded and understood by any listener.”¹⁵ Thomists recognize that the word “thought” is sometimes loosely used to mean “image in the imagination,” rather than abstract thought as produced or considered by the intellect.¹⁶ When we *think* of a dog, we actually perform two

13 Ibid., 891.

14 See Martha J. Farah, “Monitoring and manipulating the human brain: new neuroscience technologies and their ethical implications,” University of Pennsylvania Scholarly Commons, *Neuroethics Publications Center for Neuroscience & Society*, 5-1-2004, 36: “The brain is the organ of mind. . . . Our sense of privacy and confidentiality of our own thought processes may also be threatened by technologies that can reveal the neural correlates of our innermost thoughts.” See also F. Vieira da Cunha and J.B. Relva, “Who’s Afraid of the Big Bad Neuroscience: Neuroscience’s Impact on Our Notions of Self and Free Will,” in *The Human Sciences After the Decade of the Brain* (London: Elsevier/Academic Press, 2017), 26: “Recent studies have allowed us to discern people’s preferences, to relate specific thoughts to [fMRI] images and access mental content. . . .”

15 Nima Mesgarani quoted in “Machine that can read your mind and convert THOUGHTS into speech is developed by scientists and gives fresh hope to stroke victims,” <https://www.dailymail.co.uk/sciencetech/article-6644101/Machine-read-mind-convert-THOUGHTS-speech-developed-scientists.html> (2019).

16 Evers & Sigman, “Possibilities and limits of mind-reading,” 894: The “thought (e.g., the intention or recognition) is recognizable and identifiable via its cerebral process because of this stereotypical relationship.”

mental processes: we picture a dog and we bring to mind the concept dog. As we noted earlier, people often do not distinguish these two activities and consequently use the word “thought” as though an image and a concept were the same thing.

The word “mind” also has more than one meaning: “mind” can refer to the intellect or to the imagination or to both taken together. If one takes “mind” to mean intellect, the brain is not the organ of the mind, for the intellect has no organ. If one takes “mind” to mean imagination, then the brain (or parts thereof) is the organ of the mind.¹⁷ There is plenty of evidence that higher animals have minds, while lacking intellects. It is not wrong to speak of an animal “mind” or to speak of imagination as a “mental” function. Much of the supposed threat of neuroscience to the notion that the intellect is immaterial comes from the failure to understand the difference between the intellect and the imagination.

Maybe at a certain point neuroscientists will be able to decode even our mental verbal stream—our internal verbal monologue. Currently quite a bit of work is being done on this.¹⁸ Just to give one example: Nima Mesgarani and his team had epilepsy patients who were already undergoing brain surgery listen to sentences spoken by different people while the scientists recorded their brain activity. The neural patterns recorded were used to train a decoder that can translate brain activity into intelligible speech. The researchers then asked the

17 See *ibid.*, 888: “EEG . . . MRI . . . have opened a door that was previously sealed to entering the minds of others, and to communication without 1st person overt external behavior or speech.” See also *ibid.*, 891: “Reading thoughts from brain activity in healthy individuals: Neurotechnological access to mental contents. Neurotechnology is also used non-clinically to enter and read the contents of the human mind via its cerebral activities.”

18 See Alexander G. Huth, Wendy A. de Heer, Thomas L. Griffiths, Frederic E. Theunissen & Jack L. Gallant, “Natural speech reveals the semantic maps that tile human cerebral cortex,” *Nature*, 532 (2016), 453–458.

patients to listen to speakers reciting numbers between 0 and 9 and recorded the brain signals. The brain signals were then run through the decoder. The sound produced by the decoder in response to those signals was analyzed and cleaned up by a type of AI that mimics the structure of brain cells. The end result was a robotic-sounding voice reciting a sequence of numbers with about 75% accuracy. So scientists were able to know what a person was hearing, starting from their brain waves.¹⁹

Even if scientists succeed in decoding our mental verbal stream, words signify thoughts, but are not themselves thoughts. So strictly speaking they would not be reading the thoughts we are thinking, but would infer our thoughts by detecting the physiological activities required for us to imagine words. Even if you hear people say something, you cannot be entirely sure what they are understanding by their own words. If perceiving language was the same as perceiving thoughts, then we could not misunderstand what others mean (aside from when we simply do not hear them properly). I remember a case where a student came up to me all excited and said that she now understood a statement I made; but she then went on to explain it incorrectly. The same words meant one thing to her and another thing to me. Misunderstandings, such as this, happen with a certain frequency.

So if we got to the point where we could decipher

19 “Machine that can read your mind and convert THOUGHTS into speech,” <https://www.dailymail.co.uk/-sciencetech/article-6644101/Machine-read-mind-convert-THOUGHTS-speech-developed-scientists.html>. Researchers in the Knight laboratory seem even closer to decoding our mental verbal stream. They have developed a way to decode some of the words of subjects who were silently reading; see Stéphanie Martin, Peter Brunner, Chris Holdgraf, Hans-Jochen Heinze, Nathan E. Crone, Jochem W. Rieger, Gerwin Schalk, Robert T. Knight, Brian Pasley, “Decoding spectrotemporal features of overt and covert speech from the human cortex,” *Frontiers in Neuroengineering*, May 27, 2014. Other similar publications can be found on the website for the Knight Laboratory: <https://knightlab.berkeley.edu/publications/>.

minimally conscious persons' verbal mental streams, we would not be perceiving their thoughts, but rather would be inferring from the neurophysical activities required to imagine specific words what words they are using to express their thoughts.

Another thing to note, to which I will return when I consider the soul near the end of this essay, is that the scientists are not accessing the individual's conscious experience, but only the neural correlates thereof. They could not know that the neural activity corresponded to the imagining of a word unless the subject told them so.

We have seen so far that the claim that neuroscience poses a challenge to traditional ideas regarding the non-material component of the human mind is unfounded. Neuroscience can pick out the brain activity that correlates²⁰ with sensing and imagining things, but not with thinking abstractly. Again, a common reason why people think there is some kind of conflict between neuroscience and the notion that the intellect is immaterial is due to their failure to reflect upon the difference between thinking and imagining, and the manner in which the former depends upon the latter.

Free Will

We all have direct experience of having free will. For example, I know that I did not have to write this essay. And you know that you didn't have to choose to read it. Some will claim in the name of neuroscience that this seeming knowledge we have that we don't have to choose what we choose is illusory.

²⁰ Note that the brain activity when one person imagines a dog may differ from that which occurs when another person imagines a dog. Also, one has to be aware that, as with any correlation, it may be the case that when a person imagines a dog, such and such brain activity occurs, but that does not necessarily mean that whenever that brain activity occurs, the person is imagining a dog.

Benjamin Libet's experiments in the 1980s are often cited as having shown that free will is an illusion. In these experiments, the participants were asked to flex their wrist whenever they felt like it and then report the moment they became conscious of their intention to do so—which they kept track of by observing a modified clock where a revolving hand moved faster than normal clock hands. We would expect that we first have a conscious awareness of an intention to act, which activates the motor area of the brain resulting in a “readiness potential” that results in a signal being sent to the muscles of the wrist or fingers. In the experiment, the participants’ “readiness potential” spiked about 550ms before the actual motion, but the participants’ reports of their intention to move preceded the motion only by 200ms.²¹ Conscious awareness of a desire to flex the wrist arose only *after* the brain got ready to send signals to the muscles. So it seems that our brain makes up our minds for us, and we only became consciously aware of our “decision” after the fact. Based on this experiment, and other similar experiments, some people concluded that free will does not play a role in our decisions.

Philosopher Andrew Mele rejects this interpretation of Libet's experiments on the grounds that this test involves an arbitrary action where nothing is at stake and there is no reason to perform the action at one time rather than another. Mele compares it to being in a grocery store and picking out one jar of peanut butter rather than other like jars that are sitting next to it. Picking this one or that one makes no difference. Whereas in the cases we are clearly exercising free choice—what college to go to, whether to marry this person—something is at stake, and it does matter which individual we choose. Even in more everyday choices, such as should I do the dishes or leave them for others, or should I attend this lecture, our decisions have

21 Adapted from da Cunha and Relva, “Who's Afraid of the Big Bad Neuroscience,” 32.

consequences—whereas again it is inconsequential whether we pick the jar on the left or right. So Libet’s experiment involving flexing one’s wrist really sheds no light on free will.

There are other similar experiments that are subject to Mele’s critique. To name one: Scientists at UC Davis found that decisions could be predicted based on patterns of brain activity, but the “decision” was to look to the right or left of a cue symbol when it appeared.²² Their research in nowise justified one journalist’s headline: “Free will could be the result of ‘background noise’ in the brain, study suggests.”²³

Fr. Anselm Ramelow, O.P. gives another argument against the view that Libet’s experiment shows that we do not have free will. He points out that the subjects made a free choice when they agreed to follow the directions given them. They freely agreed at the start of the experiment to flex their wrist, within 30 seconds, once they felt the urge to do so. An urge is not something one chooses to feel; an urge is something that happens to one. It is possible to have an urge and then become conscious of it (e.g., one can wake up in the middle of the night and then realize one needs to go to the bathroom). Added to this is the fact that once we decide to do something, the execution of our decision is often on auto-pilot. For example, once I have agreed to meet a colleague at the faculty club at noon, I do not make a separate choice later on when it comes time to head for the faculty club, unless something comes up that would give reason to reconsider my decision.²⁴ So one way of looking at Libet’s experiment is

22 Jesse J. Bengson, Todd A. Kelley, Xiaoke Zhang, Jane-Ling Wang and George R. Mangun, “Spontaneous Neural Fluctuations Predict Decisions to Attend,” *Journal of Cognitive Neuroscience*, 26, 11 (November 2014), 2578-2584.

23 Antonia Molloy, “Free will could be the result of background noise in the brain study suggests,” *Independent*, June 21 2014, <https://www.independent.co.uk/news/science/free-will-could-be-the-result-of-background-noise-in-the-brain-study-suggests-9553678.html>.

24 See John McCrone, “A Bifold Model of Freewill,” *Journal of Consciousness Studies*, 6, 8-9 (1999), 256: “Neuroscience also has much to say about why

that from the start one has made the choice to always flex when one feels an urge, and this prior free decision is automatically and unconsciously applied to the specific instances of when one feels the urge. Libet's experiment, then, does not bear on free choice, but on the execution of a previously made choice.

Even if we set aside Mele's and Ramelow's arguments, there would still remain a way of interpreting Libet's experiment in a way that is compatible with free will. Libet's experiment also showed that people can choose to override the urge to flex; their conscious decision to not flex after all in response to the urge precedes a flattening of the readiness potential that had been activated. Consequently, some concluded that our free will takes the form of "free won't." Looked at this way, Libet's experiments don't reveal anything other than what ordinary experience tells us: we often spontaneously have inclinations to do certain things, but we can override them. For example, the smell of coffee outside a coffee shop triggers a desire for a cup of coffee, but one doesn't have to act on this desire. And sometimes for no reason known to ourselves we feel like doing something, and may even take steps towards doing it; but we can still override it and decide to stay on task. Our senses, including the internal senses, such as memory and imagination, provoke various emotions without our choosing to feel these emotions, but what we

many of our actions seem unwilling—that is, not the result of planning but released automatically or spontaneously. The rousing of a global intention creates a dominant context (Baars, 1988) in which any habitual actions compatible with that context will simply be released. So for example, if our explicit intention is to enter a room, then this implicitly permits the many component acts needed to get us into that room, such as taking steps down a corridor and reaching for a door knob. The way the basal ganglia learn to slot in such component skills has recently been described in some detail (Graybeil, 1998).” McCrone goes on to apply this to the Libet experiment using the same line of reasoning as Fr. Ramelow. Note that when we do things habitually, we often are unaware of making any conscious decision in a specific instance, e.g., if we are habitually polite, we thank people when they give us a gift or do a favor, sometimes without conscious reflection—it's automatic.

do in response to these emotions is a matter of choice. So even if we were to not entirely reject Libet's experiments as having no bearing on free will, as Mele and Ramelow do, here is yet another way to understand them, one that does not rule out free will. An urge for something specific arises and we then become aware of it, but it doesn't determine our choice because we can always resist the urge at that point.

Aquinas, by the way, thinks that many people largely follow their feelings. In one particularly pessimistic passage, Aquinas does not reject Aristotle's statement that the bad is found in many and the good in few, but takes it to mean that many people pursue sensible goods, as being better known to them, forsaking the good of reason, which is known to few.²⁵

So our everyday experience of making free choices has not been eliminated by neuroscience, at least not by the experiments most commonly invoked as showing that free will is an illusion. If we do have free will, then what reason is there to think that it is an immaterial faculty? If it was a faculty that used an organ, then its operation would be determined by physical causes. For example, I see blue because that is the light that is not absorbed by the surface I'm looking at, but is the light that reflects off the surface and impinges on my eye. I'm not free to see another color. Now, some think they can save free will while maintaining that it is a physical ability by having recourse to quantum mechanics. Quantum indeterminacy can be illustrated by the notion of the half-life of a radioactive material. A half-life is the time it takes for half of the nuclei in a given radioactive isotope to undergo decay. Although the half-life has a determinate value, what cannot be predicted is which individual nucleus will disintegrate during that period.

However, even if we agree with the interpretation of quantum mechanics that holds that the indeterminacy is inherent in

25 See *STh* I, q. 63, a. 9, ad 1.

nature and is not simply a matter of our ignorance, this is not going to provide an opening for free will. Why? Well, it does not matter if our decision is caused by determinate causes or indeterminate ones (such as random events taking place in our brain); so long as our decision is not caused by ourselves, we are not free. The only way we can be capable of making free decisions is if part of us is immaterial, for only what is immaterial can escape the action of physical causes.²⁶

People object to this conclusion, saying, “it seems to make our freedom turn on our possession of an ability to defy natural laws, an ability that is hard to explain convincingly, and ever harder to show that we have.”²⁷ This objection is based on a materialist assumption. It assumes that everything that happens in the world is a result of exclusively physical causes acting according to natural laws. Is my thinking that this view is false a product of physical causes acting on my brain according to natural laws? No, I reject this view on the basis of reasons, namely, those given earlier concerning the immateriality of abstract thought.

26 See Aquinas, *De Veritate*, q. 24, a. 2: “Non-rational animals in nowise have free choice. To make this evident, note that since three things concur for our operation, namely, cognition, appetite, and the operation itself, the whole notion of freedom depends on the mode of cognition. For appetite follow cognition, since it is only for the good, which is proposed to it through a cognitive power. ... And therefore if the judgment of the cognitive power is not in one’s power, but is determined by something else, neither will the appetite be in one’s power, and consequently neither is the motion or the activity absolutely in one’s power. However, a judgment is in the power of the one judging insofar as he is able to make a judgment about his own judgment; for we are able to judge what is in our power. To judge its own judgment belongs to reason alone, which can bend back on its own act, and know the relations of the things about which it judges and through which it judges. Whence the root of all freedom is located in reason. Whence in the manner in which something stands in regard to reason, in this manner it stands to free choice. Reason, however, perfectly and fully is found in man; whence in him alone is free choice fully found.”

27 Hilary Bok, “The Implications of Advances in Neuroscience for Freedom of the Will,” *The Journal of the American Society for Experimental NeuroTherapeutics*, 4 (July 2007), 556.

Indeed, the very fact that we can argue about free will shows that thought transcends the material world: brains are not convinced by reasons, but are simply in one physical state or another due to the physical causes acting on them.²⁸ If there are then reasons to reject materialism, the conclusion that follows from it, that free will cannot transcend physical causality, is unwarranted.²⁹

Another typical objection that is raised against the notion that the freedom of the will is rooted in its immateriality is that this “simply transfers the problems presented by scientific explanations of brain activity to a different and less familiar set of entities.”³⁰ In other words, who is to say that immaterial souls do not produce choices as the result of antecedent spiritual causes?

First, no evidence is offered for why we should think that it is possible for the action of our immaterial wills to be determined by antecedent spiritual causes. Secondly, Thomas Aquinas provides reasons why this cannot be the case. I can only sketch here what he would say.

If free will and the human soul are indeed immaterial, it follows that the only way they can come into existence is through creation: they cannot come about through change, i.e., through the transformation of some existing matter. There is reason to think that God is the only being that can create.³¹ If this is true,

28 See Stephen J. Morse, “Neuroscience, Free Will, and Criminal Responsibility,” University of Pennsylvania Law School, Penn Law: Legal Scholarship Repository, 2015, 271: “Suppose we are convinced by the mechanistic view that we are not intentional, rational agents after all. Of course, the notion of being ‘convinced’ would be an illusion too. Being convinced means that we are persuaded by evidence or an argument, but a mechanism is not persuaded by anything. A mechanism is simply neurophysically transformed.”

29 Given that we commonly think that we have free choice because we can think before we act and that there is reason to think that the intellect is immaterial, it’s not surprising that free will would also be an immaterial ability.

30 Bok, “The Implications of Advances in Neuroscience for Freedom of the Will,” 557.

31 See *Summa Theologiae* I, q. 45, a. 5 and I, q. 90, aa. 2 and 3 for an explanation of why God alone can create.

then God is the only one that has direct control over the will. Free will cannot be taken away from us by a being that is not the cause of the rational nature, any more than any other natural property can be taken from a natural thing, such as conductivity from a metal. So, just as only God can prevent flesh from being burned by fire—no other being can—so too only God can directly affect the freedom of the will. Spiritual causes other than God can at most try to persuade us or can manipulate our imaginations and emotions to make doing such-and-such attractive. They cannot change the will's very nature, which is to move freely. How God acts on our will would take us far beyond the scope of this essay, but suffice to say he does not act on free will in a way that annihilates its freedom.³² I'm not trying to gloss over the difficulty of these considerations. My point here is that it is a mistake to assume that there is no response to the objection that there could be antecedent spiritual causes that compel our choices and therefore the immateriality of the will does not secure its freedom.

The Soul

In the opening part of this essay I chose to focus on how neuroscience is thought by some to overturn the notion that humans have the immaterial faculties of reason and free will. These faculties are faculties humans possess in virtue of their rational soul. So now I need to speak about the human soul and

32 See *STh* I-II, q. 10, a. 4: "As Dionysius says, it does not belong to divine providence to corrupt the natures of things, but to preserve them. Whence all things move according to their condition, so that from necessary causes the effects follow of necessity according to divine motion, whereas from contingent cause the effects follow contingently. Therefore, since the will is an active principle not determined to one, but standing indifferently to many, God moves it in such a manner that it is not determined to one of necessity, but its motion remains contingent and not necessary, except as to those things to which it naturally moves."

show that arguments drawn from neuroscience do not disprove its existence. But first, I will address what the soul is more generally. The initial philosophical notion of the soul arises from observing that some things are alive and others are not. Living things move themselves and non-living things do not. Living things thus must have something about them that causes them to differ from non-living ones. That is what the soul is. According to this view, a live pine tree has a soul, as does a live cat. So, the soul is first understood as simply the cause of a being's ability to carry on life activities. But what exactly is it?

The Soul is not a Harmony

In antiquity, certain thinkers maintained that the soul is a harmony, or in other words, that it is simply the complex, interactive order of the living thing's parts. And there are philosophers and scientists nowadays who defend this position. According to them, the cat's soul is understood to be the respiratory system of the cat interacting with the cardiovascular system interacting with the nervous system, etc. Death is explained solely by the breakdown of essential interactions among these systems. One variant of this view sees the soul to be the totality of ordered interactions at the level of the molecules composing the living thing.³³

33 The ancient view that the soul is a harmony has been dressed up in sophisticated ways in recent times. For example, neurobiologist William Newsome, in response to the question "what type of soul can we talk about today?," suggests that the unique pattern of relationships embedded in the neural connections in the brain is a good starting point for answering this question. Fr. Nicanor Austriaco proposes a version of classical Aristotelian-Thomistic hylomorphism in terms of systems theory. He fails to see that a systems theory approach reduces the soul to a harmony: "Systems biology is an emerging field of research that seeks to understand the living whole as a dynamic network of integrated parts. Its goal is to uncover the fundamental design principles of living systems by looking at what system theorists call a system's structure and its dynamics. An analysis of a system's structure identifies all the parts of the

Aristotle and Aquinas reject that understanding of soul. Aquinas explains why in his commentary on Aristotle's *De Anima*:

For the soul cannot be said to be a harmony, according as harmony is found in composite things and things having composition. . . . For the order of the composite parts in the body is quite apparent; for it is easy to know the order of bones to bones, and of nerves to nerves, and of the arm to the hand, and of flesh to bones. But an account (*ratio*) of the order of the parts of the soul is not apparent to us. For we are not able to know through this order [i.e., of the bodily parts] the order that exists among the intellect and the sense and the appetite and things of this sort.³⁴

Indeed, not only does studying the body alone tell us nothing about the relationship of sensation, imagination, emotion, intellect, etc. to each other, but it also does not give us the knowledge that is crucial for knowing even one of these faculties. As physicist Erwin Schrödinger notes: “[W]e may be sure that there is no nervous process whose objective description includes the characteristic ‘yellow colour’ or ‘sweet taste’, just as little as the objective description of an electro-magnetic wave includes either of these characteristics.”³⁵ The neuroscientist would not know that he was tracing physical changes involved in vision, if he did not first have the experience of seeing. The experience of

system and describes their interactions. In biology, this would involve cataloging all the molecules that go into assembling a living organism and then determining which ones interact with each other. An analysis of a system's dynamics focuses on the behavior of these interacting molecules over time” (Nicanor Austriaco, O.P., “The Specification of Sex/Gender in the Human Species,” *New Blackfriars*, 94, 1054 [Nov. 2013], 704).

34 In *Aristotelis Librum De Anima Commentarium* (Italy: Marietti, 1959), #139.

35 Erwin Schrödinger, *What is Life? with Mind and Matter, and Autobiographical Sketches* (Cambridge: Cambridge University Press, 1992), 155.

seeing cannot be reduced to a series of physical changes among interacting parts, because to see is to be aware of color (even if only color on a grey scale). None of the physical parts involved in the visual system have the property of being aware: neurons lack awareness, as do the proteins, etc. that make them up.

Some will claim then that if enough physical parts interact in certain ways, awareness will emerge. They will point to properties such as fluidity, which a single water molecule does not have, but which many together have, or to surface tension, which again a single water molecule does not have, but many together have.³⁶ These properties, however, are partially contained in the individual molecules. To give a comparison: one person cannot surround another, but can be part of a group that does because each person can partially surround someone. Similarly, someone might not be able to lift a heavy object, but together with another person is so able, because each of them is capable of lifting some of the weight. Similarly, each water molecule has the ability to contribute to the formation of a field that accounts for why many together have the property of fluidity; each water molecule also has part of the ability to produce surface tension because each actually is dipole.³⁷ In the case of collective properties, nothing of a different kind emerges. We see this in artifacts: no one part of an inkjet printer can print, but one part can move another part that moves the ink onto the paper. It is the same for a bicycle: an isolated part cannot serve as transportation for a person, but it can move and bear weight, and this is what allows it along with other parts to do so.

Sense knowledge, however, is different in kind from the

36 See <https://water.usgs.gov/edu/surface-tension.html>.

37 See Andy Coghlan, "Science: What really makes water wet?" *New Scientist* (February 15, 1997), <https://www.newscientist.com/article/mg15320693-200-science-what-really-makes-water-wet/>. See also, J.K. Gregory, D.C. Clary, K. Lius, M.G. Brown, R.J. Saykally, "The Water Dipole Moment in Water Clusters," *Science*, 275 (February 7, 1997), 814-817).

physical motions that are required if it is to occur. One can see this by asking how one could best explain sight to a person who was blind from birth. One approach would be to explain the physiology of the visual system in all its scientific detail. But a second approach would be to say to the blind person: sight is similar to hearing and smelling. You are aware of sounds and you are aware of odors; so you realize that awareness can be of different things. There is another sensible thing called color, and sight is awareness of it. Of course, the blind person will not then know exactly what it means to see, but still gets a better idea of what sight is when it's explained in terms of the subjective experience of sensing than when it's explained in terms of physical interactions.

The same point can also be made in regard to emotion. Certain physiological changes take place when we feel different emotions.³⁸ These changes are not *about* something, but feelings ordinarily are about something. If I asked you why you were afraid and you told me that your adrenal medulla had released epinephrine and this was causing your heart to beat faster, I would not be satisfied. Brain activities and other physiological activities simply are; they are not about something. No scientist could identify that a person was angry by monitoring physiological changes in the body, if he or she did not first know from

38 See Andrea Campbell, "Cause and Effect of Fear in Your Brain," <https://www.brighthubeducation.com/science-homework-help/129490-what-happens-when-fear-happens/>: "Our brain is primed for fear with the fight-or-flight response. Information from the senses reaches the brain and enters the thalamus, central hub city. The thalamus connects to the advanced conscious parts of the brain in the cortex and the so-called 'primitive reptile' regions in the midbrain and brain stem. If your brain interprets by sensory information that something is not good or perhaps something to worry about, the information is relayed to the amygdala for strong emotional processing. The hypothalamus gets the message too. The nervous system kicks in and our bodies are flooded with adrenalin, which equals tension, butterflies in the stomach, rapid breathing and even the relaxing of bowels. This shift to awareness is enhanced and a physical readiness follows."

internal experience that anger is a desire to get even; the desire to get even can be correlated with the physiological changes, but is not reducible to them.

For Aristotle and Aquinas the inability to fully explain sense perception and emotion in terms of the interaction of physical parts is a reason to hold that the soul of the living thing is not the totality of the living thing's physical parts and their coordinated interactions.

The Soul, a Substantial Form

Aristotle and Aquinas reject views that would reduce the soul to the harmony of the organism's parts. What do they hold that the soul is? Here we need to try to understand the difficult notion of substantial form. In what follows I'll do my best to explain the notions of substantial change and substantial form, but don't be surprised if they do not immediately make sense to you—these notions need to be repeatedly considered, especially in contrast to their alternatives—but one has to begin somewhere.³⁹ One of the things that I want to bring out is that nothing I have said commits me to the Cartesian view that we are composed of two substances: an immaterial substance, the soul, and a second substance, a physical body. I'll very briefly sketch out the Aristotelian-Thomistic "hylomorphic" (i.e., "matter-form") alternative, which is sometimes labeled as "dualism," but is a dualism of a very different sort from that of Descartes.

If I have in my hand a piece of blackboard chalk, I have in my hand both a cylinder and calcium carbonate, but I do not

39 Nancey Murphy's reason for rejecting the notion of soul highlights the importance of a correct understanding of substance and substantial form: "The rejection of hylomorphism represented by the development of modern physics meant the rejection of animal and plant souls, understood as the substantial forms of their bodies" (*Whatever Happened to the Soul?*, edited by Warren S. Brown, Nancey Murphy, and H. Newton Malony [Minneapolis: Fortress Press, 1998], 31).

have two things in my hand. The cylindrical form is not something separate from the calcium carbonate whose form it is.⁴⁰ Form is not matter, but the two together make up one thing.

The notion of *substantial* form is arrived at by Aristotle through an analysis of different kinds of changes. When I get a tan or a pot-belly, I remain a human being. These changes are referred to as “accidental changes”; and an accident is something that exists in another as in a subject. So my skin color is an accident; the same goes for my girth. However, when I die, I will turn into a bunch of chemicals. This is a substantial change. Aristotle goes on to draw a parallel between accidental changes and substantial changes. He says just as going from being flat-stomached to being pot-bellied supposes an underlying subject, so too a change from being one substance to being another must suppose something that underlies the change, and he calls this “prime matter”—prime matter is the ability a substance has to become another substance. It accounts for continuity in substantial change. When a squirrel dies it is not as if a number of chemicals mysteriously come to exist where a living body was before. Just as the subject that has undergone an accidental change acquires a new accidental form, so too does prime matter that undergoes a substantial change acquire a new substantial form. A substantial form makes a thing to be one individual thing possessing a certain nature. Non-living natural things have substantial forms that make them to be one substance rather than another, and they have “prime matter” that is the capacity to be changed into another substance. Oxygen and nitrogen, for example, seem to be substances; each has the capacity to be transformed into another substance by means of a nuclear reaction; in addition to this capacity for change, each has a substantial form that makes it oxygen and not nitrogen, or vice versa.

40 The matter of the piece of chalk is a collection of many contiguous calcium carbonate molecules. It is one, in some sense, by reason of the uniformity and continuity of the constituent molecules.

So a plant, a worm, a cat, etc., like oxygen and nitrogen, each have a substantial form that make them to be the particular kind of substance that they are, and they have prime matter, i.e., an underlying capacity to be changed into another substance. Why talk about living things having a particular kind of substantial form, namely, a soul? This goes back to what I was saying earlier: it is because living things manifest activities that go beyond those that non-living natural things are capable of performing, be it individually or collectively. In other words, we do not think that the fact that a dog when dropped falls downwards requires us to posit that the dog has a soul. In the case of the dog, a reason to posit it has a soul is that the dog is aware of smells, sounds, etc., and sensing is not reducible to the interactions of a group of physical parts all of which lack awareness. The dog's soul makes the dog to be a substance of specific sort that is capable of carrying on activities that go beyond what non-living natural things are capable of, be it individually or collectively.

Now, I have heard someone who claims to work in the Thomistic tradition to maintain that the soul is not posited to explain sensing, feeling emotions, etc., but only to explain why the body decays. There are two reasons to reject this view. First, all natural bodies, living and non-living, are subject to corruption. We don't maintain that oxygen has a soul because it can be transformed into another element. Secondly, action follows being. If a sighted animal is one living thing because of its soul, then its life activities will depend upon its having a soul, rather than on causes independent from the soul. To say that a cat is a cat because it has a cat soul, but it does cat-like things such as see due to a set of physical causes independent of its soul, dissociates action from being, what the cat does from what the cat is. The cat's eyes would not be cat eyes without the soul and so plainly would not be functional.

In the case of humans, not only is the reason to say that cats have a soul applicable, for we too sense and have emotions, and so forth, but there is reason to say that our soul is of a different kind than that of the cat because we in addition have the ability to think abstractly and to freely choose. In both cases, the souls are not something separate from the body, but are what make the body to be a living body of a specific kind, feline and human. Again, the relationship is similar to the calcium carbonate and the cylindrical shape of a piece of chalk not being separate entities. The soul is a substantial form that makes matter to exist as a specific kind of being.

There is a further difference between the human soul and the cat soul, namely, the human soul is separable, i.e., it remains in existence after death because it is an immaterial thing. On the Aristotelian-Thomistic view, it is not the whole human individual.

One might still wonder, how does the soul relate to mind? Again, “mind” can refer to the ability to imagine or to the ability to think. The relation between both these abilities and the soul is somewhat similar to the relationship between the capabilities of a smart phone and the phone’s structure. A phone’s capabilities include things such as playing music, relaying text messages, doing web searches and so forth. These capabilities depend on a determinate arrangement of the matter that makes up the phone. This arrangement is not the same as the phone’s capabilities, but is their cause. In a somewhat similar way, the soul is the cause of the human being’s various abilities: our ability to imagine, our ability to think abstractly, our ability to see, our ability to transform food into ourselves, and so forth. The soul, however, is a substantial form, and in this way differs from the ordered juxtaposition of the smartphone’s parts.⁴¹ Just as the substantial form

41 A smartphone does not have a substantial form. The phone is an accidental whole consisting of a collection of parts that are positioned in a particular manner.

of a non-living natural thing, such as oxygen, is not the same as its properties (e.g., its electronegativity, or atomic mass, or its breathability and combustibility), but stands to them as their common and foundational source, so too the substantial form of living things, the soul, is not the same as the properties of living things, but is their root cause, in a sense “where they all come from,” and therefore what they are manifestations of.

So much for this very brief account of the Thomistic understanding of the soul. I hope that this sketch makes it clear that nothing I’ve said in the earlier part of the essay about the immateriality of the intellect and free will need be construed as an endorsement of Cartesian dualism, which makes human beings into two separate substances. The human soul in a living person is the substantial form of the living body and not something separate from it. It, however, unlike an animal’s soul, is capable of existing separated from the body.

Conclusion

Neuroscience-based arguments against the soul do not face up to the evidence that life activities such as sensation cannot be accounted for solely in terms of material parts and their interactions. Neuroscience-based arguments against the *human* soul are generally directed at giving a materialist account of the life activities of choosing and of thinking abstractly. As we have seen, arguments that are based on Libet’s and other similar experiments fail to eliminate free choice. And as we have seen, if free choice exists, it must be an immaterial faculty—in which case neuroscience has nothing to say about it, as such. Similarly, we have seen that the mind-reading that neuroscientists are currently capable of, and predictably will be even better capable of in the future, does not involve observing abstract thoughts, but rather detecting neural correlates of images, including those for

words. If the reflections on what we do when we think, articulated above, are correct, ideas are immaterial, and so we must conclude that the findings of neuroscience cannot have any bearing on our capacity for abstract thought as such. These conclusions by no means denigrate the tremendous power neuroscience has to identify the physiological underpinnings of human activities such as imagining, remembering, feeling emotions, and so forth, knowledge that has amazing potential for developing ways of communicating with minimally conscious persons, preventing memory loss, and treating various emotional conditions such as post-traumatic stress disorder. Philosophy can't do these things. Philosophy, however, can help us reflect on our ordinary experience—which is what I've tried to do here.⁴²

42 I wish to thank Christopher Decaen for his helpful comments.

**FROM VALLEY FORGE TO APPOMATTOX:
GEORGE WASHINGTON AND THE FORMATION OF
THE AMERICAN NATION**

James Leon Holmes

The holiday that is the occasion for this lecture¹ is Washington's birthday on the Federal calendar. In the late 1870s, Senator Steven Wallace Dorsey, a Republican elected to represent Arkansas during reconstruction, sponsored legislation to establish Washington's birthday as a Federal holiday.² In the 1960s another Republican, Senator Robert McClory of Illinois, sponsored legislation to move the holiday to the third Monday in February and change the name to Presidents Day so the holiday would honor Lincoln as well as Washington. Lawmakers from Virginia objected to changing the name of the holiday, and the name change was dropped. But the date was changed to the third Monday of February, which always falls between Lincoln's birthday—February 12—and Washington's birthday—February 22.

James Leon Holmes is a retired judge from Little Rock, Arkansas. He was a tutor at Thomas Aquinas College from 1990-1992. He is the father of three alumni of the College.

1 This paper was originally given as a Presidents Day lecture at the West Coast campus of Thomas Aquinas College on February 21, 2020, and at the New England campus on March 6, 2020.

2 <https://encyclopediaofarkansas.net/entries/stephen-wallace-dorsey-2800/>

And so, the holiday—Washington’s birthday—is celebrated on a date that should lead us to remember Lincoln, as well.

My lecture is a bit like the holiday. I studied Washington with a view toward speaking about him; and that is primarily what I will do. The heart of my lecture is about Washington, what he experienced as commander-in-chief of the American army during the Revolutionary War, the convictions he formed as a result of that war experience, and how those convictions helped form the United States as a nation. When I started, I did not intend to speak about the Civil War or Abraham Lincoln or Robert E. Lee; but in the end I found that Washington’s story does not conclude with his death. His story, a chapter in the story of the formation of the American nation, unfolds into the story of the Civil War and the story of its great protagonists, Abraham Lincoln and Robert E. Lee.

With that introduction, let’s turn to the Revolutionary War.

Colonial resistance to British taxation, and steps by the British to suppress that resistance, led the thirteen colonies to send representatives to a Continental Congress in 1774 and, after fighting had begun in Massachusetts, to a Second Continental Congress in 1775. The Second Continental Congress operated as the central authority of a Confederation, first of colonies and then of States, an arrangement that was formalized with the adoption of the Articles of Confederation in 1781.

The Second Continental Congress, by unanimous vote, appointed Washington as commander-in-chief of the Continental forces. At the time, no Continental army as such existed. Washington was sent to Massachusetts to take command of the forces there, which consisted of militia from the New England colonies, opposed by a British army in Boston. Washington was told that he had 24,000 troops; a census determined that he had approximately 12,000, of whom some 3000

were unfit for battle. He was told that he had 308 barrels of gunpowder; he learned that he had only 38 barrels—enough for 9 rounds per soldier. If the British had attacked, the Americans would have been destroyed and the revolution likely crushed at the outset. “[M]y situation,” Washington wrote a few months after taking command, “has been such that I have been obliged to use art to conceal it from my own officers.”³

That his army consisted solely of militia presented several problems in fighting a war against professional soldiers, such as comprised the British army. The militia were untrained civilians, mostly farmers, who enlisted for a year or less and who elected their own officers. Washington soon learned that they were no match for Britain’s professional soldiers in conventional warfare. A year after his appointment as commander-in-chief, Washington reported that depending on militia was like “resting on a broken staff” because “Men just dragged from the tender Scenes of domestic life” who were untrained and unaccustomed to battle “were ready to flee from their own shadows.”⁴ That they elected their own officers meant, according to Washington, that men who were “not fit to be Shoe Blacks” were often elected as officers.⁵

Perhaps the greatest impediment to fielding a credible army was the short terms of enlistment. Washington found that by the time he managed to train militiamen and to develop in them the necessary military discipline, their terms would expire, and they would return home, leaving him to start over with new

3 Letter to Joseph Reed, February 10, 1776, *George Washington: A Collection*, W. B. Allen, ed., (Liberty Fund: 1988), 65-66. In some quotations, I have modernized Washington’s spelling and deleted commas where they would not be used today to make reading easier.

4 To the President of Congress, September 24, 1776, *Washington: A Collection*, 77-78.

5 Letter to John Augustine Washington, November 6, 1776, *George Washington: Writings*, John Rodenhamel, ed. (Library of America: 1997), 255.

recruits. At one point, Washington wrote, “we need to make every exertion on our part to check the enemy’s progress,” but we cannot “if our reliance is solely or principally on militia, for a force continually fluctuating is incapable of any material effort.”⁶ On another occasion, he wrote, “I solemnly declare I never was witness to a single instance that can countenance an opinion of Militia or raw troops being fit for the real business of fighting. I have found them useful as light parties to skirmish the Woods, but incapable of making or sustaining a serious attack. This firmness is only acquired by habit of discipline.”⁷ Washington’s famous crossing of the Delaware on Christmas Day 1776 to surprise a troop of Hessian mercenaries was motivated, in part, by the fact that the term of enlistment for a great part of his army was due to expire at the end of the year. He had to attack before year’s end while he still had an army.

Partly due to the manpower shortage, a good number of black Americans served in Washington’s army. Before Washington took command, blacks had already fought alongside whites at Lexington, Concord, and Bunker Hill; and they had done so with valor. Washington—a Southern slave-owner—first ordered that blacks could not be enlisted in the Continental army. Then, the British began offering freedom to slaves who would enlist.⁸ By December, the circumstances forced Washington to acquiesce in the enlistment of blacks in his army.

Congress eventually authorized three-year enlistments, as Washington had requested. Still, money was lacking. In the winter of 1777-78—the legendary winter at Valley Forge—the army was under supplied with almost everything.⁹ “A French

6 Letter to Gouverneur Morris, May 8, 1779, *Washington: A Collection*, 130.

7 Circular to the States, October 18, 1780, *Washington: A Collection*, 168.

8 Fritz Hirschfeld, *George Washington and Slavery: A Documentary Portrayal* (Univ. of Missouri Press: 1997), 142-146.

9 James Thomas Flexner, *Washington: The Indispensable Man* (Little Brown & Company: 1974), 109.

Volunteer remembered a dinner party to which no one was admitted who possessed a whole pair of trousers.”¹⁰ Food was so short that in December Washington ordered troops to be ready to attack only to be told that they were unable to stir due to hunger. “To see men without Clothes to cover their nakedness,” Washington later wrote, “without blankets to lay on, without Shoes, by which their Marches might be traced by the Blood from their feet, and almost as often without Provisions as with; Marching through frost and Snow, and at Christmas taking up their Winter Quarters within a day’s March of the enemy, without a House or a Hut to cover them till they could be built and submitting to it without a murmur, is a mark of patience and obedience which in my opinion can scarce be paralleled.”¹¹

During the Valley Forge winter, an officer from Rhode Island sent Washington a note asking for permission to recruit black soldiers from his home state. Washington approved and sent a letter to the Governor of Rhode Island requesting assistance in this project to raise troops. The Rhode Island General Assembly enacted a law giving permission for slaves to enlist and granting their freedom upon enlistment. Then, some 250 men enlisted in the First Rhode Island Regiment.¹² According to Ron Chernow, approximately 5000 blacks served in the Continental army, comprising between six and twelve percent of the Continental army at any given time, “making it the most integrated American fighting force before the Vietnam War.”¹³

Although not as legendary as the Valley Forge winter, the winter of 1779-80 at Morristown, New Jersey, also was grim. Washington complained bitterly to Congress of the lack of food. As late as April 12 Washington wrote that his army had not one

¹⁰ Ibid., 117.

¹¹ Letter to John Banister, April 21, 1778, *Washington: A Collection*, 103.

¹² Henry Wiencek, *An Imperfect God: George Washington, His Slaves, and the Creation of America* (New York: Farrar, Straus and Giroux, 2003), 218.

¹³ Ron Chernow, *Washington: A Life* (Penguin Books: 2010), 213.

ounce of meat.¹⁴ By then, Congress had given up trying to feed the troops and had asked the States to supply their regiments. “All proved lax,” James Flexner says, “and when some local government did in fact move, there developed an emotionally difficult situation: one regiment was eating while its neighbor was not.”¹⁵

Valley Forge and Morristown were surrounded by farms, so food was available for purchase. The problem was lack of money, or lack of money with real value. Congress had printed paper money backed by nothing. The Confederation money depreciated in value to such extent that most would not take it. By 1781, \$167 of Congressional paper was worth only \$1 in gold and silver.¹⁶ The British army had solid currency and could pay the local farmer more than could the revolutionaries, so local farmers often sold food to the British instead of to the Americans.

In October of 1780, Washington wrote, “We are without money, and have been so for a great length of time, without provision and forage except for what is taken by Impress; without Clothing; and shortly shall be (in a manner) without men.”¹⁷ Earlier that same year, Washington had warned, “There is such a combination of circumstances to exhaust the patience of soldiery that . . . we see in every line of the army, the most serious features of mutiny and sedition.”¹⁸

Mutinies such as Washington feared did occur. On New Year’s Day, 1781, 1300 soldiers from the Pennsylvania line, exasperated over lack of food, clothing, and pay, killed several officers and headed toward Philadelphia to force Congress to provide

14 Ibid., 368.

15 Flexner, *Washington: The Indispensable Man*, 133.

16 Gordon S. Wood, *The American Revolution: A History* (The Modern Library: 2001), 116.

17 Letter to George Mason, October 22, 1780, *Washington: A Collection*, 176.

18 Letter to President Joseph Reed, May 28, 1780, *Ibid.*, 146.

relief. After that mutiny was quelled, some 200 troops from the New Jersey Line marched on the state capital at Trenton and had to be stopped by a larger force from West Point. Washington reported these mutinies to the New England States, adding, “The aggravated calamities and distresses that have resulted, from the total want of pay for nearly twelve Months, for want of Clothing, at a severe season, and not unfrequently the want of provisions; are beyond description.”¹⁹

The Pennsylvania and New Jersey mutinies involved primarily enlisted men and relatively small numbers. A more serious danger—a near mutiny led by Washington’s own officers—was presented in 1783.

Before describing this near mutiny by Washington’s officers, we need to back up and provide a bit of context. In 1781 France committed troops and a fleet to assist the American army. With this French help, the American army surrounded 7000 British soldiers led by General Cornwallis at Yorktown in October of 1781 and forced them to surrender. That victory in effect ended the war in favor of the Americans.

The American army remained in the field, however, for two more years, waiting on word from Paris that a peace treaty had been concluded and keeping an observant eye on the British troops that remained on American soil. The Americans had won the war; but their morale was low. Congress had promised that they would be paid for their service, but had not kept that promise. Officers had not been paid for years. In December of 1778, Washington notified Congress that “a great part of the Officers of your Army from absolute necessity are quitting the Service and the more virtuous few rather than do this are sinking by sure degrees into beggary and want.”²⁰ Nearly two year later, Washington complained that hundreds of officers had resigned

19 Circular to the New England States, January 5, 1781, *Ibid.*, 181.

20 Letter to Benjamin Harrison, December 18, 1778, *Ibid.*, 119.

“because they could no longer support themselves as officers,” while many who remained were “unfit for duty for want of Clothing, while the rest are wasting their property and some of them verging fast to the gulph of poverty and distress.”²¹

With the war effectively over, for financial reasons, the army needed to be reduced in size, as Washington agreed in a letter to the Secretary of War. “Yet I cannot help fearing the Result,” Washington, wrote, “under present circumstances when I see such a Number of Men . . . about to be turned into the World, soured by penury and what they call the ingratitude of the Public, involved in debts, without one farthing of Money to carry them home . . . I cannot avoid apprehending that a train of Evils will follow, of a very serious and distressing Nature.”²²

The train of evils that Washington feared nearly came to pass. In the spring of 1783, while Washington’s army was encamped at Newburgh, New York, an anonymous leaflet was circulated among the officers announcing a meeting at which the officers were to air their grievances. Another anonymous leaflet followed, listing their many grievances, warning that if they laid down their arms without having those grievances resolved, they would grow old in poverty and would be the only persons who had suffered for the revolution. The leaflet cautioned the officers to suspect the man who would advise moderation.²³ The leaflet proposed that if the war should resume, the soldiers should “retire to some unsettled country,” but if peace were obtained, “nothing shall separate you from your Arms but Death.”²⁴ In short, the leaflet proposed that the officers should use their arms to obtain the money owed them by the United States. The man of moderation against whom the leaflet warned clearly was Washington.

21 Letter to Joseph Jones, August 13, 1780, *Ibid.*, 153.

22 Letter to the Secretary at War, October 2, 1782, *Ibid.*, 205.

23 *Washington: Writings*, 1107-9.

24 *Ibid.*

James Leon Holmes

Washington entered an order forbidding the meeting, which had been called without his permission, but also calling a meeting of the officers four days later. His order implied that he would not attend the meeting, but at the last moment he entered through a side door and began to speak. Referring to the anonymous leaflets, he first noted that the strategy of “the secret mover of this Scheme” was to incite the officers based on their passions, kindled by their grievances, “without giving time for cool, deliberative thinking.” After thus calling them from the heat of passion to “cool, deliberative thinking,” he reminded them of his own trustworthiness, noting that he had suffered with them throughout the war, never taking leave; he told them that the proposal that they should leave the country undefended if the war resumed, or turn their arms against Congress if peace ensued, was so shocking that “humanity revolts at the idea”; he called upon them to trust that Congress would act justly toward them; and he appealed “in the name of our common Country” for “your own sacred honor” to “respect the rights of humanity, and . . . to express your utmost horror and detestation of the Man . . . who wickedly attempts to open the flood Gates of Civil discord, and deluge our rising Empire in Blood.” By rejecting this invitation to turn their arms against their own country, he said, “you will give one more distinguished proof of unexampled patriotism and patient virtue, rising superior to the pressure of the most complicated sufferings.”²⁵

Near the end of the speech, Washington attempted to read a letter from a Congressman; but he faltered. Taking from his pocket a pair of eyeglasses, which he had recently obtained and which most officers had never seen, he said, “Gentlemen, you must pardon me. I have grown gray in your service and now find

²⁵ Speech to the Officers of the Army, March 15, 1783, *Washington: A Collection*, 217-21.

myself growing blind.”²⁶ It has been said that at this moment, with this gentle but tangible reminder of what Washington, himself, had suffered to make the revolution successful, the officers wept. In any event, the mutiny dissolved. A threat that Washington’s officers would turn their arms against the infant nation was averted. Jefferson commented later, “The moderation and virtue of a single character probably prevented this Revolution from being closed, as most others have been, by a subversion of that liberty it was intended to establish.”²⁷

I will note here that a few months earlier an officer had written a letter to Washington complaining that his men had not been paid, criticizing the republican form of government, and suggesting that Washington become king, though perhaps with a more innocent title. Washington responded, “no occurrence in the course of the War, has given me more painful sensations than your information of there being such ideas existing in the Army as you have expressed, [which] I must view with abhorrence, and reprehend with severity.” The idea proposed, Washington said, would be “one of the greatest mischiefs that can befall my Country.” He concluded, “Let me conjure you then, if you have any regard for your Country, concern for yourself or posterity, or respect for me, to banish these thoughts from your Mind, and never communicate . . . a sentiment of the like Nature.”²⁸

Before moving on, we should pause to consider what an

26 Chernow, *Washington: A Life*, 432-36. For a slightly different version, see Flexner, *Washington: The Indispensable Man*, 172-75. Flexner quotes Washington as saying that he had “not only grown gray but almost blind in the service of my country” (Ibid., 174). Chernow’s version of Washington’s statement is consistent with the memory of an officer who was present and recorded in his journal that Washington “took out his spectacles . . . observing . . . that he had grown gray in their service and now found himself growing blind” (Josiah Quincy, *The Journals of Major Samuel Shaw* [Boston: 1847], 104).

27 Flexner, *Washington: The Indispensable Man*, 175.

28 Letter to Colonel Lewis Nicola, May 22, 1782, *Washington: A Collection*, 203-4.

immense accomplishment it was for Washington and his army, under these circumstances, to withstand for several years the army of Great Britain, which at the time was the world's pre-eminent superpower. In 1781—after French troops arrived—a French officer, wrote, “I admire the American troops tremendously! It is incredible that soldiers composed of men of every age, even of children of fifteen, of whites and blacks, almost naked, unpaid, and rather poorly fed, can march so well and withstand fire so steadily.” He gave credit to “the calm and calculated measures of General Washington, in whom I daily discover some new and eminent qualities.”²⁹ Another French officer was stunned “by the destitution: the men were without uniforms and covered with rags; most of them were barefoot. They were of all sizes down to children who could not have been over fourteen. There were many negroes, mulattoes, etc. Only their artillerymen were wearing uniforms.”³⁰ Days before the anonymous leaflets circulated at Newburgh, Washington wrote that if future historians were to describe what his army had endured and had accomplished, posterity would deem it fiction:

for it will not be believed that such a force as Great Britain has employed for eight years in this Country could be baffled in their plan of Subjugating it by numbers infinitely less, composed of Men sometimes half starved; always in Rags, without pay, and experiencing, at times, every species of distress which human nature is capable of undergoing.³¹

When Washington accepted command of the Continental Army, he was forty-three. When he returned home after the war, he was fifty-one. Except for the Yorktown campaign, the

29 Chernow, *Washington: A Life*, 404.

30 *Ibid.*, 404-5.

31 Letter to Major Nathanael Greene, February 6, 1783, *Washington: A Collection*, 208.

army directly under Washington's personal command was in the Northern States for the eight years of the war. During those eight years, he saw his home, his beloved Mount Vernon, only once.

Washington was the army's chief warrior in the ancient sense, marching into battle with his troops through snow and sleet, leading the charge against the redcoats more than once, and at times planting himself and his horse in the line of fire with his presence holding his troops in place like an anchor. A young officer wrote, "I shall never forget what I felt . . . when I saw him brave all the dangers of the field and his important life hanging as it were by a single hair with a thousand deaths flying around him. Believe me, I thought not of myself."³²

Even if he had not put himself in the line of fire during battle, by leading the revolutionary army, Washington laid his life on the line. It was high treason for a subject of the king to lead an army against the king's army. Blackstone describes the penalty as follows:

1. That the offender be drawn to the gallows and not be carried or walk
2. That he be hanged by the neck, and then cut down alive.
3. That his entrails be taken out, and burned, while he is yet alive.
4. That his head be cut off.
5. That his body be divided into four parts.
6. That his head and quarters be at the king's disposal.³³

Death did not complete the punishment: after death, the offender's property was forfeited to the king and could not pass to his heirs.³⁴

Washington knew. Three days after he accepted the appointment as commander-in-chief of the Continental army, Washington wrote his wife, Martha, to tell her of his appointment

³² Chernow, *Washington: A Life*, 282.

³³ William Blackstone, *Commentaries on the Laws of England*, Book IV, Chapter 6 (1769).

³⁴ *Ibid.*, Chapter 29.

and to encourage her not to worry. "I shall rely . . . confidently on that Providence," he said, "which has heretofore preserved and been bountiful to me, not doubting but that I shall return safely to you in the fall."³⁵ Then he wrote his will.

The Declaration of Independence famously concludes, "with a firm reliance on the protection of Divine Providence, we mutually pledge to each other our Lives, our Fortunes, and our sacred Honor." Washington was with his army in New York in July of 1776, so he was not among the signatories to the Declaration. But even more than the signatories to the Declaration, he risked his life, his fortune, and his sacred honor. If the British had won the war, as the commander of the rebel army, he would have been the first to be executed. His dependents would have been destitute.

We should not overlook the Declaration's phrase, "our sacred honor." Washington was intensely concerned with his honor. In the letter that he wrote to Martha after he had accepted the appointment as commander-in-chief, he said, "It was utterly out of my power to refuse this appointment, without exposing my character to such censures, as would have reflected dishonor on myself, and given pain to my friends."³⁶ Had he refused the appointment he would have dishonored himself; but by accepting the appointment and taking command of the rebel army, if he failed, he would forfeit not only his life and his fortune but also his sacred honor. If the British had won, Washington would have gone down in history, not as the father of our country, but as a traitor. We might be celebrating Benedict Arnold's birthday instead of George Washington's.

Having mentioned the Declaration of Independence, I should add that when Washington received a copy of it, he ordered that it be read to his troops. His order announced, "The

35 Letter to Martha Washington, June 18, 1775, *Washington: A Collection*, 41.

36 *Ibid.*

Hon. Continental Congress, impelled by the dictates of duty, policy and necessity, ha[s] been pleased to dissolve the Connection which subsisted between this Country, and Great Britain, and to declare the United Colonies of North America, free and independent States"; and the order urged that "this important Event . . . serve as a fresh incentive to every officer, and soldier, to act with Fidelity and Courage, as knowing that now the peace and safety of his Country depends (under God) solely on the success of our arms."³⁷

The final peace treaty ending the war between Great Britain and the United States was signed in Paris on September 3, 1783. A few weeks later, the British evacuated New York, and Washington led what remained of his army into the City. Washington met with his officers for the last time and, with a display of emotion that was unusual for him, bid them farewell. Two days before Christmas, before going home, he appeared before Congress in Annapolis, Maryland. In a ceremony that was brief but carefully choreographed to symbolize the subordination of military to civilian authority, he resigned his commission as commander-in-chief of the United States Army.

In 1783, not long before he resigned as commander-in-chief, Washington sent one last Circular to the States, in part "to offer my sentiments respecting some important subjects," as he put it, before retiring.³⁸ After expounding on the blessings that heaven had bestowed on the United States, Washington turned to the "present Crisis," with respect to which "silence in me would be a crime."³⁹ Essential to the existence and well-being of the United States, he said, was "An indissoluble Union of the States under one Federal Head."⁴⁰ "[T]his is the favorable moment," he said,

37 General Orders, July 9, 1776, *Ibid.*, 73.

38 Circular to the States, June 14, 1783, *Ibid.*, 239.

39 *Ibid.*, 241.

40 *Ibid.*, 242.

James Leon Holmes

to give such a tone to our Federal Government, as will enable it to answer the ends of its institution; or this may be the ill-fated moment for relaxing the powers of the Union, annihilating the cement of the Confederation, and exposing us to become the sport of European politics, which may play one State against another to prevent their growing importance . . . For, according to the system of Policy the States shall adopt at this moment, they will stand or fall; and by their confirmation or lapse, it is yet to be decided whether the Revolution must ultimately be considered a blessing or a curse[.]⁴¹

As you know, the Confederation was not so much a national government as an alliance of independent sovereigns. The Articles of Confederation—the full name is “Articles of Confederation and Perpetual Union of the States” — the States are listed—said that each State retained its sovereignty and described the Confederation as a “league of friendship.” Each State had one vote in Congress. Amendments to the Articles required unanimous consent of all thirteen States; other important matters required nine votes to pass. The costs of war and other expenses were to be paid from a common treasury, the funds of which were to be supplied by the States. Congress had no power to levy taxes. Congress could send requisitions to the States for their shares of needed funds but had no power to force States to pay; and often they did not pay. There was no executive branch. Congress set up departments of government to conduct governmental operations, but those departments operated under the auspices of Congressional boards or committees, which could not and did not manage them as effectively as a true executive branch of government could do. These departments were often inefficient and sometimes corrupt.

⁴¹ *Ibid.*, 241.

That funds often were lacking to pay the soldiers and to purchase food, clothing, arms, and other necessities for the army was due, in large part, to the fact that the Confederation was constructed as it was—as an alliance or association of States rather than a national government. While encamped at Newburgh, Washington wrote to Alexander Hamilton saying,

No man perhaps has felt the bad effects of [the defects in the Confederation] more sensibly [than I have]; for to the defects thereof, & want of Powers in Congress, may justly be ascribed the prolongation of the War, & consequently the Expenses occasioned by it. More than half of the perplexities I have experienced in the course of my command, and almost the whole of the difficulties & distress of the Army, have [their] origin here[.]⁴²

Washington made the same point in his 1783 Circular to the States, asserting that the war could have been won in less time and with much less expense but for the lack of authority in a national government.⁴³

The Confederation, in Washington's mind, was hopelessly flawed. "[I]t is indispensable to the happiness of the individual states," he explained, "that there should be lodged somewhere, a Supreme Power to regulate and govern the general concerns of the Confederated Republic, without which the Union cannot be of long duration."⁴⁴ Accordingly, "whatever measures have a tendency to dissolve the Union, or . . . lessen the Sovereign Authority, ought to be considered as hostile to the Liberty and Independency of America."⁴⁵

Washington predicted that the defects in the Confederation would continue to imperil the country after the War's end; and

42 Letter to Alexander Hamilton, March 31, 1783, *Washington: Writings*, 505.

43 *Ibid.*, 243.

44 *Ibid.*

45 *Ibid.*

his prediction came true. We need not recite the continuing consequences of the Confederation's defects; they are catalogued in Federalist nos. 21-22, by Alexander Hamilton. The defects in the Confederation and the need for a genuine national government continued to be cause of concern for Washington and a subject of his letters. In 1785, he described the Confederation as "little more than a shadow without the substance" and Congress as "a nugatory body."⁴⁶ "We are either a united people under one head," he said, "or we are thirteen independent sovereignties, eternally counteracting each other."⁴⁷

Here is a fundamental conviction forged in Washington's soul by the suffering of his soldiers caused by the failures of the Confederation: The United States needed to form an indissoluble union under a national government; and the national government needed to have power adequate to the needs of the nation, which meant, at a minimum, that it needed to have an executive branch to conduct the operations of government and it needed sufficient money, including credit when required, to conduct those operations.

While he was commander-in-chief, Washington wrote, "In modern wars the longest purse must determine the event."⁴⁸ He feared that Great Britain had the longest purse. Though the government of Great Britain was "deeply in debt and of course poor," he said, "the nation is rich and their riches afford a fund which will not be easily exhausted. Besides, their system of public credit is such that it is capable of greater exertions than that of any other nation."⁴⁹ In his 1783 Circular to the States, Washington asserted that "It is only in our united Character

46 Letter to James Warren, October 7, 1785, *Washington: A Collection*, 312.

47 Letter to James McHenry, August 22, 1785, *Ibid.*, 310.

48 Letter to Joseph Reed, May 28, 1780, *Ibid.*, 147.

49 *Ibid.*

as an Empire, that . . . our credit [is] supported among Foreign Nations.”⁵⁰

Washington also wrote, while he was commander-in-chief, that good government required not only greater powers in Congress but also “more responsibility and permanency in the executive bodies.”⁵¹ Boards composed of members of Congress, he explained, were not “competent to the great business of War (which requires not only close application, but a constant and uniform train of thinking).”⁵² Moreover, Washington exclaimed, if the States are free to reject decisions of Congress—which they were because Congress had no means to enforce its decisions—“it will be madness in us, to think of prosecuting the war.”⁵³ “Requisitions,” he said in a letter after the war, “are a perfect nullity, where thirteen sovereign, independent, disunited States are in the habit of . . . refusing compliance with them at their option. Requisitions are actually little better than a jest and a bye word throughout the Land.”⁵⁴

To establish an indissoluble union with a national government and an executive branch would require a new Constitution. To put the union on a sound fiscal basis, with adequate credit, would require the national government to adopt economic policies directed to that end. We will see later that Washington was indispensable to the establishment of a national government with an executive branch and to the adoption of economic policies designed to put the national government on a sound fiscal basis.

But a nation is more than a government and more than a set of economic policies. A nation requires a people.

When the peace treaty with Great Britain was finally

50 Circular to the States, June 14, 1783, *Ibid.*, 243.

51 Letter to James Duane, December 26, 1780, *Ibid.*, 178.

52 *Ibid.*

53 *Ibid.*

54 Letter to John Jay, August 15, 1786, *Ibid.*, 334.

signed and the army about to be disbanded, Washington wrote Farewell Orders to the Armies of the United States, congratulating the armies on their accomplishments and expressing his own amazement at “the astonishing events” of which they had been a part, “events which have seldom if ever before taken place on the stage of human action, nor can they probably ever happen again.”⁵⁵ Among the foremost of those “astonishing events” was this: “Who, that was not a witness, could imagine that the most violent local prejudices would cease so soon, and that Men who came from the different parts of the Continent, strongly disposed by the habits of education to despise and quarrel with each other, would instantly become but one patriotic band of Brothers?”⁵⁶

Earlier Washington had written that nothing was more important to the future of the United States than “the removal of those local prejudices which intrude upon and embarrass that great line of policy which alone can make us a free, happy, and powerful people.”⁵⁷ An element essential to the existence and well-being of the United States, Washington said in his 1783 Circular to the States, was: “The prevalence of that pacific and friendly Disposition, among the People of the United States, which will induce them to forget their local prejudices and policies.”⁵⁸ During his presidency, Washington proposed that Congress establish a national university. “Among the motives to such an institution,” he explained, was “the assimilation of the principles, opinions, and manners, of our countrymen, by the common education of a portion of our youth from every quarter.”⁵⁹ He later made a financial pledge toward the establishment

55 Farewell Orders to the Armies of the United States, November 2, 1783, *Ibid.*, 267.

56 *Ibid.*, 267-68.

57 Letter to Theodore Bland, April 4, 1783, *Ibid.*, 231.

58 Circular to the States, June 14, 1783, *Ibid.*, 242.

59 Eighth Annual Address, December 7, 1796, *Ibid.*, 509.

of a university in the District of Columbia in part because “assembling the youth from different parts of this rising republic” might contribute “to the removal of prejudices which might . . . arise from local circumstances.”⁶⁰

Here is a further aspect of Washington’s fundamental convictions as to the needs of the new nation: local and State prejudices must be overcome. Not only was it necessary for the United States to have a truly national government; they must also be united as a people.

Washington’s proposal to educate youth from different parts of the Nation at one university as a means of removing local prejudices reminds us of his praise for his soldiers for overcoming their prejudices to become a “band of Brothers.” We also should remember that numerous members of this “band of Brothers” were black. The First Rhode Island Regiment, which included the slaves that received their freedom in return for enlisting in the revolutionary army, led the decisive charge at Yorktown, after having been selected by Washington for that critical task.⁶¹ “The bravery exhibited by the attacking Troops was emulous and praiseworthy,” Washington recorded in his journal, “few cases have exhibited stronger proofs of Intrepidity, coolness and firmness than were shown upon this occasion.”⁶²

Before the war, Washington expressed no qualms about the institution of slavery or his participation in it as a slave-owner. After the war, in private letters, he began to express a desire for the state legislature to adopt a plan for the abolition of slavery. In 1786, he wrote, “there is not a man living who wishes more sincerely than I do, to see a plan adopted for the abolition

60 To the Commissioners of the District of Columbia, January 28, 1795, *Ibid.*, 606.

61 *Ibid.*, 245.

62 Journal of the Yorktown Campaign, *Washington: Writings*, 459.

of” slavery.⁶³ Later in that same year, Washington said that it was “among my first wishes to see some plan adopted by the legislature by which slavery in this Country may be abolished[.]”⁶⁴ And in 1797—two years before his death—Washington wrote, “I wish from my soul that the Legislature of this State could see the policy of a gradual Abolition of Slavery.”⁶⁵ And he began to explore ways in which he might emancipate his own slaves.⁶⁶ Yet, he took no action—until his death.

So far as I have found, Washington never explained in writing or in a public statement why he hoped for the abolition of slavery. The closest he came to an explanation came in a private conversation in 1798—a year before his death. According to John Bernard, an English visitor to Mount Vernon, Washington said, “Not only do I pray for it [abolition], on the score of human dignity, but I can clearly foresee that nothing but the rooting out of slavery can perpetuate the existence of our union, by consolidating it in a common bond of principle.”⁶⁷ Sixty years later, Lincoln would make a similar point using a scriptural reference—a house divided against itself cannot stand. The difference between Washington’s statement and Lincoln’s house divided speech is this: Washington said privately that nothing but rooting out slavery could perpetuate the union by giving it a common bond of principle; he did not envision that the nation could unite on a pro-slavery basis, nor did he speak publicly. In contrast, when Lincoln said that the nation must become either all free or all slave, he was speaking publicly to warn that the entire nation could become slave territory; and he viewed the Dred Scott decision as a step toward making that happen.

63 Letter to Robert Morris, April 12, 1786, *Washington: A Collection*, 319.

64 Letter to John Francis Mercer, September 9, 1786, *Washington: Writings*, 607.

65 Letter to Lawrence Lewis, August 4, 1797, *Ibid.*, 1002.

66 Wienczek, pp. 272-78; Letter to Arthur Young, *Ibid.*, 851-58.

67 John Bernard, *Retrospections of America: 1797-1811* (Benjamin Blom: 1969), 91.

We have spoken of Washington's convictions forged by his war experience. Those convictions defined his hopes for America. Washington hoped that the United States would be an indissoluble union with a national government. He hoped that the national government would have a strong executive and fiscal policies that would provide the government with adequate financial resources, including credit, to conduct its operations, including war. He hoped that the citizens of the United States would repose their first loyalty, their primary allegiance, in the nation, rather than in their respective States; he wanted them to think of themselves as Americans rather than as Virginians or New Yorkers. And he hoped that slavery would be abolished. Some of Washington's hopes—a national government with a strong executive and sound fiscal policies—were realized in his lifetime. His other hopes were not realized, or not fully realized, during his lifetime.

I want to speak now about Washington's his role in realizing the hopes that were realized in his lifetime. After that, we will return to Washington's hopes for the Nation that were not realized during his lifetime.

As you know, in 1787 the States sent delegates to a convention in Philadelphia, ostensibly to propose amendments to the Articles of Confederation. Over his objection, Washington was selected as a delegate from Virginia. He wrote several letters saying that he would not go. He was the most trusted man in America, however, and Madison and others urged him to go, arguing that his participation was essential to lend credibility to the convention. Washington understood that the ultimate success of the Revolution, for which he had fought and for which he had sacrificed, depended on the success of the convention. He ultimately agreed to attend. He was elected, unanimously, president of the convention.

Instead of proposing amendments to the Articles of Confederation, the convention drafted and proposed an entirely new Constitution. As Washington hoped, the convention proposed a constitution for a national government, not just a “league of friendship” or a confederation of states. The national government would have power to enforce its laws. Over the objections of several delegates who were fearful of monarchy, the proposed constitution provided for a unitary executive—a single person rather than a body comprised of two or more—elected for a term of four years with no limit on reelection, in whom would be vested “the executive power”—the extent of which was undefined and therefore open-ended. According to Pierce Butler, a delegate to the convention from South Carolina, the powers of the executive would not “have been so great had not many of the members cast their eyes towards General Washington as President; and shaped their Ideas of the Powers to be given to a President, by their opinions of his Virtue.”⁶⁸

Ten States ratified the Constitution before conventions were held in Virginia and New York—the two largest States without whom the Union could not succeed. The issue was close in both States. At the Virginia convention, the venerable Patrick Henry voiced the concerns of many when he criticized “this alarming transition, from a confederacy to a consolidated government,” as a result of which “our rights and privileges are endangered, and the sovereignty of the states will be relinquished.”⁶⁹ The proposed constitution, Henry claimed, “squints toward monarchy . . . Your President may easily become king.”⁷⁰ Despite the opposition of Henry, George Mason, and others of prominence, Virginia ratified the Constitution by a vote of 89 to 79.

68 Pierce Butler letter to Weedon Butler, May 5, 1788, in Max Farrand, *The Records of the Federal Convention of 1787*, Vol. 3, (Yale U. Press: 1966), 302.

69 Cecilia M. Kenyon, ed., *The Antifederalists* (Bobbs-Merrill: 1966), 239.

70 *Ibid.*, 257.

The opposition in New York also included several prominent figures—the governor, George Clinton, Robert Yates, a delegate to the Constitutional Convention, and others. More anti-federalists than federalists were elected to the New York convention. Still, the ratification by Virginia swayed enough New York delegates to create a bare majority—30 to 27—in favor of ratification.

Washington did not publicly participate in the ratification debate; but he was active behind the scenes, and his support for the new constitution was well known. If he had opposed the constitution, it could not have been ratified. Two weeks after the Virginia convention voted in favor of ratification, James Monroe, a Virginian who opposed ratification and who later would become the fifth President of the United States, wrote Thomas Jefferson, who was in Paris. Speaking of Washington, Monroe said, “be assured his influence carried this government.”⁷¹

What we have come to is this: Washington’s support was essential to the adoption of a constitution creating a truly national government with an executive whose power would be open-ended; and the expectation that he would be the first President was essential to the decision to vest the executive with that open-ended power.

The expectation that Washington would be the nation’s first President was, as you know, realized. He was elected President by unanimous vote of the Electoral College and reelected, again by unanimous vote, for a second term. Washington was the one man who was trusted both by those who supported the new constitution—the federalists—and by those who opposed it—the anti-federalists. According to historian Gordon Wood, “Washington was the only American in 1789 who possessed the dignity, patience, restraint, and reputation for republican virtue

71 James Monroe letter to Thomas Jefferson, July 12, 1778, <https://founders.archive.gov/documents/Jefferson/01-13-02-0256>.

that the untried but potentially powerful office of the presidency needed at the outset.”⁷² Moreover, according to Wood, “It was the people’s trust in Washington that enabled the new government to survive.”⁷³

As President, Washington took action to put the national government on a sound fiscal basis with credit, when needed, to conduct war. As a part of that fiscal basis, Washington explained in his First Annual Message to Congress, a free people should promote manufacturing to render them independent of others for essential goods, particularly military supplies.⁷⁴

The mastermind for Washington’s economic policies was his Secretary of the Treasury, Alexander Hamilton. Hamilton proposed a system of excise taxes to be collected by his department, funding the federal debt at par but with a reduced interest rate, assuming all the State debts incurred for the revolutionary war, and creating a National Bank that would, as summarized by Ron Chernow, “lend money to the government, issue notes that could serve as a national currency, and act as a repository for tax payments.”⁷⁵ Hamilton “projected the eventual development of manufacturing in the United States and not just to meet military requirements but also to create a more diversified and prosperous economy that would be more self-reliant and less dependent on European supplies.”⁷⁶ Hamilton’s plans, according to Joseph Ellis, “made excellent economic sense, as the improved credit rating of the United States in foreign banks and the surging productivity of the commercial sector demonstrated after Hamilton’s financial plan was adopted.”⁷⁷ Although

72 Gordon S. Wood, *Revolutionary Characters: What Made the Founders Different* (Penguin Press: 2006), 50.

73 *Ibid.*, 56.

74 First Annual Message, January 8, 1790, *Washington: A Collection*, 468.

75 Chernow, *Washington: A Life*, 648.

76 Wood, *Revolutionary Characters*, 133.

77 Joseph J. Ellis, *His Excellency: George Washington* (Alfred A. Knopf: 2004), 204.

Hamilton devised these financial plans, they were fully consistent with Washington's views. Not all of Hamilton's proposals were enacted, but many of them were; and they could not have been enacted without Washington's support.

Nonetheless, they drew intense opposition led by Jefferson, who was Washington's Secretary of State, and Madison, who served in Congress and upon whom Washington relied for advice. In a letter to Washington, Jefferson critiqued the details of Hamilton's fiscal policy before addressing the alleged motive behind these policies: "the ultimate object of all this," he said, "is to prepare the way for a change from the present republican form of government, to that of a monarchy, of which the English constitution is to be the model. That this was contemplated in the Convention, is no secret . . ." ⁷⁸ Jefferson deemed the supporters of Hamilton's policies "monarchical federalists"; he characterized those who joined him in opposing Hamilton's policies as "republican federalists." ⁷⁹ Furthermore, he claimed, Hamilton's policies promoted the interests of the Northern States to the detriment of the South. "Whenever Northern and Southern prejudices have come into conflict," he said, "the latter have been sacrificed and the former soothed." ⁸⁰

Washington had decided, before receiving this letter, to announce that he would not accept re-election for a second term as President. Jefferson warned him, "The confidence of the whole union is centered in you . . . North and South will hang together, if they have you to hang on." ⁸¹ That it was essential to the Union for Washington to accept re-election was nearly the only point of agreement between Jefferson and Hamilton.

78 Letter from Thomas Jefferson to George Washington, May 23, 1792, <https://founders.archive.gov/documents/Jefferson/01-23-02-0491>.

79 Ibid.

80 Ibid.

81 Ibid.

In dispute not only was Hamilton's economic policies but also foreign policy. Hamilton viewed Great Britain, not France, as the more important trading partner. So did Washington. The Jeffersonians thought that true friends of liberty should favor France. From the beginning of the French Revolution, Washington feared where it was headed; when the Reign of Terror ensued, his fears were realized. Jefferson remained sanguine; he regarded the bloodshed as the cost of advancing the rights of man. This difference, again, cast Washington and Hamilton, in the view of the Jeffersonians, in the role of monarchists.

During Washington's first term, the opponents of Hamilton's fiscal policies vilified Hamilton but not Washington—his immense prestige made him off limits to criticism. Not so during his second term. He was accused of being either senile or a willing co-conspirator with Hamilton in a plot to establish monarchy. "What made the rising tide of criticism more troublesome for Washington," says Chernow, "was that much of it originated from Virginia, where he was increasingly regarded as an apostate."⁸²

This history sets the backdrop for Washington's most famous writing, his Farewell Address, which he published late in newspapers in his second term to announce his decision not to stand for a third term. The Farewell Address was a kind of Last Will and Testament, a final word from the father of the Nation to his child. In addition to announcing his decision not to accept re-election, he wrote to advise the Nation on matters "which appear to me all important to the permanency of your felicity as a people."⁸³ He reiterated the hope of his war and post-war writings "that your Union and brotherly affection be perpetual."⁸⁴ To his fellow Americans, he said that the "unity of

82 Chernow, *Washington: A Life*, 676.

83 Farewell Address, September 19, 1796, *Washington: A Collection*, 514.

84 *Ibid.*

Government which constitutes you one people . . . is a main Pillar in the Edifice of your real independence; the support of your tranquility at home; your peace abroad; of your safety; of your prosperity; of that very Liberty which you so highly prize.”⁸⁵“To the efficacy and permanency of your Union,” he explained, “a Government of the whole is indispensable. No Alliances however strict between the parts can be an adequate substitute.”⁸⁶ “The name AMERICAN,” Washington admonished, “which belongs to you in your national capacity, must always exalt the just pride of Patriotism more than any appellation derived from local discriminations.”⁸⁷ Washington warned of “the danger of Parties . . . with particular reference to the founding of them on Geographical discriminations.”⁸⁸ Beware, he said, of “*Geographical discriminations: Northern and Southern; Atlantic and Western*” which “may disturb our Union.”⁸⁹

Washington died on December 14, 1799. A few months earlier he had written a new will, having been warned in a dream, according to one story, that he was about to die. “In the name of God amen,” he began.⁹⁰ After bequeathing his whole estate to Martha, he directed that, upon her death, all slaves whom he owned in his own right must receive their freedom. He directed that the elderly and infirm be supported for the rest of their lives, and that youth with no parents to care for them be educated and cared for until the age of 25. Many of the founders owned slaves; Washington was the only founder who freed his.

In researching for this lecture, I came across a most intriguing document—Thomas Jefferson’s Notes of a Conversation with Edmund Randolph [after 1795]. Those notes say, “the P.

85 Ibid., 515.

86 Ibid., 518.

87 Ibid., 515.

88 Ibid., 519.

89 Ibid., 517.

90 Last Will and Testament, July 9, 1799, Ibid., 667.

[President] speaking with R. [Randolph] on the hypothesis of a separation of the Union into Northern and Southern said he had made up his mind to remove and be of the Northern.”⁹¹

When Washington passed from the scene, the nation was a house divided. Certainly, it was a house divided, as Lincoln would say some sixty years later, in that it was partly slave and partly free. That division necessarily created a sectional division, a division between North and South. The nation also was a house divided in that it was partly federal and partly national. Madison used that phrase in *Federalist* 39 to refer the modes of establishing and operating the new government. In some respects, the new government would be a confederation—like the one that had existed during the revolutionary war—but in other respects it would be a truly national government. That arrangement left two questions to be resolved by future generations: Which would predominate, the States or the Nation? And to which, the State or the Nation, would citizens give their primary allegiance? Which would be first in their hearts?

Doubtless you have heard the tribute to Washington that he was “first in war, first in peace, first in the hearts of his countrymen.” That line was part of the eulogy delivered by Henry Lee III during the Congressional memorial service after Washington’s death. During the revolutionary war Henry Lee was a cavalry officer and achieved fame as Light-Horse Harry Lee. His son, Robert E. Lee, achieved greater fame during the Civil War as the Commander of the Confederate Army.

At issue in the Civil War was whether the United States was an indissoluble union, as Washington had hoped, or whether it could be dissolved by States that wished to secede. Behind that issue was the question of whether the United States was primarily a confederation of States or primarily a nation. Behind that issue was the question of where a citizen’s primary allegiance

91 <https://founders.archives.gov/documents/Jefferson/01-28-02-0441>.

would rest; was a citizen first a Virginian and then an American or was he first an American (as Washington had hoped) and then a Virginian. Behind all those issues was the big one—the elephant in the room—whether slavery was compatible with the principles of the American republic.

Robert E. Lee surrendered at a little town in Virginia called Appomattox Court House. The day after he had relinquished his sword at Appomattox, Lee wrote his last General Order, formally announcing the surrender to his troops and explaining that the army, in Lee's words, "has been compelled to yield to overwhelming numbers and resources."⁹²

The overwhelming numbers and resources that compelled the Confederate Army to yield reflected the different economies of the North and South. When the Civil War began, the South's economy was still overwhelmingly agricultural and based largely on cotton, whereas the North had far greater commercial and manufacturing capacities. Ninety percent of the nation's manufacturing output came from northern states. The North produced 17 times more textiles than the South, 30 times more leather goods, and 20 times more pig iron. The North produced 3200 firearms to every 100 produced in the South.⁹³ Nearly ninety percent of European immigrants had migrated to the northern states, where the economy was based on free labor. By 1860, the States that stayed in the Union had a population of 23 million compared to 9 million in the Confederate States, which meant that the Union had approximately 3.5 million males of military age—18 to 45—compared to 1 million for the Confederacy.⁹⁴ "Governments on both sides were forced to resort to borrowing on an unprecedented scale to meet the financial obligations for

92 General Order No. 9, April 10, 1865, *The Robert E. Lee Reader*, Stanley F. Horn, ed. (Grosset & Dunlap: 1949), 447.

93 Benjamin T. Arrington, *Industry and Economy During the Civil War*, <https://nps.gov/articles-industry-and-economy-during-the-civil-war.htm>.

94 *Ibid.*

the war. With more developed markets and an industrial base that could ultimately produce the goods needed for the war, the Union was clearly in a better position to meet this challenge.”⁹⁵

“In modern wars,” Washington had said in 1780, “the longest purse must determine the event.” To obtain a long purse, Washington had advised, a free people should develop manufacturing capabilities at least enough to be independent, especially in goods necessary for war. Hamilton crafted the economic policies, which Washington supported, to achieve those goals. When the Civil War came, it was the North that had an economy most closely resembling the Hamiltonian vision, which was also Washington’s vision; so it was the North that had the longest purse; and, consequently, it was Lee’s army, not the northern army, that was barefoot, hungry, and short on munitions.

We should note, too, that it was the North that had a great President. That great President used the open-ended executive powers granted in the Constitution to the maximum to orchestrate the defeat of the Confederacy.

Lee’s surrender sounded the death knell for the Confederacy. The death of the Confederacy meant death for the idea that the Union could be dissolved by States that wished to secede. Lee’s surrender meant that the United States would be an indissoluble union, as Washington had hoped. The victory of the Union decided the question of whether the national government or the States would predominate. The history of this Nation subsequent to Appomattox has been one of increasing centralization of power in the national government—in Washington. The first loyalty of those who fought in the Confederate army had been to their States or to the South. The victory of the Union over the Confederacy put that mindset on the road to extinction.

95 Roger Ransom, “Economics of the Civil War”. EH.Net Encyclopedia, edited by Robert Whaples. August 24, 2001. URL <http://eh.net/encyclopedia/the-economics-of-the-civil-war/>

As Washington had hoped, today, we think of ourselves primarily as Americans, not as Californians or Arkansans.

Lee, himself, set an example for the shift in primary allegiance after the war. “He sternly rebuked a Virginia woman who was speaking bitterly of the North, telling her that she should bury her old animosities and train her sons ‘to be loyal Americans.’”⁹⁶ “I fought against the people of the North because I believed that they were seeking to wrest from the South dearest rights,” he said, “but I have never cherished toward them bitter or vindictive feelings, and have never seen the day that I did not pray for them.”⁹⁷ After his surrender at Appomattox, Lee wrote that it had become “the duty of every citizen, the contest being virtually ended, to cease opposition and to place himself in a position to serve the country.”⁹⁸ The Country of which Lee spoke was the United States of America.

Lee’s surrender at Appomattox also marked the death knell for slavery. Emancipation would be the new birth of freedom of which Lincoln spoke at Gettysburg. Vestiges of slavery would remain, but Lee’s surrender put slavery and its vestiges on the course to ultimate extinction. Again, according to one story, Lee set the example. As the story goes, one Sunday, a few months after the surrender at Appomattox, at the Episcopal Church that Lee attended, a black man went forward to receive communion. While others remained in their seats, chagrined at the black man’s attempt to inaugurate the “new regime,” Lee went forward, knelt at the communion rail, and received communion with him.⁹⁹

We mentioned earlier that some of Washington’s hopes for our Nation were realized during his lifetime, whereas others were not. Our summary of the effects of the Civil War comes

⁹⁶ *The Robert E. Lee Reader*, 455.

⁹⁷ *Ibid.*

⁹⁸ *Ibid.*, 466.

⁹⁹ *Ibid.*, 462.

to this: Lee's surrender at Appomattox meant that Washington's unrealized hopes for our Nation would be realized.

As Lincoln left home for the last time, just before boarding a train to travel to Washington to take office as President, he paused to bid farewell to neighbors who had assembled to see him off. He left, he said, "with a task before me greater than that which rested upon Washington. Without the assistance of that Divine Being, who ever attended him, I cannot succeed. With that assistance I cannot fail."¹⁰⁰

Lincoln's reference to Washington's reliance on the Divine Being shows that he was familiar with Washington's writings, which abound with references to Divine Providence. It is the only point of theology about which Washington was not reticent. It may be that Washington's convictions about God's providential care, like his convictions about the national government, were forged by his experience in war. As a young man, twenty-two years of age, in one battle during the French and Indian War, four bullets were shot through his coat and two horses were shot under him. He escaped unharmed, which he attributed to "the miraculous care of Providence, that protected me beyond all human expectation."¹⁰¹ On occasions too numerous to mention, during the Revolutionary War, and during the creation and ratification of the Constitution, Washington credited Divine Providence for success. He concluded his final annual message to Congress in 1796 with "my fervent supplications to the Supreme Ruler of the universe and Sovereign Arbiter of nations, that his providential care may still be extended to the United States."¹⁰²

100 Farewell Address at Springfield, Illinois, February 11, 1861, *The Collected Works of Abraham Lincoln*, Roy P. Basler, ed. (Rutgers Univ. Press: 1953) Vol. IV, 190.

101 Letter to John Augustine Washington, July 18, 1775, *Washington: Writings*, 59-60.

102 Eighth Annual Message, December 7, 1796, *Washington: A Collection*, 512.

Bearing in mind that Washington told Congress that he prayed that God's providential care would still be extended to the United States, and remembering that Lincoln sought that same Divine Assistance, let's re-visit the key points in the chain of events that we have traversed. The soldiers under Washington's command during the Revolutionary War often were barefoot, hungry, and short on munitions largely because the thirteen colonies, which became the original thirteen states, formed a confederation, not a true national government. Their hardships and their suffering forged or helped forge a strong and abiding conviction in Washington's soul that the United States must become an indissoluble union under a national government headed by a strong executive operating with a fiscal policy that would generate the resources necessary for the operation of government, including war. Because of that conviction, Washington lent his support, his indispensable support, to the new Constitution and to the economic vision of Alexander Hamilton. The national government and, in some measure, Hamilton's economic vision—both of which came into existence with Washington's indispensable support—brought about the defeat of the Confederacy and the abolition of slavery.

I have reflected on George Washington, the sufferings of his soldiers, the convictions that he formed, and their effect on the formation of the American nation, in light of Washington and Lincoln's prayers for God's providential care for the United States, and in light of Catholic teaching that suffering, in God's plans, may have redemptive value. My reflections have led me to these thoughts, which I present for your consideration. Perhaps in his Divine Plan, God willed from the beginning to use the hardships encountered and the suffering endured by the American soldiers at Valley Forge—those bloody tracks in the snow left by both blacks and whites—as a link in the causal chain that would ring the death knell for slavery at Appomattox.

James Leon Holmes

And perhaps, as a part of that same Divine Plan, God willed from the beginning that the slaves from Rhode Island, who enlisted in the revolutionary army during the Valley Forge winter, who fought for freedom based on the principles of the Declaration of Independence, and who, in return, were granted freedom, would be the first fruits of a new birth of freedom accomplished at Appomattox.

Let me close with a few personal comments.

You will recall that we began this lecture by explaining that it was a Republican Senator from Arkansas—Steven Wallace Dorsey—who sponsored the legislation that first established Washington’s birthday. Dorsey was elected in 1872. Arkansas did not elect another Republican as senator for 124 years—until 1996—when Arkansas elected Tim Hutchinson to the United States Senate. Tim Hutchinson was the senator who submitted my name to President George W. Bush, who then appointed me to be a United States District Judge.

I had written the main part of this lecture before I learned of this indirect connection to the Federal Holiday known as Washington’s Birthday.

I showed an early draft of this lecture to my son Jeremy and asked whether he thought I should retain the discussion of the Civil War as the conclusion of this lecture, which is about George Washington. Jeremy said I should. He commented, “the truth is that you care deeply about this story because of your personal connection with the Lee-and-Lincoln conclusion.” I had not thought about the lecture in those terms until Jeremy made that comment. I grew up in the South in the aftermath of *Brown v. Board of Education*. I was three years old when *Brown* was decided; six years old when President Eisenhower sent federal troops to Little Rock to enforce a Federal court order that nine black children be admitted to Central High School; twelve years old when Martin Luther King led the March on Washington

and delivered his “I have a dream” speech; and seventeen years old when King was assassinated. As Valley Forge unfolded into Appomattox, so Appomattox unfolded into my life as a child.

Lincoln has been important in shaping my thinking on issues related to slavery. And in studying for this lecture I learned that on the issues that divided the Nation during the Civil War, Washington, a southern slaveowner, agreed with, and prepared the way for, Lincoln. Washington made Lincoln possible. Lincoln completed what Washington had started. In the story of the formation of the American nation, Washington and Lincoln—our two greatest presidents—one from South and one from the North—are hand-in-hand. They complement one another. It is as though Washington carried the torch as far as he could and, sixty years later, Lincoln picked up the torch and finished the race.

This year, the Federal holiday that commemorates Washington’s birthday fell on February 17, five days after Lincoln’s birthday and five days before Washington’s. I believe that Washington would be pleased to share the day with Lincoln; and I believe that Lincoln would be pleased for the day to bear Washington’s name.

**ON INTELLECTUALISM AND
THE BEATIFIC VISION**

Peter A. Kwasniewski

*Tota merces nostra visio est.*¹

If there is one misimpression common to nearly all students when they study St. Thomas's doctrine of the beatific vision (cf. *STh* I, q. 12), it would be that they find it altogether too abstract, too "intellectual," too focused on the mind and the activity of understanding, and for that reason lacking just that "affective dimension" many would consider paramount. Nor is this a difficulty peculiar to modern readers. It must evidently have been a difficulty for Thomas's contemporaries and successors, who set up their own "voluntarism" in opposition to his "intellectualism." Aware of the magnitude and complexity of the topic,

Peter Kwasniewski (TAC '94) earned his M.A. and Ph.D. in philosophy at The Catholic University of America. He has taught theology, philosophy, music, and art history at the International Theological Institute in Austria and at Wyoming Catholic College, which he helped establish in 2006. Since 2018 he has been a full-time writer, editor, and publisher. He has edited or written twelve books, the most recent of which is *Reclaiming Our Roman Catholic Birthright: The Genius and Timeliness of the Traditional Latin Mass* (Brooklyn, NY: Angelico Press, 2020).

¹ "Our whole reward is seeing": Augustine, *Sermon* 302 (PL 39:2324), cited by St. Thomas in *De veritate* q. 14, a. 5, ad 5, and *Quod.* 8, 19, obj. 3. See also Augustine's *De Trinitate*, Bk. 1, ch. 9.

I propose in this short essay to clarify St. Thomas's conception of the essence of blessedness. This will help us to appreciate how it could serve as the object of his own deepest longings, expressed in tears, all-night vigils, and ecstasies.

Thomas's position is well-known: the essence of perfect happiness for man is the highest activity of the highest power in respect to the highest object: contemplating—or seeing, knowing without any intermediary—the divine essence with an intellect strengthened by the light of glory and informed by God Himself.² The *locus classicus* is the *Summa theologiae* I, question 12, article 2. In the reply to the third objection we read these striking words:

The divine essence is existence itself. Hence as other intelligible forms which are not their own existence are united to the intellect by means of some entity, whereby the intellect itself is informed, and made in act; so the divine essence is united to the created intellect, as the object actually understood, making the intellect in act by and of itself.

The vision of God *means* the informing of the beholder's understanding by the very form that is God, who makes himself the intelligible species of the beatified intellect. This is as much as to say the blessed *becomes* God—not essentially, but “intentionally”—in the most intimate depths of its being, in that very intellectuality that constitutes it as a person. If we would make sense of this claim we must pause to reflect on what understanding is for Aquinas. Apart from some precisions that could be made to

² See the summary of Jordan Aumann, O.P., *Summa Theologiae*, vol. 46: *Action and Contemplation* (New York: McGraw-Hill, 1966), Appendices, 85–123, esp. 109–116; also Ansgar Vonier, O.S.B., *Collected Works*, vol. 3: *The Soul and the Spiritual Life* (London: Burns Oates, 1953), 138–48; Martin C. D'Arcy, S.J., *The Mind and Heart of Love. Lion and Unicorn: A Study in Eros and Agape* (New York: Holt, 1947), 304–7.

his wording, we may take as a starting point Pierre Rousselot's description of "the intellectual process," paying special attention to the last sentence:

St. Thomas looks upon it as the life-process *par excellence*, and sees in it the deepest and most intense activity of intellectual beings. In opposition to those who see in intellect something necessarily egocentric, he makes of it the faculty which emancipates men from mere subjectivity; it may aptly be called "the faculty of otherness," if we may employ the term. In a wider sense it is for him, as has been well said, the "faculty of being," the faculty which most truly grasps, and attains, and holds being. It unites in the highest degree subjective intensity and objective extension, because if it grasps reality it does so by *becoming* reality in a certain manner: and in that precisely consists its nature.³

Rousselot argues, moreover, that however much two beings stand near each other and relate to one another, they will not *belong* to each other unless and until they are *within* each other so as to constitute a kind of *unity*: "Knowledge alone permits the ego while remaining itself to become the non-ego; and we cannot speak of real possession except where there is intimate penetration of two unifying principles and where a thing becomes the other in some sense."⁴

This helps us, but it seems too diffuse. In his little book *Happiness and Contemplation*, which, among its merits, contains one of the finest treatments ever written of the long-standing dispute between the "intellectualists" and "voluntarists," Josef Pieper defends the claim that happiness or *beatitudo* consists

3 Pierre Rousselot, S.J., *The Intellectualism of St. Thomas*, trans. James E. O'Mahony, O.F.M.Cap. (London: Sheed & Ward, 1935), 20.

4 *Ibid.*, 26.

primarily in an act of intellect, and answers objections to it by clarifying the “seeing” or “intuition” Aquinas has in view.⁵

Reality is the prize solely of the highest form of cognition, and that is: seeing, intuition, contemplation. . . . It would seem that language has basically only one word to describe what actually happens when we “realize” the presence of another person. That word is “seeing.” . . . We may also recall here the Biblical phraseology in which the union of man and woman is referred to as a mutual “knowing.” This use of the word is anything but a euphemism. Quite the contrary. The term expresses with matchless precision the exact truth of the matter—as soon as we go back to the original meaning of the Hebrew word. That meaning was: immediate togetherness, intimate presence (Buber). (Let us consider for a moment what this implies. In seeking a basis for our characterizing the fact of “presence” by the term “knowing” we suddenly discover that knowing originally derives from a word meaning presence. In the realm of primal words we are always on the verge of tautology.)⁶

If we seek a still more precise formulation of the fundamental point at issue, we must go to Cajetan, who, commenting on the article on whether union is an effect of love (I-II, q. 28, a. 1), has this to say:

If all the unities relating to love are considered, love unites more than knowledge, because it causes a real union. But if love and knowledge are compared to that union which is formally made, knowledge unites more than love. . . . And the reason is suggested by St. Thomas,

⁵ See Josef Pieper, *Happiness and Contemplation*, trans. Richard and Clara Winston (South Bend: St. Augustine's Press, 1998), esp. 58–72; also 97–98 against a specious primacy of love in beatitude.

⁶ *Ibid.*, 69–70.

for the intellect in act is the known in act, but the lover is not the beloved in act. For the formal union of cognition is greater than that of love insofar as it is greater to *be* another than to stand towards another as towards oneself. And knowledge makes the intellect to *be* formally the thing known, whereas love does not formally make the lover be the beloved, but rather makes the lover *as* the beloved, and conversely, makes the beloved as the lover.⁷

A Thomist of the last century who stands with Cajetan in the great commentatorial tradition, Reginald Garrigou-Lagrange, dedicated a number of studies to fundamental questions of knowledge and love. In the following passage we can see him developing the idea that while love is what unites the “affections” (broadly taken) of lover and beloved, it does so precisely with a view to facilitating an ever-greater attainment of the *real* union of mutual total presence, or as Thomas poetically puts it, “the desire for contemplation proceeds from love of the object, because where love is, there are one’s eyes.”⁸ As Garrigou-Lagrange explains:

Beatitude, or the possession of God, consists essentially in the immediate vision of God. Without this, love would constitute not real but only affective union, such as that existing between separated friends. For St. Thomas the

7 “[S]i considerentur omnes unitates concurrentes ad amorem, sic amor magis unit quam intellectio quoniam causativus est unionis realis. Sed si comparetur amor et intellectio secundum illam solam unionem quam facit formaliter, sic intellectio magis unit quam amor. ... Et ratio est illa quae arguendo in littera tangitur: quia intellectus in actu est intellectum in actu, amans autem non est amatum in actu. Tanto namque maior est formalis unio cognitionis quam amoris, quanto maius est se esse aliquid, quam habere se ad illud ut se. Intellectio enim facit formaliter intellectum esse rem intellectam in actu: amor vero non facit formaliter amantem esse amatum, sed ut amatum, et e converso, scilicet amatum ut amantem.”

8 “[C]ontemplationis desiderium procedit ex amore obiecti, quia ubi amor, ibi oculus”: *In III Sent.* d. 35, q. 1, a. 2, q1a. 1; cf. *STh* II-II, q. 180, a. 7.

blessed in heaven are united to God by an immediate apprehension of Him, a sort of intussusception that unites two into a oneness closer than food is assimilated to flesh, for it is the union of the knower with the known which—especially if the known is apprehended in an absolutely immediate way without any idea serving as intermediary—is more intimate than the union of matter and form. Matter does not become form, but the knower becomes in one way (*intentionaliter*) the known and thus possesses it.⁹

Thomas understands beatitude as an intellectual union, “fusion without confusion” one might say, because beatitude must be the most radical, most intimate union possible between two beings—not just any two, but Being and a being, the Creator and the creature.¹⁰ Love is the force that drives the lover on to a radical and intimate *union* and it is the wellspring of the desire for and then the joy of this union, but love highlights the otherness, the difference, of what is loved; in the order of love, which always respects the nature of beings as such, the lover and beloved are really distinct and in some sense, therefore, separated, looking across an expanse. And this is the tragedy and frustration of creaturely love—it wants perfect union, endless love, but such a thing is impossible given what creatures are. They are always outside of each other as substances, and so no matter how close they become, there is still some distance

9 Reginald Garrigou-Lagrange, O.P., *The Love of God and the Cross of Jesus*, trans. Sister Jeanne Marie, O.P. (St. Louis: Herder, 1951), 1:83; see also the discussion in the same author's *Beatitude: A Commentary on St. Thomas's Theological Summa, I-IIae, qq. 1-54*, trans. P. Cummins (St. Louis: Herder, 1956), and also Cajetan, *Commentaria in I Summa Theologiae*, q. 14, a. 1 (in the Leonine Edition, toms quartus, 167-68.)

10 Strictly speaking, we should say “the *mere* creature,” because the Incarnation presents us with the singular case of a still more intimate unity of divine Person and Nature with human nature (see, e.g., *STh* III, q. 2, a. 9; q. 4, a. 1, ad 2; q. 7, a. 1).

between them—if only the indissolubility of flesh that prevents one body from coinciding exactly with another. A perfect union is one of complete interpenetration where all of one being is, so to speak, corresponding to all of another being, and not by way of part to part, surface to surface, where there are distinctions. It is clear already that if there is to be such a union it must be in the order of spirit, of *intellect*, where there are no parts, no surfaces, no density, magnitude, or resistance.¹¹ A truth glides into your mind and when your mind is thinking it the whole mind is present to the whole truth, or at least to as much of it as is understood; indeed, we have to be as bold as Aristotle is: the mind and the truth, so far as it is understood, are *one and the same thing, are identical*.¹² In the order of knowledge, the knower becomes what he knows. As Aristotle puts it: “the knower, as such, is the known.”¹³

11 For this reason I disagree sharply with Kevin Corrigan who maintains that there is a kind of union *more intimate* than that of the total identity of intellect and intelligible form: “Here then in Denis this ecstatic love reflects not only the Pauline exclamation ‘I live, now not I, but Christ lives in me’, but also the pagan conviction that the experience of ecstasy, no matter how ineffable or how perplexing, is an experience of genuinely two-way communion, which is the completion of all *kinesis* or movement because it expresses a reality or *energeia* closer than the unity of perceiver and perceived object, even closer than the most intimate unity of thinker and object thought” (“Ecstasy and Ecstasy in Some Early Pagan and Christian Mystical Writings,” in *Greek and Medieval Studies in Honor of Leo Sweeney, S.J.*, ed. William J. Carroll and John J. Furlong [New York: Peter Lang, 1994], 27–38; here, 37). I simply wonder what this could mean. If it is a question of an experience of affective-mystical communion *in this life*, prior to the beatific vision, then it is obvious from the teaching of the great mystics such as John of the Cross that such a union vastly surpasses any intellectual or cognitive union—again, in this life. Once we admit into the comparison the beatific vision, however, it is impossible that there be a union of will or affection that is not already founded upon and necessarily surpassed by the perfectly interior presence of God to the saint’s very capacity for spiritual being (*viz.*, intellect).

12 See H.-D. Simonin, “L’identité de l’intellect et de l’intelligible dans l’acte d’intellection,” *Angelicum* 7 (1930): 218–48.

13 See, *inter alia*, *De anima*, Bk. 3, ch. 4, 430a4.

This does not mean that the being of the knower (that is, the knower as a substance, an animal, a man) is the *being* of the known (whether this object is a triangle or another person). It means that what the knower is knowing is now the form of the knower as knower, even if the activity of knowing is rooted in a prior essence and form, which for man is the soul, a subsistent spiritual being. In God, however, being and knowing are identical. Thus, when God communicates to the blessed in heaven his own form as the form by which the intellect of the blessed is informed, this means a radical divinization. The substance of the soul is not, nor could it be, turned into God, for God is simple and changeless, and he creates in order to perfect creatures, not destroy them by absorption; but the *activity of knowing is divinized* in the sense that its entire content, its identity, is the form of God, which is God. What is known by divine power is the intelligible form that *is* the Being of God. Hence, since the knower is what he knows, and since what is known in God is none other than God's very being, the blessed knower is, *quodammodo*, the blessed God, and this is the blessedness of the blessed—a union so intimate that there is not the slightest aspect of otherness left *in the order of union*. The order that remains behind this order of union, supporting it, is the order of unity, and this is the order of being simply.

Hence, we find here no conflation of substances, and no need of a spurious essence/energy distinction, such as the Byzantine tradition was to find indispensable. A metaphysic of participation is quite enough, for the creature receives being and bliss, is submerged and transfigured in God, but is not being blissful Being. The *esse* of the creature remains creaturely, the *esse* of God remains unique, simple, immutable, and imparticipable as such. As Charles Journet puts it, speaking of the doctrine of John of the Cross and Johannes Tauler on the divinization of the soul:

These authors, no doubt, do not cease to make more precise—for fear that their teaching might be misunderstood—that, if the soul is one with God, it is *by a transformation of love and spiritually*, not *by nature and metaphysically*. Hence, that which they find most striking is not so much the created being of charity, its accidental side, which is finite, but rather charity’s ‘tendential’ [*tendanciel*] and spiritual being, its reflecting side, which is infinite, its mysterious transience that allows it to draw God himself into the subject who receives it.¹⁴

In other words, in the beatific vision God remains God in his unity and substance, and the angel or saint remains who and what he is, in his own participated unity and substantiality; that is why Thomas insists that there is, and must always be, an infinite gap between creator and creation, between created (finite) being and uncreated (infinite) being.¹⁵ Aquinas formulates it this way in his *Compendium Theologiae*:

To this end, namely, that God be known in His essence, it is necessary that God become the form of the intellect knowing Him and be united with Him not so as to constitute a single *nature*, but in the way the intelligible species is united with the one intellecting.¹⁶

14 Charles Journet, *Theology of the Church*, trans. Victor Szczurek (San Francisco: Ignatius Press, 2004), 89, emphasis in original.

15 Hence there is no *comprehensio* on the part of the intellect as if the created mind could enclose or contain the divine nature, knowing it as perfectly as it can be known (*STh* I, q. 12, a. 7); but there *is* a *comprehensio*, a perfect possession, on the part of will, which totally embraces the total good (I-II, q. 4, a. 3).

16 *Compendium theologiae*, Bk. 1, ch. 105: “Ad hoc igitur quod ipse deus per essentiam cognoscatur, oportet quod ipse deus fiat forma intellectus ipsum cognoscentis, et coniungatur ei non ad unam naturam constituendam, sed sicut species intelligibilis intelligenti?”

Journet, citing the preceding text for support, offers an incomparable synopsis:

In heaven, the elect will seize God by the beatific vision and know him as they themselves are known (1 Cor. 13:12). Now, how could they see God face to face, how could they know him as he is in himself, if they did not see him and know him through God himself? How would a created idea, as perfect as it may be, suffice to make God known, not in his created effects, but in his uncreated reality, in his mystery? It would be necessary in fact for the soul to be invested, so to speak, with God and for the divine essence itself to fulfill the role in the soul that our ideas play in the act of normal knowledge. Also, the soul of the elect, remaining *in itself* a created reality, infinitely distant from the Divine Reality, will be *spiritually* totally transformed in God, deified. Then God will really be the Soul of their soul and the Life of their life. He will be the one Soul of all. Then they will truly be “consummated in unity,” one with God and each other by grace, as the Father, Son, and Spirit are one by nature.¹⁷

The heavenly life, then, is an unimaginable paradox: the boundless intimacy of loving union (the gracious union of the divine self-giving light to the receptive intellect) occurs within, and intensifies the awareness of, the infinite distance of being. The adoration of the blessed towards God reaches the pitch of highest fervor because they alone, who are divinized in Him, know that He is uniquely divine *in se*.

To gain even a distant notion of what is promised us as reward—“eye hath not seen, nor hath ear heard, the good things that God has prepared for those who love Him” (1 Cor 2:9)—we have to purge altogether the picture of heaven as a giant amphitheater where the blessed are seated in various rows, closer

¹⁷ Journet, *Theology of the Church*, 85.

or further back, in proportion to their merits, gazing intently upon God in the middle on a throne, the spectacle of spectacles. Thomas is saying, on the contrary, that if we would understand what heaven is, we have to strain our thoughts in the direction of total, unspeakable interiority, intimacy, God entering into and dwelling within the blessed, within them more deeply than their souls can be in their bodies, their existence in their essence, themselves in themselves, filling them with Himself; indeed, that he is in the saint *as the known is in the knower*: “A saint’s mind in act becomes one with God . . . Through his beatific vision of God, the saint is united to God as though being one with Him.”¹⁸ Apropos Thomas’s appeal to the Aristotelian dictum that the intellect in act is the intelligible in act, Malloy comments: “This use of Aristotelian epistemology beckons one to think of spousal imagery, for God Himself is taken into the believer.”¹⁹ This is why the mystics often prefer language of touching, embracing, penetrating, melting, dissolving, to language drawn from eye and ear. Jacques Maritain has written:

As far as mystical language is concerned, it is necessarily different from that of philosophy: in the former, hyperbole is not an ornament of rhetoric, but a means of expression rigorously required to signify things with exactitude, for, in fact, it is an attempt to render intelligible experience itself—and what experience, the most ineffable of all! Philosophical language seeks especially to tell of reality without touching it; mystical language to make it known as if by touching it though not seeing it.²⁰

18 Christopher Malloy, “Love of God for His Own Sake and Love of Beatitude: Heavenly Charity According to Thomas Aquinas” (Ph.D. diss., The Catholic University of America, 2001), 283, citing *Summa theologiae* I, q. 12, a. 2, ad 3.

19 *Ibid.*, 283, n. 68.

20 *The Degrees of Wisdom*, quoted in Reginald Garrigou-Lagrange, O.P., *The Three Ages of the Interior Life*, trans. Sister M. Timothea Doyle, O.P. (St. Louis: Herder, 1948), 2:7.

Touch is the sense of certainty. You may think you are seeing something, which then turns out to be an illusion or mirage; you may think you are hearing somebody enter the house, yet it was just a broom falling over in the closet. But if spouse approaches spouse to embrace and become one flesh, there is no room for doubt or illusion, there is nothing but presence and the certainty of presence, and there is nothing between—at least, that is what earthly spouses would wish, if it were possible for material beings.²¹ But this is precisely what *is* possible for spiritual beings, for minds: complete interpenetration, total possession of the other, without mutual resistance and exclusion, without the measures of magnitude, motion, time, and place.²² “In its ascent, love, without losing order, loses measure and finds intoxication” (Jan van Ruysbroeck).²³ In its penetration, love, without losing difference, loses opposition and finds the Other

21 The materialist poet Lucretius, though he misses out on a good deal of reality, is quite observant on this point: “nequiquam, quoniam nil inde abradere possunt / nec penetrare et abire in corpus corpore toto; / nam facere interdum velle et certare videntur: / usque adeo cupide in Veneris compagibus haerent, / membra voluptatis dum vi labefacta liquescunt” (*De Rerum Natura*, IV, ll. 1110–14, Loeb ed., 362). On the topic of touch more generally, see the masterful essay by Charles De Koninck, “*Sedeo, Ergo Sum: Considerations on the Touchstone of Certitude*,” *Laval Théologique et Philosophique* VI.2 (1950): 343–48, available at <http://www.goodcatholicbooks.org/dekoninck/certitude/sedeo-ergo-sum.html>, and John Neumayr, “A House Built on Rock: The Need for the Sense of Touch in Theology,” *The Aquinas Review*, vol. 8 (2001): 1–22, available at <https://thomasaquinas.edu/pdfs/aquinas-review/2001/2001-neumayr.pdf>.

22 E. Rolland says exactly this: see “L’unification par l’amour,” *Revue Apologétique* 56 (1933): 385–403. See also my “On the Ideal Basis and Fruition of Marriage,” *Second Spring* 12 (2010): 43–53, available at http://www.academia.edu/7337988/On_the_Ideal_Basis_and_Fruition_of_Marriage, for a discussion of why the limitations of time and matter point to the necessity of human love rising to the spiritual plane where the lovers’ intentions can be realized.

23 Quoted in Blaise Arminjon, S.J., *The Cantata of Love: A Verse-by-Verse Reading of the Song of Songs*, trans. Nelly Marans (San Francisco: Ignatius Press, 1988), 81.

as more me than myself. Nothing but intellect is capable of this perfect union of love; nothing but beatified intellect is wedded to God in ecstatic love.²⁴

For Thomas, this exalted activity of speculative understanding is the fruition of a friendship, the consummation of a spiritual marriage, a relationship more intimate and self-giving than any relationship of love that can be known between creatures. Suggestive in this regard is Aquinas's discussion of that *comprehensio* or "embracing" that pertains to the will,²⁵ a possession of the good from which any lack of contact or presence is altogether excluded—something far from true of any creaturely embrace, however close it may be. The intellectual vision is the very *communicatio* in which the friendship, the giving and receiving of love, is vitally rooted. David Gallagher comments:

In contemplation it is not simply the knowledge of the contemplated object that is loved, but also that object itself. . . . [T]hat object is loved with a love of friendship. If we now add that an element of this love of friendship is to seek union with the beloved, we can say that, for Aquinas, contemplation has its deepest meaning when it is seen as the union of the lover and the beloved. Contemplation is, in fact, the fulfillment and culmination of charity. Lovers wish more than anything else to see each other, and those who love God wish to see Him, to have Him present.²⁶

24 "The vision of God can also be described as the presence of God to the saint. God is not made present 'physically' since He has no body. Furthermore, God is not made present by a change in Himself. Rather, God becomes present to the saint through a change in the saint. The saint changes by having a new relation to God through his intellect and will" (Malloy, "Love of God," 287, n. 82).

25 See I-II, q. 4, a. 3.

26 David Gallagher, "Moral Virtue and Contemplation: A Note on the Unity of the Moral Life," *Sapientia* 51 (1996): 385–92, at 390. For the point on charity, Gallagher sends us to II-II, q. 180, as. 1–2. For Aquinas, Gallagher continues, "contemplation is still more than simply the highest activity of the highest

Thomas's teaching on love as a transformation of lover into beloved, a turning-towards the beloved that brings about mutual indwelling, ecstasy, and zeal, not only retains all its validity in the contemplative communion of heaven, but is there verified infinitely more than it could ever be in this life.²⁷ The other-directed dynamism of love²⁸ is in fact the very *manner* in which this union is played out: to know God is to receive a centrifugal participation in His light that carries the soul out of itself in love, praise, adoration. The activity of the beatific mind is ecstatic to the highest extent because it is filled not with *thoughts* about God but with *God Himself*. This, ultimately, is what "deification" or *deiformitas* means.

Generations of disciples have perceived that St. Thomas is not merely an Aristotelian metaphysician; he is a speculative mystic. No doubt he is eager, with Augustine, to seize plunder from the Egyptians, but he is yet more eager to journey to the Promised Land. As Augustine had said: "No matter how much

power of the soul and so the highest perfection of man. Contemplation is seen as part of the life of love. It is, ultimately, the fulfillment of love, for it is the form that union with God takes. It is, in the end, the union of lover and beloved" (*ibid.*, 392).

27 Even to the privileged few who merit the title "cleansed souls": see I-II, q. 61, a. 5. On the ecstasy of love, see *In I Sent.*, d. 27, q. 1, a. 1, ad 4; *In De divinis nominibus* IV, lec. 10; I-II, q. 28, a. 3. On zeal, see I-II, q. 28, a. 4.

28 In the words of Norris Clarke: "Note the existential, extroverted character of love compared to knowledge. Knowledge is basically *introverted*, in the sense of drawing its objects within itself, to an immaterial presence within itself as idea, as mental being, even though referring to reality outside itself. Love, on the other hand, is *extroverted*, draws the lover out toward the object of its love as it is in itself, wishing to be united with it as it is in its own real being" (*The One and the Many: A Contemporary Thomistic Metaphysics* [Notre Dame: University of Notre Dame Press, 2001], 267). One might also cite E. Ecker Steger: "Knowledge terminates in the knower whereas love is an *ekstasis*; the lover goes out to the beloved as he is in his existence, *secundum quod habet in rerum natura: et per hunc modum est perfectivum bonum* (*De ver.* 21.1). Love is an existential rather than an intentional relation" ("Verbum Cordis: Mediation Between I and Thou," *Divus Thomas* [Piacenza] 81 [1978]: 40–53; here, 45–46).

you labor, you labor to this end: *that you may see.*”²⁹ Friar Thomas is a contemplative mendicant embarked on a restless, all-consuming quest for the total wisdom that he knows in faith is only to be found in perfect communion with the Holy Trinity in heaven, but that he already tastes and relishes in Eucharistic communion on earth.³⁰

29 *In Ps.* 90, 2.

30 A copious literature has appeared on these hitherto neglected themes: see, for example, my articles “Golden Straw: St. Thomas and the Ecstatic Practice of Theology,” *Nova et Vetera* 2 (2004): 61–89, “‘Divine Drunkenness’: The Secret Life of Thomistic Reason,” *The Modern Schoolman* 82 (2004): 1–31, and “Aquinas on Eucharistic Ecstasy: From Self-Alienation to Gift of Self,” *Nova et Vetera* 6 (2008): 157–204; Jean-Pierre Torrell, O.P., *Christ and Spirituality in St. Thomas Aquinas*, trans. Bernhard Blankenhorn, O.P. (Washington, DC: Catholic University of America Press, 2011); idem, *Saint Thomas Aquinas*, vol. 2: *Spiritual Master*, trans. Robert Royal (Washington, DC: Catholic University of America Press, 2003); Denys Turner, *Thomas Aquinas: A Portrait* (New Haven: Yale University Press, 2013); Paul Murray, O.P., *Aquinas at Prayer: The Bible, Mysticism, and Poetry* (London: Bloomsbury, 2013).

HEROIC VIRTUE AND THE INFUSED VIRTUES

Andrew T. Seeley

What are the differences between Christian and natural virtue? This question is difficult, although not so much when considering the virtues foundational to the Christian life—faith, hope and charity—as when considering those virtues that are common to Christian and Gentile: temperance, fortitude, justice and prudence. Are there essential differences, or does the Christian simply direct naturally acquired virtues to his newfound end of eternal life with God?

In the *Summa theologiae* and elsewhere, St. Thomas Aquinas caps over a century of theological discussion of the question by arguing definitively that these kinds of virtues are essentially distinct from one other. The natural moral virtues perfect the human nature of man that is ordered to knowing and loving God dimly as the cause of naturally knowable effects; the supernatural moral virtues perfect him as a sharer in God's own self-knowledge and self-love through the theological virtues.

In this article, I intend to shed light on the infused moral virtues as distinct from the natural virtues starting from

Andrew Seeley has been a Tutor at Thomas Aquinas College since 1992, and is Director of Advanced Formation with the Institute for Catholic Liberal Education.

St. Thomas's treatment of an important natural parallel, that of the heroic virtues.

Heroic Virtue

At the beginning of Book VII of the *Nicomachean Ethics*, Aristotle, having completed his treatment of the particular kinds of virtue and vice, places these habits within the broader context of good and evil human states. Virtue and vice do not exhaust the various moral states found among men. In fact, there are three species of states to be avoided—vice (*malitia*), incontinence, and brutishness or bestiality—and three corresponding good habits or dispositions.

Let us now make a fresh beginning and point out that of moral states to be avoided there are three kinds—vice, incontinence, brutishness. The contraries of two of these states are manifest. We call the one virtue, the other continence. To bestiality we ought to oppose a certain heroic or divine virtue that is above us.¹

Aristotle considers heroic virtue to be a species of good habit or disposition more honorable than virtue and continence. A hero has attained a state of greatness unattainable by others and is able to perform deeds surpassing those of ordinary good men. Because of this, such men were considered to be more than mere men, to be more like the gods. They were even acclaimed as divine. Homer's description of Hector comes to Aristotle's mind.

Homer has represented Priam saying of Hector that he was very good: "For he seemed not, he, the child of a mortal man, but as one that of the God's seed came."²

1 *Nicomachean Ethics*, trans. W.D. Ross, in *The Basic Works of Aristotle*, ed. Richard McKeon (New York: Random House, 1941), book 7, chapter 1 (1145a, 17-20); p. 1036.

2 *Ibid.*, 1145a, 21-23; p. 1036. See *The Iliad*, trans. Richard Lattimore

The Iliad reveals that on the battlefield Hector was indeed like a god. His appearing in anger inspired such fear as to rout entire lines of (ordinary) Greeks. A common soldier, even one of great courage, not only could not perform Hector-like feats, but would be rash to attempt them. A hero's actions far exceed those of the ordinary virtuous man. Of course, men like this do not come along very often. The hero, like the bestial man, is very rarely encountered.

In his exposition of this passage of the *Nicomachean Ethics*, composed three years before his death (1271), Thomas explains that virtue is called heroic when:

the rational part is perfected and formed in a man beyond the common mode of human perfection, as though it were become like that of the separate substances.³

A similar difference exists between bestial and vicious acts. Bestial acts are of a different order than are vicious acts. Thomas explains this difference by reference to the different natures to which such acts are proper. Most evil acts, such as murder or overindulgence, are still properly human acts. Animals could never murder, because the act implies a certain amount of conscious purpose and a consequent moderation. But some evil acts, though committed by men, are more like the uncontrolled acts of beasts.

(Chicago: The University of Chicago Press, 1951), book 15, pp. 325-326, ll. 615ff. Although Aristotle draws his example of a hero from among warriors as is common, someone such as Plato's Socrates would be a "hero" of the contemplative life. While most men who desire contemplative perfection find a master under whom to study, Socrates pursued philosophy on his own and raised it to new heights. Or we might consider the difference between the founder of a state and the legislators who try to maintain it.

3 *In decem libros Ethicorum Aristotelis ad Nicomachum expositio*, ed. Raymond M. Spiazzi (Rome: Marietti, 1949), 7.1 (1145a13-19), lect. 1, nn. 1299; pp. 351-352.

HEROIC VIRTUE AND THE INFUSED VIRTUES

In another mode, the balance of human affections can be corrupted to such an extent that they progress beyond the bounds of human life, becoming similar to the affections of some beast, such as a lion or a pig.⁴

When a man, in the ferocity of his anger and hate, not only murders someone but mutilates and desecrates the body, he behaves more like a lion than a man.⁵ He has sunk to a deeper and more hideous level of evil than most murderers. These levels differ as much as a bodily deformity caused by sickness differs from a mutation into some animal such as a pig.

Heroic virtue stands in the same relation to ordinary virtue as does bestiality to ordinary vice. By bestiality man descends to the realm of the beast; by heroic virtue he ascends to the realm of God and the separate substances. Thomas characterizes the activity of heroic virtue as “beyond the common mode.”

Thus as the affections of the sensitive part in man sometimes are corrupted to the extent of being like those of beasts, and this is called bestiality [and is] beyond human malice and incontinence, so also the rational part is sometimes perfected and formed in a man beyond the common mode of human perfection, as it were to being like that of the separate substances. And this is called divine virtue [and is] above common human virtue.⁶

4 *Ibid.*, n. 1296; p. 352: “Alio modo potest corrumpi contemperantia humanarum affectionum, ita quod progrediatur ultra limites humanae vitae in similitudinem affectionum alicuius bestiae, puta leonis aut porci.”

5 *Iliad* XXII.260, 346: “As there are no trustworthy oaths between men and lions ... so there can be no love between you and me, nor shall there be oaths between us ... I only wish that my spirit and fury would drive me to hack your [Hektor’s] meat away and eat it raw for the things that you have done to me.” Cf. XXIV.39, IV.34.

6 *Ibid.*, n. 1299; p. 352: Sicut ergo affectiones sensitivae partis aliquando in homine corrumpuntur usque ad similitudinem bestiarum, et haec vocatur bestialitas supra humanam malitiam et incontinentiam; ita etiam rationalis pars quandoque in homine perficitur et formatur ultra communem modum

Thus the pagan acclamation of the hero as a god hit at a certain truth. Heroes seem to transcend human nature for they act like the separate substances. Man's nature is composite, and his natural mode of activity, whether good or evil, is limited by the conditions of that nature. But when the highest parts of his nature, his rational faculties, become "almost like the separate substances," then his activity becomes like theirs in its perfection.

Although Aristotle recognizes that god-like men and god-like action occur, he holds that the acts they perform and the excellences of soul they possess are radically different from those of ordinary good men. It follows from all that he has said that heroic virtue is not a mark to be aimed at: a few exceptional men are born with a touch of divinity, but the *Ethics* is meant to direct its readers to the kind of excellence achievable by mere mortals.⁷

The Heroic Virtues and the Infused Moral Virtues

The case is different for Christians. When St. Thomas treats the Christian virtues in the *prima secundae* of the *Summa theologiae*, he claims that they are essentially divine. This is primarily true of the theological virtues, and, as a consequence, true also of the infused moral virtues.

In his opening presentation of the theological virtues, he begins by arguing that Christians need the theological virtues because man has, in some sense, a two-fold end, one suitable to human nature, one exceeding it because it properly belongs to the divine nature. Man approaches the first through his natural principles and the virtues derived therefrom, but the latter only

humanae perfectionis, quasi ad similitudinem substantiarum separatarum; et haec nominatur virtus divina supra humanam virtutem et communem.

⁷ Yet it climaxes in urging them to pour themselves out in living according to their own natural divinity by living the philosophical life. Cf. *Ethics*, X.7.1177b25.

through coming to share in the divine in some way. The theological virtues are participations in the divine being and stand as principles of the whole supernatural life.

But man has a two-fold happiness or felicity, as has been said above. One indeed is proportionate to human nature, to which namely man can arrive through the principles of his nature. But the other happiness is one exceeding the nature of man, to which man can arrive only by divine virtue, according to a certain participation of the divinity. . . Whence some principles must be divinely added to man through which he will be so ordered to supernatural beatitude as through natural principles he is ordered to the connatural end. . . And these kinds of principles are called theological virtues.⁸

The theological virtues, then, are divine virtues, for they are principles of action according to which man becomes in some way divine. In this way, they differ essentially from the intellectual and moral virtues, just as in the natural realm the heroic virtues differ from the virtues of the ordinary man.

The parallel between the theological virtues and the heroic virtues is clearer if we consider an earlier article in the *Summa* in which Thomas asks whether habits are distinguished according to good and evil. Aristotle's heroic virtue poses a difficulty to a simple affirmative answer, for more than one good virtue can exist concerning the same objects. But good habits concerning the same object cannot be distinguished.

8 I-II, q. 62, a. 1; p. 1034: Est autem duplex hominis beatitudo sive felicitas, ut supra dictum est. Una quidem proportionata humanae naturae, ad quam scilicet homo pervenire potest per principia suae naturae. Alia autem est beatitudo naturam hominis excedens, ad quam homo sola divina virtute pervenire potest, secundum quandam divinitatis participationem. . . Unde oportet quod superaddantur homini divinitus aliqua principia, per quae ita ordinetur ad beatitudinem supernaturalem, sicut per principia naturalia ordinatur ad finem connaturalem. . . Et huiusmodi principia virtutes dicuntur theologicae.

Moreover, concerning the same object it happens that there are . . . many good habits, namely human virtue and heroic or divine virtue, as is clear through the Philosopher in Book VII of the *Ethics*.⁹

In his response, Thomas says that habits are good or bad insofar as their acts are suitable or unsuitable to the nature of their subject. But good habits can be distinguished according to the nature relative to which they are judged. Thus Thomas says (here as in the commentary on the *Ethics*) that human virtue and heroic virtue differ specifically because they are appropriate to different natures.

Habits are distinguished according to nature in another way, from the fact that one habit disposes to an act suitable to an inferior nature, but another habit disposes to an act suitable to a superior nature. And thus human virtue, which disposes to an act suitable to human nature, is distinguished from divine or heroic virtue, which disposes to an act suitable to a certain superior nature.¹⁰

And so he replies to the difficulty:

To the third it must be said that several good habits concerning the specifically same [object] are distinguished according to their suitability to diverse natures, as has been said.¹¹

9 I-II, q. 54, a. 3, obj. 3; p. 992a: "Praeterea, circa idem obiectum contingit esse . . . plures habitus bonos, scilicet virtutem humanam et virtutem heroicam sive divinam, ut patet per Philosophum in VII *Ethic*."

10 Ibid.: "Alio modo secundum naturam habitus distinguuntur, ex eo quod habitus unus disponit ad actum convenientem naturae inferiori; alius autem habitus disponit ad actum convenientem naturae superiori. Et sic virtus humana, quae disponit ad actum convenientem naturae humanae, distinguitur a divina virtute vel heroica, quae disponit ad actum convenientem cuidam superiori naturae."

11 Ibid.: "Ad tertium dicendum quod plures habitus boni circa idem specie, distinguuntur secundum convenientiam ad diversas naturas, ut dictum est."

Thus in this early foundational article for the *Summa's* treatment of virtue, Thomas uses heroic virtue to show us that different kinds of good habit can exist concerning the same object if they perfect different natures.

As we have seen, in explaining the need for the theological virtues, Thomas calls them divine virtues. In the next article, he argues that their divine character makes them specifically different from the human excellence of the intellectual and moral virtues. He first suggests this in his *sed contra* argument, using the same argument earlier used to distinguish good habits according to nature.

But to the contrary, what is above the nature of man is distinguished from what is according to the nature of man. But the theological virtues are above the nature of man, to whom by nature the intellectual and moral virtues are suitable.¹²

In the response, Thomas says that the theological virtues have formally different objects from those of the natural virtues. Although materially their object is the same, because through both God is known and loved, formally their objects differ because of the manner in which He is attained. For, as we have seen, the same object can be attained in manners suitable to different natures. Through the theological virtues God is known and loved in the way He knows and loves Himself, while the intellectual and moral virtues attain their objects, whether God or human affairs, in a manner suitable to human reason.

Habits are distinguished in species according to the formal difference of objects. But the object of the theological

12 I-II, q. 62, a. 2; p. 1035a: "Sed contra, id quod est supra naturam hominis, distinguitur ab eo quod est secundum naturam hominis. Sed virtutes theologicae sunt super naturam hominis: cui secundum naturam conveniunt virtutes intellectuales et morales."

virtues is God Himself, who is the ultimate end of things, just as he exceeds the knowledge of our reason. But the object of the intellectual and moral virtues is something that can be comprehended by human reason.¹³

Again,

The intellectual and moral virtues perfect the intellect and appetite of man according to the proportion of human nature, but the theological virtues supernaturally.¹⁴

So through the theological virtues received in Baptism, the Christian becomes able to act like one truly born of God, fulfilling the pagan dream of divine offspring roaming among men. Aristotle said that the hero becomes god-like in his actions. Thomas can apply this literally to the Christian, for he has become a sharer in divine nature, a son of God by grace. His transformed nature issues in god-like activity.

It is clear that in the question on the theological virtues, Thomas is comparing them with the acquired virtues; he has yet to consider the infused moral virtues. In the next question, he argues that supernatural moral virtues must exist to extend the power of the theological virtues to matters other than God Himself. For the theological virtues are as principles of the

13 Ibid.: "Habitus specie distinguuntur secundum formalem differentiam obiectorum. Obiectum autem theologiarum virtutum est ipse Deus, qui est ultimus rerum finis, prout nostrae rationis cognitionem excedit. Obiectum autem virtutum intellectualium et moralium est aliquid quod humana ratione comprehendi potest."

14 Ibid., ad 1: "Virtutes intellectuales et morales perficiunt intellectum et appetitum hominis secundum proportionem naturae humanae: sed theologicae supernaturaliter." To confirm this, compare the reply to the second difficulty, in which Thomas says that wisdom considers divine things as far as human reason can investigate them, with the first article of the *Summa*, in which he states that theology considers what exceeds the capacity of human wisdom to know.

supernatural life. As the acquired virtues proceed from natural principles of action, so there must be infused moral virtues corresponding to the theological virtues.

Whence there must also correspond proportionally to these theological virtues other divinely caused habits, which stand to the theological virtues as the moral and intellectual virtues stand to the natural principles of the virtues.¹⁵

Naturally, our moral life is grounded on the precepts of the natural law—to preserve our being, to procreate and educate, to strive to understand as much as we can. But faith, hope, and charity ground it on the twin loves of God and neighbor.

The infused virtues differ specifically from the acquired virtues. Thomas argues this first according to object, but the second argument (which is familiar to us by now) is from the nature to which their acts are ordered, or in this case the society to which they are ordered. As men, we find our fulfillment in an organized human society, but those who share in the divine nature find fulfillment in the society of the saints and of God Himself.

In another way habits are distinguished in species according to those things to which they are ordained. . . . And in the same manner the Philosopher says in the third book of the *Politics*, that the virtues of citizens are diverse insofar as they are good with respect to diverse polities. And in this way also the infused moral virtues, through which men are good with respect to being “citizens of the saints and household servants of God,” differ in species from

15 I-II, q. 63, a. 3; p. 1040b: “Unde oportet quod his etiam virtutibus theologicas proportionaliter respondeant alii habitus divinitus causati in nobis, qui sic se habeant ad virtutes theologicas sicut se habent virtutes morales et intellectuales ad principia naturalia virtutum.”

the other acquired virtues, according to which a man is good with respect to human affairs.¹⁶

By means of the infused moral virtues, including justice, temperance, fortitude, and all their related virtues, the Christian comes to act as befits a son of God, a member of His family. Hence they have an elevated mode of activity, for they do not lie in the mean that befits reason, but the mean proper to a son of God.

Now, it is manifest that the mode imposed in these sorts of concupiscible desires according to the rule of human reason is of another kind (*ratio*) than that imposed according to the divine rule. For example, in eating food, the mode established by human reason prevents harming the strength of the body and impeding the act of reason. But the rule of divine law requires that man “chastise his body and bring in into servitude” (1 Cor 9:27).¹⁷

16 Ibid.: “Alio modo habitus distinguuntur specie secundum ea ad quae ordinantur. . . Et eodem modo dicit Philosophus, in III *Polit.*, quod diversae sunt virtutes civium, secundum quod bene se habent ad diversas politias. Et per hunc etiam modum differunt specie virtutes morales infusae, per quas homines bene se habent in ordine ad hoc quod sint cives sanctorum et domestici Dei; et aliae virtutes acquisitae, secundum quas homo se bene habet in ordine ad res humanas.”

17 Ibid.: Manifestum est autem quod alterius rationis est modus qui imponitur in huiusmodi concupiscentiis secundum regulam rationis humanae, et secundum regulam divinam. Puta in sumptione ciborum, ratione humana modus statuitur ut non noceat valetudini corporis, nec impediatur rationis actum: secundum autem regulam legis divinae, requiritur quod homo castiget corpus suum, et in servitutem redigat (1 Cor 9:27), per abstinentiam cibi et potus, et aliorum huiusmodi.”

We can extend this principle to the other moral virtues. The virtue of fortitude, which perfects in matters of fear and confidence in the face of sudden and violent death, gives strength to undertake dangers proportionate to the powers of the person facing the danger. Undertaking dangers beyond one's own strength is contrary to this virtue. But the gift of fortitude gives one the confidence of a son of God, who relies on God's sustaining power, leading him to undertake even what he knows is beyond himself, if God so commands or

The Virtues of the Purged Spirit and Heroic Sanctity

The parallel with the heroic virtues has shown us that, even in the moral realms of justice, fortitude, and temperance, properly Christian activity is radically distinct from non-Christian virtuous action. Through Baptism, all Christians have the ability, like the heroes and divine men of old, to act in ways that transcend ordinary human perfection.

But certainly there are outstanding Christians, living Saints, who exhibit more clearly and profoundly the divine virtues of faith, hope and love. They are Christian heroes. In fact, the process for beatification or canonization includes an investigation into the person's life to determine that they lived a life of heroic virtue. Do they possess virtues differing in kind from ordinary Christians?

In order to answer this question, it will be fruitful to consider what Thomas gleans from another pagan philosophic tradition that considered different levels of virtue, that of the Neo-platonists. Macrobius, a late Roman encyclopediast who was responsible for much of the transmission of Neo-platonic doctrine to the medieval West, distinguished four grades of

counsels. Similarly, infused justice leads one to imitate the mercy and liberality of the God "who causes His sun to shine on the just and the unjust."

Even Christian prudence shares in the divine. The key to good practical judgment is the ability to forecast the outcomes of various proposed courses of action. "Will this course of action attain the desired end? With what defects, or with what unwanted consequences?" Since human actions are particular and contingent, they are not readily conformable to the intellect's universal mode. Therefore prudential judgment must be exercised through experience, which gives an idea of what will happen in circumstances similar to those that have occurred in the past. Yet man cannot with certainty determine how a particular course of action will turn out, for experience will sometimes fail as a guide. Thus prudential judgment can only be probable and is always subject to uncertainty. Infused prudence gives certainty that a proposed course of action will achieve its end, without consequences that would obviate the good attained. The Christian, intimately united to God, shares in the certainty proper to God, "to whom it belongs to foresee the outcome of events certainly."

virtue: the political, the purgatorial, those of the purged spirit and the exemplar or divine. Thomas considers these four levels of virtue in the last article of his question on the cardinal virtues. Thomas sees Macrobius as building on Aristotle's distinction between the political and philosophical lives. As we saw above, Aristotle put heroic virtue aside as not pertaining to human virtue, but later exhorted his readers to devote themselves to living a divine life instead. The ordinary man finds his fulfillment and his virtue within the city, but the philosophic spirit strives to attain to the divine as much as possible.

Thomas first states that divine virtues are not attainable by men, but refer to the exemplars of the cardinal virtues in God Himself—His prudence, temperance, fortitude, and justice. Thomas then distinguishes the political virtues by saying they perfect human nature as such, for the political life represents the culmination of human activity.

And because man is by nature a political animal, virtues of this kind, insofar as they exist in man according to the condition of his nature, are called political, insofar, that is, as man through these virtues has a correct moral stance in human affairs he must undertake.¹⁸

But Aristotle and Scripture exhort us to strive to imitate the divine virtues as much as possible. For this man needs higher virtues, which are the purgatorial virtues and the virtues of the purged spirit.

But because it pertains to man that he also draw himself to the divine as much as he can, as the Philosopher also says in the tenth book of the *Ethics*, and as Sacred

18 I-II, q. 61, a. 5; p. 805: "Et quia homo secundum suam naturam est animal politicum, virtutes huiusmodi, prout in homine existunt secundum conditionem suae naturae, politicae vocantur: prout scilicet homo secundum has virtutes recte se habet in rebus humanis gerendis."

HEROIC VIRTUE AND THE INFUSED VIRTUES

Scripture frequently urges us . . . it is necessary to posit certain virtues midway between the political, which are human virtues, and the exemplar, which are divine virtues.¹⁹

The purgatorial virtues lead man to strive to become as like God as possible, while those who have already attained this likeness exercise the virtues of the purged soul. Thomas gives brief indications of what each of the cardinal virtues produces in each of these stages. For example, for the one climbing towards the divine, fortitude prevents the soul from being frightened by its flight from the body and its needs (“propter excessum a corpore”), while the purged soul does not experience (“ignoret”) such passions at all.²⁰ The latter belong only to a few of the most perfect in this life, and especially to the blessed in heaven.

There are certain virtues of those going towards and tending into the divine similitude, and these are called the purgatorial virtues. . . But there are certain virtues of those now attaining the divine similitude, which are called the virtues of the now purged spirit. . . These virtues indeed we say belong to the blessed, or to those who are in this life most perfect.²¹

19 Ibid.: “Sed quia ad hominem pertinet ut etiam ad divina se trahat quantum potest, ut etiam Philosophus dicit, in X *Ethic.*; et hoc nobis in sacra Scriptura multipliciter commendatur . . . necesse est ponere quasdam virtutes medias inter politicas, quae sunt virtutes humanae, et exemplares, quae sunt virtutes divinae.”

20 Perhaps Plato exemplifies this distinction in the *Apology*, *Crito*, and *Phaedo*. Socrates’ peaceful renunciation of his life exemplified the virtues of the purged soul, while the devotion and struggles of those attached to him (*Crito*, *Plato*, *Simmias*, and *Cebes* come to mind) showed the strength and limitations of the purgatorial virtues.

21 Ibid.: “Quaedam sunt virtutes transeuntium et in divinam similitudinem tendentium: et hae vocantur virtutes purgatoriae. . . Quaedam vero sunt virtutes iam assequentium divinam similitudinem: quae vocantur virtutes iam purgati animi. . . Quas quidem virtutes dicimus esse beatorum, vel aliquorum in hac vita perfectissimorum.”

Thus Thomas holds that the purgatorial and purged levels of activity differ specifically from the natural, acquired political virtues. For the non-Christian, since they are perfections corresponding to different natures (the human, the becoming-God-like, and the God-like), they are different kinds of virtue. But are they also for the Christian? Since we have already seen that the theological virtues and the infused moral virtues are essentially divine, the infused moral virtues must not be essentially distinct from the purgatorial virtues or the virtues of the purged soul. Although these latter two exceed in species the acquired, politically-oriented moral virtues, they are stages, albeit the most perfect stages, of the infused moral virtues.

That this is Thomas's view is driven home if we consider the placement of the article on the Macrobian division in the context of Thomas's whole treatment of the virtues in the *prima secundae*. Thomas begins with a discussion of habits and virtue, and then discusses in a general way the distinctions among the virtues. He first treats the intellectual virtues, then the moral virtues. This is followed by questions on the theological virtues, the infused moral virtues and the gifts of the Holy Spirit. The article we have been considering on the Macrobian division can be considered a climax of the treatment of the intellectual and moral virtues, revealing that the best of the pagans wanted much more than could be attained in even the most excellent merely human life. This is the perfect prelude to the introduction of the theological virtues, which make possible the realization of that desire. In the article, after noting that the political virtues are the culmination of a life suitable to human nature, Thomas adds, almost as a footnote, that his treatment of the virtues to this point has been only about these political virtues.

Up to this point we have spoken of virtues in this mode.²²

“Up to this point” in his discussion of the moral virtues, he has limited himself to what we can best understand, the natural/political virtues, the cardinal virtues particularly. But this article introduces the notion of certain divine virtues. For Macrobius, these can only be exemplars, which only few will ever try to imitate. But the theological virtues are a real participation in the exemplar virtues themselves, and consequently the infused moral virtues order the Christian to living a divine life. From this point through the rest of the *secunda pars*, Thomas will treat the infused virtues primarily, discussing the acquired virtues only at particular times.

In the *tertia pars*, also, Thomas indicates that the heroic virtues are only stages of the infused virtues. In answering the question whether Christ had virtue, Thomas faces the difficulty that, since Christ had heroic virtue, which is specifically distinct from ordinary virtue, “he did not have virtue, but something higher than virtue.” In reply, he equates heroic virtue and the virtue of the purged spirit, both of which are merely the most perfect stages of infused virtue.

That heroic or divine habit only differs from virtue commonly said according to a more perfect mode. . . Whence through this it is not shown that Christ did not have the virtues: but that he had them most perfectly, beyond the common mode. As also Plotinus posited a certain sublime mode of the virtues, which he said “belonged to the purged spirit.”²³

22 Ibid.: “Secundum quem modum hactenus de his virtutibus locuti sumus.” Later, in his discussion of the relation of the moral virtues to charity (I-II, q. 65, a. 2), Thomas claims that the infused moral virtues, because of their relation to charity and the final, eternal happiness of man, are virtues in the fullest sense, while the acquired, politically oriented virtues, are virtues only in a certain respect, being ordered to a certain inferior and secondary end.

23 III, q. 7, a. 2, ad 2; p. 2466b: “Habitus ille heroicus vel divinus non differt

What follows from all this is that, while pagan heroes and god-like men were operating on a different plane from ordinary virtuous men, Christian heroes are merely fulfilling the potential that every Christian has as his (re-)birthright.

This position does not deny that saints perform deeds of charity that are radically different and more perfect than acts of the ordinary Christian. Thomas makes this clear in the *De virtutibus cardinalibus*, a disputed question from around the time of the *secunda pars*. In discussing whether the cardinal virtues remain in heaven, Thomas raises a difficulty arising from the Macrobian division. The virtues of the purged spirit belong to the blessed in heaven, but the political virtues, which we use now, will not remain.

Further, according to Plotinus, as Macrobius relates, the virtues of the purged spirit are one reality and the political virtues another. But the virtues of the purged spirit especially seem to be virtues that are in heaven; but the virtues that are here, are the political virtues. Therefore the virtues that are here do not remain, but fade away.²⁴

In his response, Thomas maintains that specifically different acts may come forth from the same virtue if they are stages in relation to a common end. He brings in the art of building as an example, which, although one habit, produces many different acts all ordered towards the production of a house.

a virtute communiter dicta nisi secundum perfectiorem modum. . . Unde per hoc non ostenditur quod Christus non habuit virtutes: sed quod habuit eas perfectissime, ultra communem modum. Sicut etiam Plotinus posuit quendam sublimem modum virtutum, quas esse dixit 'purgati animi.'

24 *De virt. card.*, a. 4, obj. 7; p. 825: "Praeterea, secundum Plotinum, ut Macrobius refert, aliae sunt virtutes purgati animi, et aliae virtutes politicae. Sed virtutes purgati animi maxime videntur esse virtutes quae sunt in patria; virtutes autem quae sunt hic, sunt virtutes politicae. Ergo virtutes quae sunt hic, non manent, sed evacuantur."

HEROIC VIRTUE AND THE INFUSED VIRTUES

And we can take building as an example of this; in it the ultimate term is the complete form of the house. Yet other ultimates can be taken according to the complexion of each of the parts of the house. Whence . . . laying the foundation of the house is one species of motion, . . . the erection of the columns another. . . Yet nevertheless the building art is one and the same.²⁵

On the other hand, if the ends of the acts differ specifically, then the habits must also.

But where the ultimate attained by virtue is neither in the same species nor is contained under the same series of motion, there must be a difference in species not only in the act of virtue, but also in the virtue itself.²⁶

Granting that the moral acts of the blessed differ specifically from those found in this life, if the latter are ordered to the former, then they proceed from one habit, which in heaven attains its greatest perfection. But if the acts in this life are not ordered to heavenly acts, then they proceed from diverse habits, and the habits of this life do not remain. Thus the acquired moral virtues, which are ordered simply to the political life, cease to exist at death. But the infused virtues that we exercise now remain in heaven.

But it is manifest that the acquired virtues, of which the philosophers spoke, are ordered only to perfecting men in the civil life, not insofar as they are ordered to

25 Ibid., p. 826: "Et huius exemplum accipere possumus in aedificatione, in qua ultimus terminus est forma domus completa; possunt tamen alia ultima accipi secundum complexionem singularum partium domus; unde . . . alius specie motus est fundatio domus. . . et alia columanarum erecti . . . sed tamen ars aedificatoria est una et eadem."

26 Ibid.: "Ubi vero ultimum quod attingit virtus, nec est in eadem specie, nec sub eadem serie motus continetur, oportet quod sit differentia secundum speciem non solum in actu virtutis, sed etiam in ipsa virtute."

obtaining heavenly glory. And therefore they posited that these sorts of virtues do not remain after this life. . . . But the cardinal virtues, insofar as they are gratuitous and infused, which is how we now speak of them, perfect man in the present life in order to heavenly glory. And therefore it is necessary to say that the habits of these virtues are the same here and there. But the acts are different.²⁷

Plotinus, then, considering the political virtues in the natural order, spoke well in saying that the higher virtues are specifically distinct, although for Christian virtue they are only stages of a natural progression.

To the seventh it must be said that the virtues of the purged spirit, which Plotinus defines, can be suitable to the blessed. . . . But the political virtues concerning which he speaks are ordered to the civil good of the present life.²⁸

As we have seen implicitly in the *Summa* and explicitly in the contemporary *De virtutibus cardinalibus*, heroic virtue in the Christian sense refers to the highest stage of the development of the infused virtues, rather than an essentially different kind of virtue. All Christians have within them the seeds of heroic sanctity.

27 Ibid.; p. 827: "Manifestum est autem quod virtutes acquisitae, de quibus locuti sunt philosophi, ordinantur tantum ad perficiendum homines in vita civili, non secundum quod ordinantur ad caelestem gloriam consequendam. Et ideo posuerunt, quod huiusmodi virtutes non manent post hanc vitam. . . . Sed virtutes cardinales, secundum quod sunt gratuita et infusae, prout de eis nunc loquimur, perficiunt hominem in vita praesenti in ordine ad caelestem gloriam. Et ideo necesse est dicere, quod sit idem habitus harum virtutum hic et ibi; sed quod actus sunt differentes."

28 Ibid., ad 7: "Ad septimum dicendum, quod virtutes purgati animi, quas Plotinus difinebat, possunt convenire beatis. . . . Sed virtutes politicae de quibus ipse loquitur, ordinantur ad bonum civile praesentis vitae."

The Infused Virtues and the Gifts of the Holy Spirit

Properly Christian activity is “heroic” in the sense that it transcends the human and partakes of the divine. All Christians receive through Baptism the principles necessary to act in such a way, and even to attain the heights of sanctity. This is made possible by the grace that transforms the very essence of the soul, which lies behind all our powers, and makes us sons of God by grace, “sharers in the divine nature.” And yet, we remain human, with all of man’s natural and fallen imperfections of body and soul. How can we possibly live the divine life to which we are called?

In T. H. White’s, *The Sword in the Stone*, the young Arthur finds himself under the tutelage of Merlin, who sees fit to further Arthur’s education by transforming him into a number of different creatures. Arthur, of course, has all the powers of the animal he has become, but none of the instincts. He cannot use the powers adequately, and finds himself in great danger. Fortunately, Merlin, who knows his way around and inside a creature or two, is there to tutor him, supplying for the instincts Arthur lacks.

Something like that occurs with Christians. Though we have become a new creation, we do not have the instincts to use our new powers properly. Thankfully, the Holy Spirit supplies for our deficiencies, continually working to give us the instincts that are proper to Him alone. We become receptive to these instincts through the gifts of the Holy Spirit: counsel, piety, fortitude, fear of the Lord, knowledge, understanding, and wisdom.

Thomas explains that these seven gifts are so necessary for the Christian that without them he cannot attain salvation. For, although the infused virtues, both theological and moral, are more perfect than the natural virtues, we are much more comfortable with the latter. The former we can only possess imperfectly, for they belong properly to God.

Now, human reason is perfected in two ways by God. First, indeed, with a natural perfection, according to the natural light of reason; in another way, with a certain supernatural perfection through the theological virtues, as has been said above. And although this second perfection is greater than the first, man has the first in a more perfect manner than the second. For he has the first, as it were, as a full possession, but he has the second as an imperfect possession, for we know and love God imperfectly.²⁹

In this situation, the Christian cannot act according to the infused virtues without the impulse, instinct, guidance of the Holy Spirit.

But what has some nature or form or virtue imperfectly can only operate *per se* [through himself] if he is moved by another. Just as the sun, because it is perfectly luminous, can illuminate through itself; but the moon, in which the nature of light is found imperfectly, can only illumine if it is illuminated. Also, a doctor, who perfectly knows the art of medicine, can work *per se*, but his student, who is not yet fully instructed, can only work *per se* if he is instructed by the doctor.³⁰

29 I-II, q. 68, a. 2: "Ratio autem hominis est perfecta dupliciter a Deo: primo quidem, naturali perfectione, scilicet secundum lumen naturale rationis; alio modo, quadam supernaturali perfectione, per virtutes theologicas, ut dictum est supra. Et quamvis haec secunda perfectio sit maior quam prima, tamen prima perfectiori modo habetur ab homine quam secunda: nam prima habetur ab homine quasi plena possessio, secunda autem habetur quasi imperfecta; imperfecte enim diligimus et cognoscimus Deum." See I-II, q. 110, a. 2.

30 Ibid.: "Sed id quod imperfecte habet naturam aliquam vel formam aut virtutem, non potest per se operari, nisi ab altero moveatur. Sicut sol, quia est perfecte lucidus, per seipsum potest illuminare: luna autem, in qua est imperfecte natura lucis, non illuminat nisi illuminata. Medicus etiam, qui perfecte novit artem medicinae, potest per se operari: sed discipulus eius, qui nondum est plene instructus, non potest per se operari, nisi ab eo instruat."?

HEROIC VIRTUE AND THE INFUSED VIRTUES

The medical student or intern has learned some of the techniques of the physician, but his knowledge has holes, the unpracticed techniques are still crude, and he lacks the necessary experience to bridge the gap between textbook and real life. However, under the tutelage of an experienced physician, he is able to cure people. So without the gifts of the Holy Spirit, we fail to live according to the infused virtues; but with the guidance of the Holy Spirit, we can truly live out, in some real way, the divine command: “Be perfect as your Heavenly Father is perfect.”

INDICES OF *THE AQUINAS REVIEW*,
VOLUMES 1-23 (1994–2020)

Organized by General Topic

THEOLOGY

Scriptural Studies

- “A Thomistic Defense of the Traditional Understanding of the Presence of Christ in the Old Testament,” Sebastian Walshe, *O.Praem.*, vol. 14 (2007): 133-209.
- “Joseph, the Gentiles, and the Messiah,” Christopher A. Decaen, vol. 22 (2017-2018): 83-130.
- “Moses, Elijah, and the Garden of Eden,” James Leon Holmes, vol. 7 (2000): 43-73.
- “On Scripture in the *Summa Theologiae*,” Michael M. Waldstein, vol. 1 (1994): 73-94.
- “On the Inerrancy of Scripture,” David P. Bolin, vol. 8 (2001): 23-178.
- “Solomon and Elijah,” James Leon Holmes, vol. 3 (1996): 1-79.
- “The Concept of the Abyss in the Book of Revelation,” James Leon Holmes, vol. 11 (2004): 135-170.
- “The Jesus(s) of the Old Testament,” Christopher A. Decaen, vol. 18 (2011-2012): 35-103.
- “The Sin of Moses,” Steven R. Cain, vol. 15 (2008): 27-42.

Moral Theology

- “Aristotle’s God and Christian Ethics,” Joan Kingsland, vol. 17 (2010): 95-102.
- “*Fidelissimus Discipulus Ejus*: Charles De Koninck’s Exposition of Aquinas’ Doctrine of the Common Good,” Sebastian Walshe, *O.Praem.*, vol. 19 (2013-2014): 1-21.

- “Heroic Virtue and the Infused Virtues,” Andrew T. Seeley, vol. 23 (2019-2020): 205-226.
- “In Defense of Maritain,” I. Th. Eschmann, vol. 4 (1997): 133-169.
- “In Defense of Saint Thomas,” Charles De Koninck, vol. 4 (1997): 171-349.
- “On the Primacy of the Common Good: Against the Personalists,” and “The Principle of the New Order,” Charles De Koninck, vol. 4 (1997): 1-131.
- “The Nine Commandments: The Decalogue and the Natural Law,” Kevin G. Long, vol. 3 (1996): 137-152.

Faith and Reason

- “A House Built on Rock: The Need for the Sense of Touch in Theology,” John W. Neumayr, vol. 8 (2001): 1-22.
- “Can the University Survive without the Faith?” John W. Neumayr, vol. 2 (1995): 1-29.
- “Faith Seeking Understanding,” John W. Neumayr, vol. 20 (2015): 25-37.
- “In Defense of Cephalus,” James Leon Holmes, vol. 13 (2006): 37-51.
- “Intellectual Custom and the Study of St. Thomas,” Ronald P. McArthur, vol. 20 (2015): 1-23.
- “Learning and Discipleship,” Marcus R. Berquist, vol. 6 (1999), 1-51.
- “The Necessity of Faith,” A Monk of the Most Holy Trinity Monastery, vol. 6 (1999): 53-76.
- “This is a Hard Saying,” Charles De Koninck, vol. 1 (1994): 105-111.

Natural Theology

- “Exemplary Causality in the First Being,” Rebecca Loop, vol. 5 (1998): 70-89.
- “St. Thomas and the Argument of the *Proslogion*,” Anthony Andres, vol. 6 (1999): 109-128.

- “The Creator in Aristotle’s *Metaphysics*,” Michael Augros, vol. 17 (2010): 71-94.
- “The Proof of the First Mover in *Physics* VII, 1,” Marcus R. Berquist, vol. 17 (2010): 44-70.
- “Twelve Questions about the ‘Fourth Way,’” Michael Augros, vol. 12 (2005): 1-35.
- “Would Aristotle Agree with St. John that ‘God is Love?’” Marie I. George, vol. 17 (2010): 1-43.

General

- “A Meditation on Evil,” James V. Schall, S.J., vol. 7 (2000): 25-41.
- “A Note on Naming God,” R. Glen Coughlin, vol. 14 (2007): 1-22.
- “Beauty Visible and Divine,” Robert Augros, vol. 11 (2004): 85-134.
- “I No Longer Call You Servants But Friends: Charity and Divinization According to St. Thomas Aquinas,” R. Glen Coughlin, vol. 21 (2106): 117-158.
- “In Defense of God’s Power to Satisfy the Human Heart,” Michael Augros, vol. 16 (2009): 37-73.
- “On Intellectualism and the Beatific Vision,” Peter A. Kwasniewski, vol. 23 (2019-2020): 189-203.
- “Predestination: Some Questions and Misconceptions,” Sebastian Walshe, O.Praem, vol. 15 (2008): 89-103.
- “The Inseparability of Freedom, Goodness, and Final End in Saint Thomas,” Peter A. Kwasniewski, vol. 5 (1998): 50-69.
- “The Most Blessed of Sacraments,” Thomas A. McGovern, S.J., vol. 1 (1994): 97-104.
- “The Mystery of Faith,” John W. Neumayr, vol. 12 (2005): 59-77.
- “The Wondrous Learning of Blessed Thomas,” Thomas A. McGovern, S.J., vol. 6 (1999): 129-132.

PHILOSOPHY

Metaphysics

- “Beauty Visible and Divine,” Robert Augros, vol. 11 (2004): 85-134.
- “Cutting the Infinite Down to Size,” Marcus R. Berquist, vol. 14 (2007): 99-108.
- “Exemplary Causality in the First Being,” Rebecca Loop, vol. 5 (1998): 70-89.
- “On the Essential Objectivity of Knowledge,” John Francis Nieto, vol. 16 (2009): 75-113.
- “St. Thomas and the Argument of the *Proslogion*,” Anthony Andres, vol. 6 (1999): 109-128.
- “The Achievement and Limitation in Aristotle’s Appreciation of God’s Transcendence,” John Francis Nieto, vol. 17 (2010): 103-126.
- “The Axiomatic Character of the Principle that the Common Good is Preferable to the Private Good,” John Francis Nieto, vol. 14 (2007): 109-132.
- “The Creator in Aristotle’s *Metaphysics*,” Michael Augros, vol. 17 (2010): 71-94.
- “The First Two Meanings of Substance and Their Origins in Human Knowledge,” Sebastian Walshe, O.Praem., vol. 22 (2017-2018): 51-81.
- “The Immateriality of the Intelligence,” Richard J. Connell, vol. 5 (1998): 41-49.
- “The Metaphysical Analysis of the Beautiful and the Ugly,” Robert E. McCall, S.S.J., vol. 3 (1996): 119-133.
- “The *Phaedo* on the Body as ‘A Kind of Prison,’” Christopher Oleson, vol. 18 (2011-2012): 105-127.
- “The Place of Metaphysics in the Order of Learning,” Michael Augros, vol. 14 (2007): 23-61.
- “The Science of Truth and the Perfection of the Knower: A Reflection on Aristotle’s *Metaphysics* II,” Christopher O. Blum, vol. 19 (2013-2014): 109-120.

- “The Truth of Aristotle’s Theology,” Duane H. Berquist, vol. 17 (2010): 127-149.
- “Twelve Questions about the ‘Fourth Way,’” Michael Augros, vol. 12 (2005): 1-35.
- “Where Aristotle Agrees with Plato About Participation,” John Francis Nieto, vol. 21 (2016): 31-116.
- “William of Ockham and the Metaphysical Roots of the Natural Law,” Peter A. Kwasniewski, vol. 11 (2004): 1-84.
- “Without Aristotle’s Sun, Are There Any Equivocal Causes besides God?” Christopher A. Decaen, vol. 19 (2013-2014): 79-107.
- “Would Aristotle Agree with St. John that ‘God is Love?’” Marie I. George, vol. 17 (2010): 1-43.

Natural Philosophy

- “Animals, Inertia, and the Concept of Force,” Sean Collins, vol. 15 (2008): 63-85.
- “Aristotle and Galileo Reconciled,” Ronald J. Richard, vol. 20 (2015): 53-65.
- “Finality in Nature in Aristotle’s *Physics* II, Chapter 8,” Marcus R. Berquist, vol. 14 (2007): 63-98.
- “Introduction to the Study of the Soul,” Charles De Koninck, vol. 23 (2019-2020): 1-99.
- “Is DNA the Soul?” Thomas J. Kaiser, vol. 20 (2015): 67-96.
- “Modern Confusions about the Final Cause,” Arthur M. Hippler, vol. 2 (1995): 45-58.
- “Neuroscience and the Human Soul,” Marie I. George, vol. 23 (2019-2020): 123-152.
- “Some Considerations on Aristotelian Place and Newtonian Space,” R. Glen Coughlin, vol. 1 (1994): 1-47.
- “Something from Nothing This Way Comes,” Thomas J. Kaiser, vol. 18 (2011-2012): 1-33.
- “The Existence and Nature of Time,” R. Glen Coughlin, vol. 16 (2009): 1-36.

- “The Ground and Properties of Time,” R. Glen Coughlin, vol. 19 (2013-2014): 23-78.
- “The Immateriality of the Intelligence,” Richard J. Connell, vol. 5 (1998): 41-49.
- “The *Phaedo* on the Body as ‘A Kind of Prison,’” Christopher Oleson, vol. 18 (2011-2012): 105-127.
- “The Proof of the First Mover in *Physics* VII, 1,” Marcus R. Berquist, vol. 17 (2010): 44-70.
- “Thomas Aquinas Meets Nim Chimpsky: On the Debate about Human Nature and the Nature of Other Animals,” Marie George, vol. 10 (2003): 1-50.
- “Three Notes on the Distinction between Chance and Luck,” John Francis Nieto, vol. 10 (2003): 111-127.
- “Whether Darwinian Evolution is Possible,” Thomas J. Kaiser, vol. 13 (2006): 1-35.
- “Without Aristotle’s Sun, Are There Any Equivocal Causes besides God?” Christopher A. Decaen, vol. 19 (2013-2014): 79-107.

Ethics and Political Philosophy

- “Aquinas and the Historical Roots of Proportionalism,” Thomas A. Cavanaugh, vol. 2 (1995): 31-44.
- “Ethics: Aristotle and Kant,” Thomas J. Slakey, vol. 7 (2000): 1-24.
- “*Fidelissimus Discipulus Ejus*: Charles De Koninck’s Exposition of Aquinas’ Doctrine of the Common Good,” Sebastian Walshe, O. Praem., vol. 19 (2013-2014): 1-21.
- “Friendship and the Common Good,” Gregory Froelich, vol. 12 (2005): 37-58.
- “From Valley Forge to Appomattox: George Washington and the Formation of the American Nation,” James Leon Holmes, vol. 23 (2019-2020): 153-188.
- “In Defense of Maritain,” I. Th. Eschmann, vol. 4 (1997): 133-169.

- “In Defense of Saint Thomas,” Charles De Koninck, vol. 4 (1997): 171-349.
- “Liberal Education and Citizenship,” Peter L. DeLuca III, vol. 20 (2015): 39-51.
- “On the Common Goods,” Gregory Froelich, vol. 15 (2008): 1-26.
- “On the Primacy of the Common Good: Against the Personalists,” and “The Principle of the New Order,” Charles De Koninck, vol. 4 (1997): 1-131.
- “St. Thomas Aquinas on the Family and the Political Common Good,” John J. Goyette, vol. 22 (2017-2018): 21-49.
- “The Natural Law: A Perennial Problem,” Ronald P. McArthur, vol. 21 (2016): 1-29.
- “William of Ockham and the Metaphysical Roots of the Natural Law,” Peter A. Kwasniewski, vol. 11 (2004): 1-84.

Logic

- “Aristotle and the Conventional Logicians on the Fourth Figure,” Anthony Andres, vol. 10 (2003): 89-110.
- “The Heritage of Analytical Philosophy,” Sean Collins, vol. 10 (2003): 51-88.
- “The Place of Conversion in Aristotelian Logic,” Anthony Andres, vol. 7 (2000): 75-91.

General

- “A Response to the Scandal of Disagreement,” Robert M. Augros, vol. 23 (2019-2020): 101-122.
- “Inquiry and Insight,” Thomas J. Slakey, vol. 5 (1998): 90-105.
- “Know Thyself,” Michael A. Augros, vol. 6 (1999): 77-107.
- “Misology: The Hatred of Argument and the Life of the Intellect,” John Francis Nieto, vol. 9 (2002): 1-29.
- “On the Nature of ‘On the Nature of Things’: Lucretius’ Philosophical Poetry,” Richard D. Ferrier, vol. 1 (1994): 49-71.

“The Science of Truth and the Perfection of the Knower: A Reflection on Aristotle’s *Metaphysics* II,” Christopher O. Blum, vol. 19 (2013-2014): 109-120.

NATURAL SCIENCE

“Animals, Inertia, and the Concept of Force,” Sean Collins, vol. 15 (2008): 63-85.

“Aristotle and Galileo Reconciled,” Ronald J. Richard, vol. 20 (2015): 53-65.

“Concerning the Third and Fourth Definitions and the First Law in Newton’s *Principia*,” Marcus R. Berquist, vol. 2 (1995): 61-67.

“Cutting the Infinite Down to Size,” Marcus R. Berquist, vol. 14 (2007): 99-108.

“Introduction to the Study of the Soul,” Charles De Koninck, vol. 23 (2019-2020): 1-99.

“Is DNA the Soul?” Thomas J. Kaiser, vol. 20 (2015): 67-96.

“Finality in Nature in Aristotle’s *Physics* II, Chapter 8,” Marcus R. Berquist, vol. 14 (2007): 63-98.

“Modern Confusions about the Final Cause,” Arthur M. Hippler, vol. 2 (1995): 45-58.

“Neuroscience and the Human Soul,” Marie I. George, vol. 23 (2019-2020): 123-152.

“Some Considerations on Aristotelian Place and Newtonian Space,” R. Glen Coughlin, vol. 1 (1994): 1-47.

“The Existence and Nature of Time,” R. Glen Coughlin, vol. 16 (2009): 1-36.

“The Ground and Properties of Time,” R. Glen Coughlin, vol. 19 (2013-2014): 23-78.

“The Physician: A Normative Artist,” Herbert Ratner, M.D., vol. 2 (1995): 77-82.

“Thomas Aquinas Meets Nim Chimpsky: On the Debate about Human Nature and the Nature of Other Animals,” Marie George, vol. 10 (2003): 1-50.

- “What Goes Around Comes Around: Elements and Elementary Particles,” Carol A. Day, vol. 13 (2006): 53-79.
- “Whether Darwinian Evolution is Possible,” Thomas J. Kaiser, vol. 13 (2006): 1-35.
- “William Harvey, M.D.: Modern or Ancient Scientist?” Herbert Ratner, vol. 3 (1996): 81-117.

MATHEMATICS

- “A Note on Proposition I, 41 of Apollonius’ *On Conic Sections*,” Carol A. Day, vol. 2 (1995): 69-76.
- “Cutting the Infinite Down to Size,” Marcus R. Berquist, vol. 14 (2007): 99-108.
- “Definition in Geometry,” Kevin G. Long, vol. 9 (2002): 31-110.
- “Mathematical Intuitionism and the Law of Excluded Middle,” Jean W. Rioux, vol. 8 (2001): 179-196.
- “Same Ratio: From Intuition to Euclid’s Definition,” Michael Augros, vol. 22 (2017-2018): 1-19.
- “The Beauty of Reasoning: Considerations on Book V of Euclid’s *Elements*,” Christopher O. Blum, vol. 15 (2008): 43-62.
- “What is a Limit?” John Francis Nieto, vol. 13 (2006): 81-92.

SEMINAR

- “Ethics: Aristotle and Kant,” Thomas J. Slakey, vol. 7 (2000): 1-24.
- “From Valley Forge to Appomattox: George Washington and the Formation of the American Nation,” James Leon Holmes, vol. 23 (2019-2020): 153-188.
- “Hamlet: Shakespeare’s Christian Hero,” Jeffrey M. Bond, vol. 8 (2001): 197-231.
- “History and Liberal Education,” R. Glen Coughlin, vol. 5 (1998): 1-40.
- “On the Nature of ‘On the Nature of Things’: Lucretius’ Philosophical Poetry,” Richard D. Ferrier, vol. 1 (1994): 49-71.

“The Historical Don Quixote,” Christopher A. Decaen, vol. 9
(2002): 111-159.

LANGUAGE

- “A Note on Naming God,” R. Glen Coughlin, vol. 14 (2007):
1-22.
“Three and a Half Notes on Grammar,” Kevin G. Long, vol. 18
(2011-2012): 129-156.

AUTHOR INDEX

- Andres, Anthony, “Aristotle and the Conventional Logicians on
the Fourth Figure,” vol. 10 (2003): 89-110.
_____, “St. Thomas and the Argument of the *Proslogion*,”
vol. 6 (1999): 109-128.
_____, “The Place of Conversion in Aristotelian Logic,” vol.
7 (2000): 75-91.
Augros, Michael, “In Defense of God’s Power to Satisfy the
Human Heart,” vol. 16 (2009): 37-73.
_____, “Know Thyself,” vol. 6 (1999): 77-107.
_____, “Same Ratio: From Intuition to Euclid’s Definition,”
vol. 22 (2017-2018): 1-19.
_____, “The Creator in Aristotle’s *Metaphysics*,” vol. 17
(2010): 71-94.
_____, “The Place of Metaphysics in the Order of
Learning,” vol. 14 (2007): 23-61.
_____, “Twelve Questions About the ‘Fourth Way,’” vol. 12
(2005): 1-35.
Augros, Robert, “A Response to the Scandal of Disagreement,”
vol. 23 (2019-2020): 101-122.
_____, “Beauty Visible and Divine,” vol. 11 (2004): 85-134.
Berquist, Duane H., “The Truth of Aristotle’s Theology,” vol. 17
(2010): 127-149.

- Berquist, Marcus R., "Concerning the Third and Fourth Definitions and the First Law in Newton's *Principia*," vol. 2 (1995): 61-67.
- _____, "Cutting the Infinite Down to Size," vol. 14 (2007): 99-108.
- _____, "Finality in Nature in Aristotle's *Physics* II, Chapter 8," vol. 14 (2007): 63-98.
- _____, "Learning and Discipleship," vol. 6 (1999), 1-51.
- _____, "The Proof of the First Mover in *Physics* VII, 1," vol. 17 (2010): 44-70.
- Blum, Christopher O., "The Beauty of Reasoning: Considerations on Book V of Euclid's *Elements*," vol. 15 (2008): 43-62.
- _____, "The Science of Truth and the Perfection of the Knower: A Reflection on Aristotle's *Metaphysics* II," vol. 19 (2013-2014): 109-120.
- Bolin, David P., "On the Inerrancy of Scripture," vol. 8 (2001): 23-178.
- Bond, Jeffrey M., "Hamlet: Shakespeare's Christian Hero," vol. 8 (2001): 197-231.
- Cain, Steven R., "The Sin of Moses," vol. 15 (2008): 27-42.
- Cavanaugh, Thomas A., "Aquinas and the Historical Roots of Proportionalism," vol. 2 (1995): 31-44.
- Collins, Sean, "Animals, Inertia, and the Concept of Force," vol. 15 (2008): 63-85.
- _____, "The Heritage of Analytical Philosophy," vol. 10 (2003): 51-88.
- Connell, Richard J., "The Immateriality of the Intelligence," vol. 5 (1998): 41-49.
- Coughlin, R. Glen, "A Note on Naming God," vol. 14 (2007): 1-22.
- _____, "History and Liberal Education," vol. 5 (1998): 1-40.
- _____, "I No Longer Call You Servants But Friends: Charity and Divinization According to St. Thomas Aquinas," vol. 21 (2106): 117-158.

- _____, "Some Considerations on Aristotelian Place and Newtonian Space," vol. 1 (1994): 1-47.
- _____, "The Existence and Nature of Time," vol. 16 (2009): 1-36.
- _____, "The Ground and Properties of Time," vol. 19 (2013-2014): 23-78.
- Day, Carol A., "A Note on Proposition I, 41 of Apollonius' *On Conic Sections*," vol. 2 (1995): 69-76.
- _____, "What Goes Around Comes Around: Elements and Elementary Particles," vol. 13 (2006): 53-79.
- De Koninck, Charles, "In Defense of Saint Thomas," vol. 4 (1997): 171-349.
- _____, "Introduction to the Study of the Soul," vol. 23 (2019-2020): 1-99.
- _____, "On the Primacy of the Common Good: Against the Personalists," and "The Principle of the New Order," vol. 4 (1997): 1-131.
- _____, "This is a Hard Saying," vol. 1 (1994): 105-111.
- De Luca, Peter L., III, "Liberal Education and Citizenship," vol. 20 (2015): 39-51.
- Decaen, Christopher A., "Joseph, the Gentiles, and the Messiah," vol. 22 (2017-2018): 83-130.
- _____, "The Historical Don Quixote," vol. 9 (2002): 111-159.
- _____, "The Jesus(s) of the Old Testament," vol. 18 (2011-2012): 35-103.
- _____, "Without Aristotle's Sun, Are There Any Equivocal Causes Besides God?" vol. 19 (2013-2014): 79-107.
- Eschmann, I. Th., "In Defense of Maritain," vol. 4 (1997): 133-169.
- Ferrier, Richard D., "On the Nature of 'On the Nature of Things': Lucretius' Philosophical Poetry," vol. 1 (1994): 49-71.
- Froelich, Gregory, "Friendship and the Common Good," vol. 12 (2005): 37-58.
- _____, "On the Common Goods," vol. 15 (2008): 1-26.

- George, Marie I., "Neuroscience and the Human Soul," vol. 23 (2019-2020): 123-152.
- _____, "Thomas Aquinas Meets Nim Chimpsky: On the Debate about Human Nature and the Nature of Other Animals," vol. 10 (2003): 1-50.
- _____, "Would Aristotle Agree with St. John that 'God is Love'?" vol. 17 (2010): 1-43.
- Goyette, John J., "St. Thomas Aquinas on the Family and the Political Common Good," vol. 22 (2017-2018): 21-49.
- Hippler, Arthur M., "Modern Confusions about the Final Cause," vol. 2 (1995): 45-58.
- Holmes, James Leon, "From Valley Forge to Appomattox: George Washington and the Formation of the American Nation," vol. 23 (2019-2020): 153-188.
- _____, "In Defense of Cephalus," vol. 13 (2006): 37-51.
- _____, "Moses, Elijah, and the Garden of Eden," vol. 7 (2000): 43-73.
- _____, "Solomon and Elijah," vol. 3 (1996): 1-79.
- _____, "The Concept of the Abyss in the Book of Revelation," vol. 11 (2004): 135-170.
- Kaiser, Thomas J., "Is DNA the Soul?" vol. 20 (2015): 67-96.
- _____, "Something from Nothing This Way Comes," vol. 18 (2011-2012): 1-33.
- _____, "Whether Darwinian Evolution is Possible," vol. 13 (2006): 1-35.
- Kingsland, Joan, "Aristotle's God and Christian Ethics," vol. 17 (2010): 95-102.
- Kwasniewski, Peter A., "On Intellectualism and the Beatific Vision," vol. 23 (2019-2020): 189-203.
- _____, "The Inseparability of Freedom, Goodness, and Final End in Saint Thomas," vol. 5 (1998): 50-69.
- _____, "William of Ockham and the Metaphysical Roots of the Natural Law," vol. 11 (2004): 1-84.
- Long, Kevin G., "Definition in Geometry," vol. 9 (2002): 31-110.

- _____, "The Nine Commandments: The Decalogue and the Natural Law," vol. 3 (1996): 137-152.
- _____, "Three and a Half Notes on Grammar," vol. 18 (2011-2012): 129-156.
- Loop, Rebecca, "Exemplary Causality in the First Being," vol. 5 (1998): 70-89.
- McArthur, Ronald P., "Intellectual Custom and the Study of St. Thomas," vol. 20 (2015): 1-23.
- _____, "The Natural Law: A Perennial Problem," vol. 21 (2016): 1-29.
- McCall, Robert E., S.S.J., "The Metaphysical Analysis of the Beautiful and the Ugly," vol. 3 (1996): 119-133.
- McGovern, Thomas A., S.J., "The Most Blessed of Sacraments," vol. 1 (1994): 97-104.
- _____, "The Wondrous Learning of Blessed Thomas," vol. 6 (1999): 129-132.
- A Monk of the Most Holy Trinity Monastery, "The Necessity of Faith," vol. 6 (1999): 53-76.
- Neumayr, John W., "A House Built on Rock: The Need for the Sense of Touch in Theology," vol. 8 (2001): 1-22.
- _____, "Can the University Survive without the Faith?," vol. 2 (1995): 1-29.
- _____, "Faith Seeking Understanding," vol. 20 (2015): 25-37.
- _____, "The Mystery of Faith," vol. 12 (2005): 59-77.
- Nieto, John Francis, "Misology: The Hatred of Argument and the Life of the Intellect," vol. 9 (2002): 1-29.
- _____, "On the Essential Objectivity of Knowledge," vol. 16 (2009): 75-113.
- _____, "The Achievement and Limitation in Aristotle's Appreciation of God's Transcendence," vol. 17 (2010): 103-126.
- _____, "The Axiomatic Character of the Principle that the Common Good is Preferable to the Private Good," vol. 14 (2007): 109-132.

- _____, “Three Notes on the Distinction between Chance and Luck,” vol. 10 (2003): 111-127.
- _____, “What is a Limit?” vol. 13 (2006): 81-92.
- _____, “Where Aristotle Agrees with Plato About Participation,” vol. 21 (2016): 31-116.
- Oleson, Christopher, “The *Phaedo* on the Body as ‘A Kind of Prison,’” vol. 18 (2011-2012): 105-127.
- Ratner, Herbert, “The Physician: A Normative Artist,” vol. 2 (1995): 77-82.
- _____, “William Harvey, M.D.: Modern or Ancient Scientist?” vol. 3 (1996): 81-117.
- Richard, Ronald J., “Aristotle and Galileo Reconciled,” vol. 20 (2015): 53-65.
- Rioux, Jean W., “Mathematical Intuitionism and the Law of Excluded Middle,” vol. 8 (2001): 179-196.
- Schall, James V., D.J., “A Meditation on Evil,” vol. 7 (2000): 25-41.
- Seeley, Andrew T., “Heroic Virtue and the Infused Virtues,” vol. 23 (2019-2020): 123-152.
- Slakey, Thomas J., “Ethics: Aristotle and Kant,” vol. 7 (2000): 1-24.
- _____, “Inquiry and Insight,” vol. 5 (1998): 90-105.
- Waldstein, Michael M., “On Scripture in the *Summa Theologiae*,” vol. 1 (1994): 73-94.
- Walshe, Sebastian, O.Praem., “A Thomistic Defense of the Traditional Understanding of the Presence of Christ in the Old Testament,” vol. 14 (2007): 133-209.
- _____, “*Fidelissimus Discipulus Ejus*: Charles De Koninck’s Exposition of Aquinas’ Doctrine of the Common Good,” vol. 19 (2013-2014): 1-21.
- _____, “Predestination: Some Questions and Misconceptions,” vol. 15 (2008): 89-103.
- _____, “The First Two Meanings of Substance and Their Origins in Human Knowledge,” vol. 22 (2017-2018): 51-81.

THE AQUINAS REVIEW SUBSCRIPTION FORM

The Aquinas Review is published annually by Thomas Aquinas College.

Access to the complete archive of articles is available free of charge at the website of Thomas Aquinas College.

www.thomasaquinas.edu/review

Subscriptions to the print version are available for \$20.00 per year, \$50.00 for 3 years, or \$80.00 for 5 years. (International subscribers should add \$10 per volume.)

If you would like to receive a print copy, please subscribe on our website; alternatively, you may fill out the information below and mail it with a check to:

Editor, *The Aquinas Review*
Thomas Aquinas College
10,000 Ojai Road
Santa Paula, CA 93060

Name _____

Address _____

Tel. _____

