J. B. S. Haldane and the Thomistic Argument from Motion For the Existence of God

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J.B.S. Haldane and the Thomistic Argument
from Motion for the Existence of God

by

Cletus F. Hartmann, S.J., A.B.

A Thesis Submitted in Partial Fulfilment of the
Requirements for the Degree of Master of Arts in
Loyola University
Chicago, Ill.
June, 1941
l'amor che muove il Sole e l'altre stelle.

(Par. XXXIII, 145)
Vita Auctoris

Cletus Francis Hartmann, S.J., A.B., was born at Bellevue, Ky., August 22, 1912. He received his elementary training at St. Anthony's School, Madisonville, Cincinnati, O., 1918-1919; at St. Joseph's School, Toledo, O., 1919; at St. Michael's School, Toledo, O., 1919-1921; and at St. Charles' School, Toledo, O., 1921-1926. He received his secondary education at St. John's High School, Toledo, O., 1926-1930. He attended St. John's College, Toledo, O., 1933-1936, and De Sales College, Toledo, O., from which he graduated in 1937 with the degree of Bachelor of Arts. He entered the Society of Jesus at Milford, O., in September, 1937. From 1937 to 1939 he was accredited at Xavier University, Cincinnati, O., In September, 1939, he began the study of philosophy at West Baden College, West Baden Springs, Ind., and for his graduate studies was associated with Loyola University, Chicago, Ill., until June, 1941.
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Introduction

Present-day thought outside Scholastic circles is in the main an idolatry of the positive sciences and of the scientific method. This scientism, with its claim for reason and science of the power to explain everything, has generated the anti-intellectualism which constitutes the outstanding trait of modern thought.

The root cause of all the confusion and aberrations of the modern mind is undoubtedly ignorance of the true nature of the intellect. All the anti-intellectualist tirades are directed not against the true intellect, but against a distortion of it by positivistic thinkers and against an exaggerated reason. This is evident from even a cursory reading of the works of contemporary philosophers and scientists. Professor J.B.S. Haldane is a typical example. Sceptic, scoffer at religious dogma and practice, and positivist of the deepest dye, he castigates St. Thomas and his fellow Scholastics for their "faulty logic, bad science, and bad mathematics." Ignoring entirely the metaphysics of Thomistic philosophy, he rejects the proofs for the existence of God, concluding that God's existence cannot be known by human reason.

Professor Haldane may be considered to stand for a large school of modern philosophic thought outside Scholasticism. His attacks on the Quinque Viae of St. Thomas Aquinas are
single examples of the present-day depreciation of the capability of the human reason to attain to truth. In this light, then, the author of this thesis has considered his subject. This will explain the brief introductory chapters to the particular point under discussion, namely, the argument from motion for the existence of God.
CHAPTER I

Modern Contempt for the Theistic Arguments

It is a Catholic doctrine that the existence of God can be rationally proved. Few of your other beliefs are harder to swallow... But even if I believed in your God I should find it extraordinarily difficult to believe that my faith could be rationally grounded.¹

Such is the way that Professor J.B.S. Haldane introduces the reader of Science and the Supernatural to the traditional Quinque Vias of St. Thomas Aquinas. In an exchange of letters with the noted English convert to Catholicism, Arnold Lunn, Professor Hladane showers blow after blow on every spot of the body of Catholic teaching and dogma. Because of his eminent position in British scientific circles he receives a wide hearing, even though the arguments he advances and the attacks he launches are echoes of a century of agnosticism and anti-intellectualism. In fact, the name Haldane may very well stand as a generic one for that period, a period that has tried to show the incompatibility of science and religion, has belittled and even denied the power of the human intellect to attain to truth, and has scoffed at God and everything connected with Him.

That the theistic proofs should share in the contempt which is being heaped upon reason is easily intelligible. In these arguments the mind makes its highest flights, soaring aloft to the invisible throne of Him Who makes Himself known
by the things that are made. Though respecting the antiquity of the traditional arguments for God's existence, contemporary philosophers outside Scholasticism are almost unanimous in proclaiming their inability to demonstrate God's existence.

The ancient arguments for His (God's) existence are more or less discredited; it is agreed that demonstration of God is impossible.2

In recent years theologians were inclined to agree so far that rational arguments could not establish the existence of God.3

There is a consensus of opinion that the arguments are not valid in their present form... As proofs they break down. They suggest probabilities, probabilities of more or less degree, but they carry no conviction to the minds of those who demand cogent logic.4

They have their use, these venerable friends, but it is not that of a logical proof of the Divine existence. They are all attempts (each in its own way) to fill in with content and make definite to ourselves the conception of God, Whose existence is already supposed.5

What He (God) is in Himself and what He is in His relations to the great universal phenomena, that is matter of hypothesis.6

Similar quotations from the works of contemporary philosophers could be multiplied. The reasons for this almost universal prejudice against the theistic arguments are not difficult to find.

It has been said that Kant and Hume by their destructive criticism of the theistic proofs once and for all exposed the fallacies underlying the traditional arguments for God's existence. Kant apodictically states that from the facts of
nature no inference of God is justified, that philosophy took over the idea of God from the concrete religious thought of the past and tried to establish the truth of the divinity by means of abstract logical processes. His conclusion is that the human mind is incapable of finding final proof for God's existence. But, how little Kant was acquainted with the proofs set forth by St. Thomas and almost universally followed by Scholastics, is seen from his inclusion of the ontological argument among the theistic proofs. He gives a good deal of space to its refutation on the score that it involves the metaphysical fallacy of hypostatizing an idea. We cannot find fault with him there, though we do blame him for throwing dust in the eyes of succeeding generations who prefer his version of Thomistic theism to that of the original. That many philosophers followed Kant blindly in this is seen from a quotation from William James:

The bare fact that all idealists since Kant have felt entitled either to scout or to neglect them, shows that they are not solid enough to serve as religion's all-sufficient foundation...not only do post-Kantian idealists reject them root and branch, but it is a plain historic fact that they have never converted anyone.

Many of the moderns are of the opinion that the theistic arguments are inextricably bound up with Aristotelian and medieval science. Haldane takes this for granted, as we shall see. With the destruction of Aristotelian physics goes the necessary rejection of the arguments for God's existence.
The phrase, Prime Mover, warns us that Aristotle's thought was enmeshed in the details of an erroneous physics and an erroneous cosmology. Today we repudiate the Aristotelian physics and the Aristotelian cosmology, so that the exact form of the above argument manifestly fails.

The theistic arguments are said to imply philosophical and scientific conceptions that have lost their meaning and been superseded. Since they depend on principles and mental methods now abandoned, they must be wholly recast, or, preferably, abandoned altogether.

Another preoccupation of modern philosophers is the history of religions and the evolutionary hypothesis, whereby they attempt to reach conclusions prejudicial to the theistic arguments. The history of religions, they contend, proves that theism evolved from polytheism, and that belief in God is independent of the traditional theistic arguments. Moreover, by the time the Scholastics came on the philosophic stage, the idea of theism had fully evolved, so that, ignorant of past history, they thought that the concept of One God was a primitive and permanent possession of the human consciousness. Very recent research among the primitive peoples of Africa and Asia have demonstrated the falsity of the evolution process, and that all peoples have, in some guise or other, an idea of the One God.

The exponents of anthropocentric philosophies reject the theistic arguments because the God they prove can be of no value or service to us. The Deists denied Divine Providence,
asserting that God was so far above this world that He had no concern for it. The humanitarians want comradeship, warmth and blessedness, for which the "bloodless categories of philosophic thought" can never satisfy these vital needs.¹¹

The vast literature of proofs for God's existence, drawn from the order of nature, which a century ago seemed so overwhelmingly convincing, today does little more than gather dust in libraries, for the simple reason that our generation has ceased to believe in the kind of God it argued for...Candidly speaking, how do such qualities as these (God's attributes) make any definite connection with our life? And if they severally call for no distinctive adaptations of our conduct, what vital difference can it possibly make to a man's religion whether they be true or false?¹²

Deus est ens, a se, extra et supra omne genus...wherein is such a definition really instructive? It means less than nothing, in its pompous role of adjectives.¹³

All these prejudices against the traditional arguments for the existence of God have a root cause. It is the disregard of and positive contempt for the intelligence. If we deny to man this noble faculty, we deny its commensurateness with being, the spontaneous and necessary principles that flow from being, and condemn him to the absurdities and errors that characterize modern thought. Sense-perception, pure empiricism, nominalism and agnosticism are the logical outcome. For instance, the empirics deny that the principle of causality is a necessary truth, and that this principle enables us to get away from the order of phenomena in order to ascend to the first cause. Hume in reality denied intelligence, or at least reduced it to the senses.
All our general ideas are in reality but particular ideas to which a common term is assigned, and this latter occasionally recalls other particular ideas which correspond in certain respects to the idea that the mind actually has.\textsuperscript{14}

This is the essence of empiric nominalism. John Stuart Mill held almost the same views, though he plunged even deeper into empiricism.

What proof have we that only the intellectual can produce that which is intellectual? Have we any other means but experience for knowing what thing produces another of its kind, what causes are capable of producing certain effects?...Apart from experience and especially for what goes by the name of reason, which is concerned with the self-evident, it seems that no cause can produce an effect of a higher order than itself. But this conclusion is entirely different from anything we know about nature...The purpose of all the researches of modern science is to convince us completely that the higher forms of life are evolved from the lower, and that the more elaborate and superior organization in life must yield to the inferior.\textsuperscript{15}

Through his empirical principles Mill is led to admit that there are no convincing proofs for theism. Through his nominalism he holds that the imagination affords us glimpses of a God Who exists, and that it is not unreasonable for anyone to hope that God exists provided he recognizes that there are no proofs.

Herbert Spencer did not go as far as Mill in his form of nominalism. He accepts the existence of an external world, but considers the "so-called" principle of causality as the result of a habit which men have formed by having witnessed the constant succession of the same phenomena. His agnosti-
cism is the logical outcome of his nominalism.

It is impossible to avoid making the assumption of self-existence somewhere; and whether that assumption be made nakedly (Theism), or under complete disguises (Pantheism, Atheism), it is equally vicious, equally unthinkable... We find ourselves obliged to make certain assumptions; and yet we find these assumptions cannot be represented in thought. We are obliged to conclude that a first cause, infinite, absolute or independent, does exist; however, the materials of which the arguments are built, equally with the conclusions based on them, are merely symbolic conceptions of the illegitimate order.16

Kantian empiricism and idealism are but two phases of agnosticism. The general principle of agnosticism is nothing else but phenomenalism. Human reason can have knowledge only of phenomena and of the laws by which they are governed. Our ideas have no ontological value—we can form no concept of the substantial being. Likewise, they have no transcendental value—they do not permit us to know God, the transcendental Being, supposing He really exists. Substance is simply a collection of phenomena, and causality a succession of phenomena that cannot be said really to have been produced. Personality is nothing else but a sequence of interior phenomena mysteriously grouped together by our consciousness of them. Reason can have knowledge only of phenomena, because between it and the senses there is no essential difference.17
Notes on Chapter I

1 Lunn and Haldane, Science and the Supernatural, p. 167
2 Clarke, The Christian Doctrine of God, p. 374
3 Orchard, The Present Crisis in Religion, p. 131
4 Galloway, The Philosophy of Religion, pp. 381, 393
5 Davidson, Recent Theistic Discussion, p. 30
6 Abbott, Seeking After God, p. 46
7 Bandas, Contemporary Philosophy and Thomistic Principles, p. 340
8 James, The Varieties of Religious Experience, pp. 437, 448
10 Clarke, op. cit., pp. 363, 374
11 McComb, God's Meaning in Life, p. 2
12 James, op. cit., pp. 74, 445
13 James, Pragmatism, p. 121
14 Hume, An Enquiry Concerning the Human Understanding, Part II, Section XII, note
15 Hume, Essays on Religion, p. 142
16 Spencer, First Principles, pp. 30-32
CHAPTER II

J.B.S. Haldane and His Philosophical Inheritance

The introductory chapter to this thesis has been far from unnecessary. An examination of Professor's Haldane's works, and more particularly of Science and the Supernatural, where he commits himself on definite teachings and dogmas of the Catholic religion, will show that he is the inheritor of the century-old mélange of empiricism, nominalism and agnosticism. In refuting his objections, then, we at the same time go a long way toward refuting the modern agnostic mind. We could, of course, consider the Professor's objections against the thesis we have chosen word for word, sentence for sentence, and consider it time well spent. But a philosophic treatise should do more than this. It should categorize and search for the causes of things.

That he is an inheritor of the ideas above mentioned, Professor Haldane himself tells us in his letters to Arnold Lunn and in several of his other works.

As a child I was not brought up in the tenets of any religion, but in a household where science and philosophy took the place of faith. As a boy I had very free access to contemporary thought, so that I do not today find Einstein unintelligible, or Freud shocking. As a youth I fought through the war, and learned to appreciate sides of human character with which the ordinary intellectual is not brought into contact. As a man I am a biologist, and see the world from an angle which gives me an unaccustomed perspective, but not, I think, a wholly misleading one.
In 1931, at the request of Arnold Lunn, Professor Haldane agreed to an exchange of controversial letters on religion in its relation to science. In October, 1935, these letters were published under the title Science and the Supernatural. At the time of the publication of this work he was professor of genetics at University College, University of London. He commands considerable authority in English scientific circles, but, like many modern irreligious scientists who leave the boundaries of their fields, he attempts to explain everything, especially religious and moral matters, in terms of science, as witness his preoccupation with Darwinian evolution, his scoffing at miracles and religious dogma, and his bête noire, the problem of evil coexistent with a just God. But his own words sufficiently categorize him.

I have not sufficiently examined the grounds on which I hold some of my opinions. Even had I done so to the best of my ability I have no doubt that I should be mistaken in many instances. However, in spite of this scepticism I think that I am probably nearer to the truth than you.²

I do not now believe all that I have myself written. And, on the whole, my beliefs are a good deal more provisional than I imagine yours to be. Before you have done with me you will regard me as a slippery customer, an unfair controversialist, and a nebulous thinker. This last I am, because (as I am well aware) the verbal and other symbols which I employ in thinking are inadequate to describe the universe.³

Mr. E.I.Watkin gives an example of this nebulous thinking:

Professor Haldane believes that the efficacy of
prayer as a means of obtaining Divine assistance has been, if not actually disproved, at least rendered extremely unlikely by scientific experiment. Professor Galton, he tells us, believing, probably with truth, that more prayer is offered for sovereigns and the children of the clergy than for other classes of society, compared their longevity statistics with those of others living under similar conditions. He proved that their lives were on the average slightly shorter. Therefore, concludes Professor Haldane triumphantly, God does not answer prayers.4

In all probability, my words and thoughts do not correspond exactly with reality.5

I try to escape from such dilemmas (the relation of actions to character) by frankly admitting that our ideas about most, if not all, things are self-contradictory.6

I am prepared to admit the possibility that I am nothing but a biologically and socially convenient fiction, that some hundreds of millions of Buddhists, in fact, are correct in referring to the "illusion of personal identity." In any case, our words and other symbols are so inadequate to reality that it seems likely that any statement which can be made on any subject contains at least an element of falsehood, unless, perhaps, it is a purely logical statement.7

MacDougall believes in the immortality of the soul, which I don't.8

I am a part of nature, and, like other natural objects, from a lightning flash to a mountain range, I shall last out my time and then finish. This prospect does not worry me, because some of my work will not die when I do so.9

I am willing to be called a secularist... as conveying something more positive than the word "infidel."10

As a secularist and a biologist Haldane views everything in its relation to scientific findings. As a scoffer at things religious the supernatural is to him a myth.
I still assert that the creeds are full of obsolete science.\textsuperscript{11}

Personally I regard the theory of transubstantiation as a piece of pre-scientific chemistry.\textsuperscript{12}

He scoffs at miracles,

But please do not ask me to investigate one.\textsuperscript{13}

My own intellectual attitude to miracles is much the same as Hume's.\textsuperscript{14}

Hume had said that

A miracle is a violation of the laws of Nature; and as a firm and unalterable experience has established those laws, the proof against a miracle, from the very nature of the fact, is as entire as any argument from experience can be.\textsuperscript{15}

As a further demonstration of the propriety of placing Haldane in the category of empirics and phenomenalists like Hume, Mill, Huxley, Spencer, Kant and James, his ideas on efficient causality follow.

The assumption is made that the cause contains all the perfections of its effect. If this is so there is no real novelty. If there is real novelty, The First Cause is a matter of mainly historical interest.\textsuperscript{16}

God is alleged to be a changeless being. Now, when I influence the world by an act of the will, this constitutes a change in me as well as in the world. Hence the attribution of a series of acts of will (not to mention incarnation) to a changeless being seems to be impossible.\textsuperscript{17}

Professor Haldane's metaphysical and religious standpoint may be further studied in his work *Kant's Scientific Thought and Possible Worlds*, though even here he gives nothing definite. The efficacy of prayer can be scientifically disproved, there is very little ground to believe in personal
immortality, we cannot tell whether or no there is a God. On
the other hand, mechanism is adequate to explain the universe;
some form of idealism—to which Kantism is the least inadequate
approach made hitherto—is most probably the truest account
of it, and if the human mind may be extinguished at death, it
is quite as probable that it will be "merged into an infinite
mind or something analogous to a mind which I have reason to
suspect probably exists behind nature."18

It seems evident from the above quotations that what has
been said by the various agnostics finds an echo in Haldane's
writings. He is probably a greater scientist than those
named, and it is in the scientific field almost exclusively
that he finds fault with Christian and Catholic beliefs. More
to the point in the present thesis, the professor, in reject­
ing a rational proof for the existence of God, rightly singles
out St. Thomas as his main target.

I have devoted a good deal of time to St.
Thomas' arguments, for two reasons. They are
probably the best of their kind. And you have
adopted the usual Catholic theory that they are
invincible. In an encyclical of 1879 Pope Leo XIII
wrote: "It is well known that there have not been
wanting heresiarchs who openly said that, if the
doctrine of St. Thomas could be got rid of, they
could easily give battle to other Catholic doctors,
and overcome them, and scatter the Church." I do
not regard St. Thomas as particularly difficult to
get rid of; but I do not harbor the illusion that
I shall scatter the Church, because it is not found­
ed on reason, but on emotion. St. Thomas' philo­
sophy is based on antiquated science and faulty
mathematics.19

Professor Haldane is evidently more concerned with the
science contained in St. Thomas' arguments, and, as will be seen, with the physics and mathematics in the argument from motion. He either does not know or refuses to credit the fact that the Quinque Viae are metaphysical arguments, and, as such, totally transcend the scientific findings of any age. But, even though the metaphysical principles contained in them sufficiently disprove the charges made against their validity, much space will be given to the physical side of the first argument in an attempt to prove, over and above what is strictly necessary, the cogency of the Thomistic argument from motion.
Notes on Chapter II

1 Haldane, *Living Philosophies*, p. 319

2 Lunn and Haldane, *Science and the Supernatural*, pp. 3,4

3 Ibid., p. 4

4 Watkin, *Men and Tendencies*, p. 95

5 Lunn and Haldane, *op. cit.*, p. 33

6 Ibid., p. 33

7 Ibid., p. 16

8 Ibid., p. 66

9 Haldane, *Living Philosophies*, p. 323

10 Lunn and Haldane, *op. cit.*, p. 17

11 Ibid., p. 36

12 Ibid., p. 37

13 Ibid., p. 13

14 Ibid., p. 12

15 Ibid., p. 24

16 Ibid., p. 252

17 Ibid., p. 357

18 Watkin, *op. cit.*, pp. 93,94

19 Lunn and Haldane, *op. cit.*, p. 175
CHAPTER III

The Possibility of a Rational Demonstration

Before entering into a demonstration of the metaphysical argument from motion, we must meet the charges against the rationality of the proofs made not only by Professor Haldane, but also by the many modern philosophers we have named.

The "the existence of God can be rationally proved is a Catholic doctrine," is correct, and the Vatican Council has defined what can be known of God by the natural light of human reason.

The same Holy Mother Church holds and teaches that God, the beginning and end of all things, may be known for certain by the natural light of human reason, by means of created things, "for the invisible things of Him from the creation of the world are clearly seen, being understood from the things that are made" (Rom. I, 20); but that it pleased His wisdom and goodness to reveal Himself and the eternal decrees of His will to mankind by another, namely, the supernatural way.¹

Canon I of this chapter reads:

If anyone shall say that the one true God, our Creator and Lord, cannot be certainly known by the natural light of human reason through created things, let him be anathema.²

Hence, it is heretical to maintain, as do the atheists and positivists, that there is no way by which we can arrive at the knowledge of God, or to assert with the most advanced traditionalists and fideists, that we can know God only through revelation or by some positive teaching received by tradition. In fact, the Congregation of the Index, in condemning fideism, required the Abbé Bautain, in 1840, and
Augustine Bonnetty, in 1855, to assent formally to the proposition (among others) that "human reasoning has the power to prove the existence of God with certainty (ratiocinatio cum certitudine probare valet)." Furthermore, this body declared:

The method employed by St. Thomas, St. Bonaventure, and other scholastics after them, does not lead to rationalism, nor can it be blamed for the fact that the contemporary philosophy of the schools drifted into naturalism and pantheism. Hence no one has the right to reproach these doctors and teachers for having employed this method, especially since they did so with the at least tacit approval of the Church.3

The Scholastics have always considered as erroneous the opinion of those who denied the demonstrability, properly speaking, of God's existence. St. Thomas, Duns Scotus, Suarez and others have qualified this opinion as erroneous and manifestly false.

The falseness of this opinion (of those who say that the existence of God is a tenet of faith alone and cannot be demonstrated) is shown to us as well by the art of demonstration, which teaches us to argue causes from effects, as also by the order of the sciences,—for if there be no knowable substance above sensible substances, there will be no science above physical science; as also by the efforts of philosophers directed to the proof of the existence of God...4

In these proofs, as Fr. Garrigou-Lagrange well points out, there is no question of a scientific demonstration, understanding by that term a process that does not go beyond the data of observation and experience. If reason tells us that the objects of experience are not self-explanatory, but
need a cause to render them real and intelligible, and if reason further shows that the cause must go beyond the limits of observation and experience, then there exists a philosophical or metaphysical demonstration— the demonstration shown forth in the Quinque Viae.

The present tendency is to explain everything in terms of science. Any attempt to bring Thomistic cosmology into relations with modern scientific advances will seem a ridiculous anachronism to those who identify philosophy with science, and who, like the contemporaries of Descartes and Newton, are convinced that fresh progress in the sciences necessitates a new view of the entire universe. And yet it is quite true that the metaphysical principles of Thomistic cosmology were valid and have remained unimpaired throughout the centuries. Many an error and exaggeration would have been avoided in scientific research and theory had these principles been kept in view and followed. Materialism, dynamism, and pure energetism would not now be plaguing science. These metaphysical principles, because they form part of the body of principles and doctrines which constitute the cardinal points not only of cosmology but of a harmonious and synthetic philosophy like Thomism, are capable of guiding and unifying the findings of present-day scientists.

There are solid grounds for asserting that the principles of Aristotelian-Scholastic philosophy can be regarded as the presuppositions of the particular sciences with greater reason than can those
of modern idealistic and positivistic philosophy which either explains away the specific significance of the individual sciences, or conversely, allows itself to be absorbed by them.5

Our philosophy of nature seems to the modern mind to have about as much to do with nature as have the speculations of Kant or Hegel. And yet, Aristotle's theory of material energy is the same as that used in modern physics, or more precisely, in thermodynamics. The world of physics is deserting Galileo and Newton and is going back to Aristotle without knowing it.6

As Aristotle showed,7 the objects of the positive sciences are essentially material and changeable, and consequently reach only the fringe of intelligibility. The intelligible element found in these sciences is to be found in the fact that they have recourse to the metaphysical principles of causality, induction and finality. In face, the certitude which is properly termed scientific grows in proportion as what one affirms approaches nearer to the first principles which constitute the very structure of reason—the principle of identity implied in the most universal and simple of all ideas, the idea of being, and the principles of contradiction, causality and finality.

The demonstration of the existence of God must in itself be more exacting than is the case in scientific demonstration. Not only must it establish from observation the need of an infinitely perfect cause, but must show why it needs this cause and no other. It must not be hypothetical but conclusive; it must of necessity flow from the highest and very first of all our ideas, namely, that of being.
Any demonstration of God's existence must not be and cannot be *a priori*, i.e. from cause to effect, because the proposition "God exists" is not *per se* evident for us. We do not know the divine essence such as it is in itself; we can reach it only by means of positive analogical concepts which reveal to us the traits it has in common with created things. The demonstration, then, will have to be *a posteriori*, i.e. from effect to cause. To be a strictly metaphysical demonstration it must argue from the proper effect to the proper cause, which means to the necessary and immediate, the absolutely first cause. Not in any series of accidentally connected past causes must the original cause be sought, but in the one in which there is an essential connection between the causes and in which we eventually arrive at one which must be the proper cause, without any further affirmation.

Modern agnostics, in contemning the intelligence, likewise impugn the validity of first principles. Their denial of reason's ability to establish the existence of God is the logical conclusion to their premises, for the validity of the metaphysical proofs stands or falls with the admission of these first principles. In meeting Haldane's charges against the first argument, then, it is necessary to establish the validity of these primary concepts, that we may not fall into the error of presupposing that which we wish to prove.

Traditional theodicy is conceived entirely from the viewpoint of being and the principles of being. Every faculty,
according to St. Thomas,\textsuperscript{8} has a formal object to which it is naturally ordained, which it attains first of all, and by which it attains everything else. The formal and adequate object of the intelligence is being. Our intelligence at first knows the essence of sensible things in a very confused manner, under the most general attribute of being.\textsuperscript{9}

The first notion conceived by the intellect is being, and this notion of being is included in every apprehension.\textsuperscript{10}

The intellect conceives being before aught else as something most known, and into being it resolves all conceptions.\textsuperscript{11}

This initial and confused concept tells us little about the constituent elements of the real, yet it comprises them all down to their last determinations. It is applicable to all reality, whether actual or possible, present, past, or future. It is applicable to every grade of reality, even to the angels, and to God Himself. No affirmation is possible without being; in fact, anyone who uses the verb "is" and makes an affirmation necessarily accepts the philosophy of being with all its implications. The moderns, with all their categorical statements, seem to forget this.

All the first principles flow from this notion of being. The first of these is the principle of contradiction, from which, in turn, the other first principles readily follow.

The first indemonstrable principle which is based on the notion of being and not-being is this: the same thing cannot at once be affirmed and denied. On this principle are based all other principles.\textsuperscript{12}
The articles of faith stand in the same relation to the doctrine of faith as self-evident principles to a teaching based on natural reason. Among these principles there is a certain order: some are contained implicitly in others while all are reducible to this one basic principle: The same thing cannot at once be affirmed and denied.13

The first and fundamental judgment in the ontological order is a judgment of affirmation: being is; being = being. This is the principle of identity. It affirms that everything is its own nature, that everything has a determined essence. The principle of noncontradiction is a negative formula of the same principle: the same being cannot be and not be at the same time and under the same formal aspect.14 Moreover, there is no third thing between being and nonbeing; being either is or it is not. The principle of identity establishes the remote foundation for the theistic arguments. Multiplicity, change, imperfection have not in themselves the reason of being. Their sufficient reason must be sought in One Who is pure identity, pure Being, pure actuality, pure perfection, and Who by that very fact is transcendent and essentially distinct from the composite and changing world.15

The proximate foundation of the theistic arguments is the principle of sufficient reason, which may be proposed as follows: everything must have a sufficient reason either in itself or in another, i.e. if what belongs to it is or is not due to its essential constitution. The existence of a contingent being finds a sufficient reason only in an extrinsic, necessary being; a means, which is not desired for its own
sake, derives its sufficient reason from the end for which it is intended. This extrinsic reason for being supplies the basis for efficient and final causality.

The immediate foundation of the theistic arguments is the principle of efficient causality. To deny it, as do so many of the moderns, and as Professor Haldane at least implicitly in all his arguments seems to, is to deny the principles of sufficient reason and of contradiction, and ultimately of being itself. In fact, it is intellectual suicide and a condemnation to eternal silence,\(^\text{16}\) which the agnostics are not logical enough to see.

Being is a transcendental—it transcends all the genera and species and is not limited to any one of them. It belongs to every member of the hierarchy of beings without implying of itself any of the limitations proper to each of them. It has the capability of being realized not only in the world of sense-knowledge, but also in one transcending ours. How do we know that being is \emph{de facto} realized in the world, or that God exists? The multiple, limited, contingent, changeable and imperfect things of this world cannot justify the presence in them of being. Since it cannot be doubted that they are, we look for a cause of their being. The only cause capable of realizing the existence of all contingent things is One which transcends them, which we call the supreme Being, Subsistent Being, the First Cause, God.

The theistic arguments are likewise all reduc-
ible to being. If being as such did not demand a cause, we could easily dispense with God. Particular causes would sufficiently account for particular effects. If from the latter we rise to a First Cause, it is because being is contained in a very real sense and special manner in each and every one of them. Theodicy, which is the crown of metaphysics, envisages God as the principle and source of being. He is called Mover, Cause, Designer, etc., only insofar as the effects implied by these titles are participations of being. The theistic arguments are five different ways of proving the existence of one and the same Being.
Notes on Chapter III

1 Garrigou-Lagrange, God: His Existence and His Nature, p. 8
2 Ibid., p. 8
3 Ibid., p. 10
4 Summa Contra Gentiles, I, 12
5 Grabmann, in Zybura, Present-Day Thinkers and the New Scholasticism, p. 156
6 Ibid., p. 96
7 Physics, Bk. II, ch. 1; Bk. VI, ch. 1
8 Summa Contra Gentiles, II, 83
9 John of St. Thomas, Cursus Philosophicus Thomisticus, Phys. Quaest. 1.3
10 Summa Theologica, I-II, q. 94, a. 2
11 De Veritate, q. 1, a. 1
12 Summa Theologica, I-II, q. 94, a. 2
13 Ibid., II-II, q. 1, a. 7
14 Metaphysica, II, Lect. 6
15 Bandas, Contemporary Philosophy and Thomistic Principles, p. 347
16 Ibid., p. 348
17 Ibid., p. 349
CHAPTER IV

The Traditional Argument and Haldane's Objections to It

Anaxagoras seems to have been the first to have formed this argument from motion, when he asserted that the motion of mundane things proceeds from the divine intellect:

\[ \text{πάντα δρόμων ἐν ὑμοῖο ἐκείνα ὁ νοῦς ἐλθὼν} \]

Plato held that there are souls which move themselves and bodies, but that is is not demonstrable that God is the motor immobilis.\(^2\) Thus he concludes to the soul of the world, from which proceed movement in the world, and to the soul of the sun, which in a wide sense he calls God.

The mainspring of Aristotle's argument is the proposition that an ontological regress cannot proceed to infinity; whence it follows that such a regress must terminate in an ultimate mover which is itself unmoved.\(^3\)

In working out the details of his proof Aristotle is chiefly concerned with motion in space--with local motion, as the neo-Scholastics phrase it--and he is so because it is, so he tells us, the primary form of motion. None the less he also takes into account qualitative and quantitative change, which last manifests itself under the two forms of augmentation and diminution. In the third book of the Physics\(^4\) he includes under the head of motion generation and corruption. But in the fifth book\(^5\) he narrows down his classification so
as to exclude them. St. Thomas notes this inconsistency, but regards it as a mere matter of terminology. For generation and corruption obviously involve both qualitative and quantitative change, as well as local motion. Moreover, in the eighth book of the *Physics* they are grouped with the other kinds of motion which are taken together as forming a common point of departure for the proof of a prime mover.

St. Thomas reconciles the positions of Plato and Aristotle as to the prime mover by saying that Plato extends the concept of motion to include any operation, and hence was quite consistent in speaking of the source of motion as self-moving, inasmuch as it possesses both knowledge and desire; whereas Aristotle, in speaking of the prime mover as unmoved, intended only to assert that God is not involved in physical change, and did not mean to deny that intellectual activity can be predicated of Him.

The Thomistic proofs for the existence of God are formulated in the *Summa Theologica* and in the *Summa Contra Gentiles*. In both works the proofs are substantially the same; they differ only in the manner of their exposition. In general they are more succinct and simplified in the *Summa Theologica*, since this work is intended for beginners, and present the matter from a more metaphysical point of view. The *Summa Contra Gentiles* deals with the matter more fully, from a physical viewpoint and from an appeal to sense experience. This is especially true of the argument from motion,
which St. Thomas considers superior to the other four, as being the simplest and the easiest to grasp. 

The *Summa Theologica* sets out the proof from motion in the following form:

It is certain—and our senses witness to the fact—that there is movement in the world; everything that moves is set in motion by something. Nothing, in fact, is in motion unless it be in potency with regard to that toward which it is moved; and nothing per contra moves anything except as it is in act. To set a thing in motion means to cause it to pass from potency to act. Now a thing can only be brought from potency to act by something which is in act. For instance, it is heat in act (for example, fire) which makes the wood, which is only potentially hot, actually hot, and to that extent, moves and alters it. But it is impossible for a thing to be both in act and in potency at the same time in reference to the same things. Thus an actually hot thing cannot at the same time be actually cold, but only potentially cold. It is therefore impossible for a thing to be, at the same time and in reference to the same things, both mover and moved, i.e. set in motion by itself. Whence we see that everything that is in motion, is moved by something else. If, on the other hand, that by which a thing is moved, is itself in movement, the reason is that it is, in its turn, set in motion by some other mover, which is again moved by another thing and so on. But it is impossible to regress in this way ad infinitum, because, in that case, there would be no first mover, nor consequently other movers, for the second mover imparts movement only because the first set it in motion, as a stick moves only because the hand imparts movement to it. To explain movement it is consequently necessary to regress to a first mover which is itself not set in motion by anything, i.e. to God. 

The argument in the *Summa Contra Gentiles* is taken over directly from Aristotle:

Everything that is set in motion, is so moved by something else. Now, it is a matter of sense-experience that there is movement; for instance,
the movement of the sun. Consequently the sun moves, because something sets it in motion. But that which sets it in motion is either itself set in motion or it is not. If it is not, we have reached our conclusion, viz. the necessity of positing an immobile mover which we call God. If it is moved, there must be another mover that imparts movement to it. Therefore we must either regress to infinity or posit an immobile mover; now the regress to infinity is impossible; consequently we must assume a first immobile mover.10

In this proof, two propositions require to be established, first, that everything in motion receives motion from some other thing (omne quod movetur ab alio movetur), and, second, that we cannot regress to infinity in a series of things moved and moving (non datur regressus in infinitum). Both of these propositions are amply proved by Aristotle and included in the Summa Contra Gentiles. We shall refer to them later when we answer Professor Haldane's sweeping objections to them.

With the argument thus set before us, here is the place to detail Haldane's objections to the two propositions, in order that we may see just what his difficulties are, and how we may best answer him.

With a desire to exhibit some degree of fairness, the Professor gives his version of the argument from motion.

St. Thomas brings forward five proofs in the Summa Theologica, but concentrates on the first of them—the argument as to the unmoved mover, in the Summa Contra Gentiles... Some things move. Whatever is in motion is moved by something else. Hence either there is an immovable mover or an infinite series of things which move others and are themselves moved. But
this is impossible. So there is an immovable mover. (The word movere, here translated "to move," was used by medieval philosophers to denote other kinds of change. However, St. Thomas was mainly concerned with change of position, as shown by his rather unfortunate choice of the sun as the example of something which everyone would admit to be in motion. I use the word "move" as the English equivalent, since it is used in the official translation by Dominican monks.)

The argument thus summarized doesn't do it full justice, though it may perhaps be straining a point to call it a travesty, as Arnold Lunn does. The big error in the criticism given by Haldane is that he objects to them on the ground that they are physical only. His criticism in full is given below.

Let us now examine the first argument, taken from Aristotle. St. Thomas observes that two things must be proved, namely, that whatever is in motion is moved by another, and that it is impossible to proceed to infinity in movers and things moved. In my opinion both these propositions are false. The first is part of Aristotle's physics, but Newton's first law is as follows: "Every body continues in its state of rest of uniform motion in a straight line, except insofar as it may be compelled by force to change its state." I do not wish to use Newton as an authority, but his laws have been very extensively verified, and unless you are going to contend that Aristotle was right and Newton wrong I shall assume the opposite... It might be said that even in Newtonian physics every moving body had at some past time been set in motion by some other. But this was not what St. Thomas meant. In his argument against an infinite series of movers he wrote that "every body that moves through being moved is moved at the same time as it moves." According to the Aristotelian physics the sun and planets, for example, were actually kept in motion by the primum mobile.
The arguments against an infinite regress are as follows (these relate to Aristotle's proofs quoted by St. Thomas in the Summa Contra Gentiles): (a) If it is true, an infinite number of bodies must be in motion at once, which is impossible. Why is it impossible, if there is an infinite number of movable bodies? (b) If it is true, then in an infinite series of movers "there will be no first mover, but all will be intermediate movers, as it were. Therefore it will be impossible for any of them to move, and thus nothing in the world can be moved."

Now if this argument is correct, we can apply it to other series. A transposition of St. Thomas' argument reads, "If there are an infinite number of points in a finite line traversed by a moving particle, then there will be no first point reached, but all will be intermediate points, as it were. Therefore it will be impossible for the particle to start." Now this contains two fallacies. Firstly, there are infinite series with a first member. Thus if we consider that portion of a line running east and west which is not east of a given point nor more than ten miles west of it, this segment contains an infinite number of points; but there is a first point, namely, the given one. Secondly, there are series of points with no first member, which can yet be traversed. Such are the series of points lying west, but not more than ten miles west, of the given point. For every member of this series is some distance west of the given point, and within this distance, however small, a still nearer point can be found.

St. Thomas' argument, if it were logically applied, would prove the impossibility of motion. It had been used for this purpose by Zeno the Eleatic. (c) This is the same argument as (b), in reverse order, depending on the alleged impossibility of an infinite series of movers. (d) If every mover is moved, this proposition is either true in itself or accidentally. Suppose it to be true accidentally, then it might be true that none ever was moved, in which case there would be no movement, which is absurd.

This argument being false, I need not detail the reasoning which proves that the above proposition is not true in itself, and hence that there is an immovable mover. The fallacy is, of course, that the world might be such that some movers were
necessarily moved, and others just happened to be moved. In this case there would necessarily be some movement, but it might perhaps only be accidentally true that all movers are moved.14

He (St. Thomas) argued, starting from a body in motion, namely, the sun, that its motion must be due to a mover. Thence he argued back to an unmoved mover, or unchanged changer. His words, at least in the Summa Theologica, leave it open whether he thought that all the series of movers, from the sun to God, were acting simultaneously or successively. His argument is as valid in one case as in the other. Hence, I did not, in attacking it, make the assumption least favorable to him, namely, that he thought all the movers were simultaneous. I gave him the benefit of the doubt, though quite aware that he inclined to the opinion of Aristotle, which, as I think, has been demolished by Newton. If, however, you think that in order to prove St. Thomas you must disprove Newton's view that a body in motion continues in motion unless something stops it, I shall be delighted to defend Newton.15

Of course an infinite series does not help me to get rid of dependence. Why should it? I have never come across anything which did not depend on something else, and I don't expect to...I quite agree with Dr. Patterson that however long we trace causes back "we are no nearer reaching an ultimate and self-explanatory cause of motion." And however long we go on counting we do not get any nearer to a largest number, because there is no such thing. Why should there be?16

He (St. Thomas) did not speak, like Professor Patterson, of an ultimate and self-explanatory source of motion. God is not self-explanatory, in my opinion.17

In Chapter II of this thesis we have set forth Professor Haldane's ideas on efficient causality. He argues that God could not contain all the perfections of created things because, in that case, there would be no novelty in the world. Furthermore, if we attribute acts of will to God, He is not a changeless being. Thus he is led to conclude:
You see that St. Thomas' arguments disprove one another. He arrives at a certain theory about God, and this theory is self-contradictory... The correct conclusion from St. Thomas' chains of thought seems to be as follows: Certain arguments tend to prove the existence of a first cause. But if there is a first cause we cannot know what it is, or even that it is a cause, or first. Hence these arguments contain a fallacy.

Many philosophers have come to this conclusion. Thus Kant held that reasoning as to a first cause inevitably led to antinomies.18

To sum up, the argument for an immovable mover, which was St. Thomas' main proof of the existence of God, rests on two false premises. One, that whatever is in motion is moved by another, is bad science. The other, that an infinite series of moves is impossible, is bad logic and bad mathematics.19

Here, then, is the indictment in full. A scientist of the twentieth century calls St. Thomas to task for his thirteenth century physics and mathematics. Professor Haldane has completely misread the argument. Nowhere does he acknowledge the metaphysical character of the theistic demonstrations, but claims that they fail by reason of their antiquated physics, chemistry and mathematics. So sweeping is his indictment of this first proof that our best way of answering him is to establish first its metaphysical character and then, insofar as we are able, to meet the difficulties raised not only by Professor Haldane but by most modern physicists as well against physical or local motion.
Notes on Chapter IV

1 Aristotle, Physics, VIII, c. 5
2 Plato, Laws, 869 seq.
3 Patterson, "The Argument from Motion in Aristotle and Aquinas," New Scholasticism, Vol. 10 (Oct., 1936) p. 245
4 Physics, III, 1
5 Ibid., V, 1
6 Ibid., VIII, 6
7 Summa Contra Gentiles, Lib. I, ch. 13
8 Summa Theologica, I, q. 2, a. 3
9 Ibid., trans. by E. Bullough from Gilson's Le Thomisme, p. 67
10 Summa Contra Gentiles, I, 13, trans. by E. Bullough
11 Lunn and Haldane, Science and the Supernatural, p. 169
12 Ibid., p. 257
13 Ibid., p. 170
14 Ibid., pp. 171, 172
15 Ibid., pp. 300, 301
16 Ibid., p. 301
17 Ibid., p. 302
18 Ibid., pp. 252, 253
19 Ibid., p. 172
CHAPTER V

Criticism of the Proof and of Haldane's Objections

The argument from motion, or the kinesiological argument, as it is called, is based on the dynamical aspect of finite substances. Of the five metaphysical proofs which St. Thomas gives, he assigns to this the first place, as being the simplest and easiest to grasp. In modern times it has suffered an eclipse owing to a belief that it depends upon a principle which physical science has shown to be untenable. As a matter of fact, the prejudice is due not to any of the results which physical science has achieved in recent times, but to an erroneous philosophy of motion, introduced by Descartes, which has widely affected current modes of thought. A careful consideration of the proof will show its apodictic character. It is securely based on those fundamental first principles which no physical discoveries can invalidate. In Chapter II we quoted from two modern Scholastic philosophers who are firmly convinced that present-day science owes more to an Aristotelico-Scholastic cosmology than it does to any of the idealistic and positivistic philosophies which these scientists theoretically profess. Moreover, there is a steady trend toward Aristotle which would undoubtedly surprise these men if they took the trouble to read the Stagirite.

But we must not try to validate the Aristotelian nor the thirteenth century physics. That would not only be unneces-
sary but absurd. This argument is primarily in the metaphysical order. Professor Haldane is not the only modern scientist to be confused. Professor A. Whitehead tells us:

The phrase, Prime Mover, warns us that Aristotle's thought was enmeshed in the details of an erroneous cosmology...

In this argument we take the great and universal fact of movement. All things are in constant change. Astronomy sets forth the revolutions and various movements of stellar bodies. Geology explains the development of the earth. Biology is busied with the phenomena of growth. Physics and chemistry reveal the molecular movements and the multiform combinations of inorganic elements. To take this fundamental phenomenon as the basis of an argument is to appeal to an obvious as well as to a metaphysical truth. There will be no question, then, about the fact of movement; as to the nature of movement there has been, even from ancient times, a serious controversy. On this point Aristotle took issue with the philosophers of his day, and this fact is the basis of much of modern philosophy, as witness the Hegelian system, with the teachings of which any treatise on the existence and attributes of God is brought into contact.

In ancient times Parmenides denied the fact of motion, as in quite modern times did Herbart.

...J.F. Herbart, qui motum fieri non posse his argumentis ostendere studuit: 1° Id, quod movetur vel mutetur, fit alium. 2° Mutatio, si qua fieret, aut a causa externa aut a causa interna aut absolute,
i.e. sine causa, esset. Sed nihil horum secum non pugnat. Mutatio enim fieri nequit a causa externa; nam nulla res agere vel pati potest nisi in se ipsa; neque ita facere possemus, quin in processum in infinitum ruperemur. Neque fieri potest mutatio a causa interna; unde enim mutatio caperet exordia? Accedit quod ita res una per oppositionem, quae inter Agere et Pati intercedit, dirimeretur. Neque denique mutatio fieri potest absolute, i.e. sine causa; nam ex uno ente non potest oriri multiplex illa successionum varietas, quae in qualibet mutatione conspicitur.2

Heraclitus held the theory of perpetual motion in material things. The Hegelian system goes even further, teaching that all things are in a perpetual state of becoming. The to fieri is the central point of Hegel's Idealistic system. It is the medium between existing being and absolute nothing. Hence there is only a constant movement and evolution and no repose. Bergson and LeRoy in very recent times have been enamored of the eternal flux idea, the μάρτια βεί?

Such a contradiction between science and metaphysics explains somewhat the disrepute into which the latter has fallen. If science finds it cannot harmonize with philosophy, then out goes philosophy. With philosophy goes religion—hence the ease with which scientists discard the supernatural. Hegelian philosophy is based upon a scientific and metaphysical error, and must be completely rejected.3

Taken in its widest sense, then, this proof claims to establish the existence of a being immovable from every point of view, and, therefore, uncreated; for in the case of every created being there is at least the transition from non-being
to being, which conflicts with the notion of absolute immobility. We are clearly not restricting ourselves to the realm of local motion, which St. Thomas mentions as only one of the many forms of motion. The metaphysical notion of motion is our starting point. By motion is signified the process by which a potency is realized. It is not a form of being. It is something very different, namely, the transition from one form of being to another. This is well illustrated in any chemical compound. When sodium and chlorine are combined to form sodium chloride, or common table salt, the process of change begins and ends with definite forms of being. During the process there is no natural entity capable of subsistence. (It is true that this actualization may sometimes be arrested, as in the case of a fertilized cell. The result, however, will not be a complete natural unit, but a frustrated beginning of such a unit.) In the intermediate stages the final being is in a state of becoming—it is fieri, not esse. How well Aristotle observed this is seen from the fact that he did not include motion in his nine categories of being.

There are several very definite characteristics to be noted in motion. It is always on the road to realization (in via ad esse). So long as the process of realization is passing from potency to act, and is never completely actualized, it is motion. There is no motion in a being that never leaves its starting-point, nor in that which has reached the terminus of the actualizing process. Hence Aristotle defined
motion as "the act of that which is potential inasmuch as it is potential (ἡ τοῦ δυνάμει ἄρτος ἐνελέξεια ἡ τοιοῦτον)." 5

Next, motion is divisible in infinitum. Each part is just as much motion as the whole, they are all different from each other, and they are not interchangeable. They are actuated in a definite order, and each is necessary to the whole process. From the observance of these two qualities we come to the third, which is important to the understanding of the argument to the unmoved mover. We have seen that motion is at once the result of the preceding and the producer of the succeeding part. At every stage of the motion process there is the emergence of something new, and that in a continuous passage from potentiality to actuality. Here the indispensable first principles play their part, and a denial of them is a denial not only of this argument, but of every rational argument.

Becoming is the absence of identity. It is the successive union of diverse, uninterchangeable, and new elements. To say that the successive union of diverse elements is unconditioned is to deny the principle of causality. To say that becoming does not postulate the continuous operation and influx of a cause (which preserves it in fieri, because motion is not being, and hence cannot be preserved in esse) is to deny the principle of sufficient reason and to establish contradiction in the very heart of reality. To say that a thing, devoid of a particular form of being, is the cause in itself of the whole actualizing process, is too absurd to need refutation. In fact, motion,
which is becoming, and undetermined, if it were the sole cause of a being which is actualized, and hence determined, would produce something greater than lay in its power. The effect would exceed the cause. To affirm that one and the same thing is at once undetermined and determined, potency and act, moved and mover, is to deny the principle of contradiction. There is only one course left. If the world is in motion, it must be moved by something or someone other than itself—it needs the continuous operation of a present and actual cause.

Thus motion is not a stable entity which can be produced once and for all, and then needs only to be conserved in esse. There must be a cause preserving the mobile in fieri, which cause was expressed by the Schoolmen in the words: *Quidquid movetur ab alio movetur.*

As regards this principle, Aristotle is very instructive:

> We have now solved the difficulty, and shown that motion is in the thing moved. For it is the act of this latter effected by the agency of the mover. And the act of the mover is not something other that it. For it must of necessity be the act of both. For the "mover" is so termed by reason of an active power which it possesses; and it is said to be "moving," because it exercises that power. But it exercises it in the thing moved, so that the act of both is one and the same...⁶

Thus it follows, that wherever there is motion, there is not only a body which is being moved, but also an agent energizing and productive of motion. If there be motion, it is just as impossible that there should be no agent as that there should be no subject of the motion.
By motion St. Thomas certainly meant change of any sort, not merely the passage of bodies through space. Indeed, if we were to occupy ourselves wholly with an analysis of physical motion as though it were the main point at issue, we should neglect the real metaphysical question which includes every change in its scope. We should have a valid argument, but only a partial one. Qualitative and quantitative alterations come equally under the head of motion. So also does intellectual activity. This last seems to point to an inconsistency on the part of St. Thomas in his attempt to reconcile Aristotle and Plato in regard to the prime mover. Plato equated motion with "any operation."

Accipiat enim motum pro qualibet operatione. 7

Aristotle, on the other hand, is said to have taken motion in its strictest sense according to which it is the act of something existing in potentiality as such.

Aristoteles enim propriè acceptit motum, secundum quod est actus existentis in potentia secundum quod huiusmodi. 8

Accordingly, Plato was justified in referring to God as a self-mover, since for him movement did not involve corporeality; and Aristotle, on the other hand, was equally justified in affirming that God is an unmoved mover, since for him movement did involve both divisibility and corporeality. 9 So far there is no inconsistency. The discrepancy seems to arise when St. Thomas refers to intellectual activity as itself a form of movement. But the inconsistency is only verbal.
While in their precise and original sense the terms potentiality and motion have significance only in regard to physical bodies in space, yet by a legitimate and natural extension they may be applied to immaterial and non-spatial entities such as the human mind. Thus in the Summa Theologica we read:

To be a subject and to be changed pertain to matter because it is in potentiality. Accordingly just as the potentiality of intellect is other than the potentiality of primary matter, so also the reason for being a subject and for undergoing change is different in the one case from what it is in the other. For the intellect is subject to knowledge, and is changed from ignorance into knowledge because it is in potentiality with respect to the intelligible species.10

It is clear, then, that for St. Thomas, the concepts of potentiality and motion, taken in the widest sense, were applicable to mind, inasmuch as it is subject to change; and that, consequently, he was justified in regarding mental activity as one of the presuppositions of the argument from motion, since the latter is based on these concepts. Fr. Garrigou-Lagrange, O.P., has this to say on the matter:

Le principe 'Quidquid movetur ab alio movetur,' loin de reposer sur une image spacieale, repose sur la nature meme du devenir, rendu intelligible en fonction, non pas de l'etre corporel, mais de l'etre, objet formel de l'intelligence. Aussi cette motion et ce principe peuvent-ils s'appliquer a un devenir qui n'a rien de spacial, comme celui de volonté.11

Thus St. Thomas' argument is founded upon his conceptions of actuality and potentiality, and of the relation of one to the other. The potential is that which does not yet exist, but which is capable of existing as the result of the action
of an efficient cause. Indeed, this is one of the foundationstones of Thomistic philosophy, and is vital for the system.

Cum potentia et actus dividant ens et quod-libet genus entis.\textsuperscript{12}

The very conception of the potential is derived from our experience of the actual, and as a matter of fact we observe in the generation of the members of a species that the potential is the result of a prior actuality. Furthermore, the potential, inasmuch as it is contingent and therefore capable both of existence and non-existence, implies in its very conception that which exists by itself and of necessity. Moreover, since for St. Thomas motion is equivalent to change, the assertion that the actual is prior to the potential is equivalent to the proposition \textit{Quidquid movetur ab alio movetur}.

Why, we may ask, did St. Thomas in the \textit{Summa Contra Gentiles} lay such stress on local motion? Dr. Patterson gives several reasons:

In the first place local motion is the cause of quantitative and qualitative change in physical things, and in the second place, if mental operations are included in the definition of motion, the first argument is practically identical with the third, as the same principle is involved in both. In order to keep them at all distinct it is necessary to lay stress upon physical motion.\textsuperscript{13}

There has been, it is true, some difficulty in keeping the first three arguments apart. The same general principle of sufficient reason or causality is involved, but each has a different starting-point. St. Thomas stressed local motion
chiefly because Aristotle had done so, but he certainly did not found his argument on local motion alone, as is clear from the wording of the argument.

Verum est utique S. Thomam l.c. propositurum argumentum dicere: 'et sensu constat aliqua moveri in mundo.' Sed to et manifestat aperte illum non ex solo motu corporis argumentum ducere, sed ex omni motu.14

Since there are adversaries who have, on the one hand, denied local motion, and some, on the other hand, who hold only local motion, and that without recourse to a primus motor immobilis (as does Haldane), it is necessary to give more than a little space to the argument from local motion.

The argument from local motion was first proposed by Aristotle and further developed by St. Thomas in the Summa Contra Gentiles. Suarez, however, rejects this proof as limited in range and lacking in strength. But, as Fr. Driscoll says, "Suarez reasons from a peculiar kind of local motion and betrays the undeveloped condition of physics at the time."15 Suarez concludes his treatise:

Igitur ex solo motu coeli nulla est sufficiens via ad huiusmodi demonstrationem conficiendam.16

But what Suarez is after is a metaphysical proof, as Fr. Nolan notes,17 and hence he is not an adversary of this thesis, for he would certainly grant the physical value of the argument from local motion. Neo-Scholastic writers like Cardinal Satolli, Fr. Pesch, Abbe Farges and Pere Garrigou-Lagrange have examined the facts and laws revealed by the physical
sciences, and by their vindication of Aristotle's physical postulates of motion have demonstrated conclusively the validity of this argument. Speaking directly against Descartes and his followers, whose physics of motion will later be examined, Garrigou-Lagrange says:

Que le mouvement une fois donné à un corps se continue indéfiniment, c'est une fiction commode peut-être pour représenter certaines relations mathématiques ou mécaniques en astronomie, mais philosophiquement très contestable.  

Physical science explains the phenomena of motion by attraction and repulsion, which it defines as the invisible power in nature which tends to draw bodies together or to repel them. The law--formulated by Newton--a body attracts another body in the direct ratio of the squares of the masses and the inverse square of the distances--is a law that holds universal sway throughout the material world. Astronomy in the stellar bodies, Physics and Chemistry in the molecules of bodies, enunciate this law. But while the fact is recognized, its nature is disputed. The Mechanists, following Descartes, treat motion as something added to a fully actualized entity--no passage from potency to act. In metaphysics it is on the contrary the passage to actualization (via ad esse). Descartes treated motion as a state; metaphysically, it cannot be treated as a state, because motion is essentially transient. He contended that motion passed from one body to another; but motion, not being a complete entity, cannot be handed on. All that is possible is that the force which generates and maintains
motion in one body should generate a second motion in another. Were Descartes correct in his hypothesis, the proposition \textit{Quidquid movetur ab alio movetur} would have to be abandoned in the case of local motion.

The Dynamists, on the other hand, following Leibniz, maintain that matter is not purely passive, and they appeal to ordinary observation and scientific experiment as revealing in matter an active element. Matter possesses in itself the power to act upon matter, and the conclusion is that a primordial mover or initial cause of movement is unnecessary. It is a peculiar fact that this argument of the Dynamists, contrary to their contention, involves the necessity of a communication to matter of motion from some source, which we call the prime mover.

We have seen how Professor Haldane and other modern scientists reject the two propositions of this argument on the ground that they are inextricably bound up with Aristotelian and medieval science.

In my opinion both...propositions are false. The first is part of Aristotle's physics...I do not wish to use Newton as an authority, but his laws have been very extensively verified, and unless you are going to contend that Aristotle was right and Newton wrong I shall assume the opposite,19

Does the principle \textit{Quidquid movetur ab alio movetur} conflict with Newton's first law? This law states that a body in a state of motion persists in that state unless it is subjected to the action of some external force. It would
seem to follow that a body once put in motion does not need an agency for continuing the motion--that a body once started would go on of itself. The example of the billiard ball is the one most frequently advanced. Once the cue has imparted motion to the ball, where is there an external force to continue this movement? Is it not sufficient to say that the motion once imparted is the explanation of all subsequent motion, and that the ball eventually comes to rest by the friction of the cloth and the resistance of the atmosphere? Certainly, a continued application of an external force is not evident to the senses, but we can argue to its necessity from the impossibilities involved apart from it.

If the efficient cause of the motion is not external, two hypotheses are possible. The sufficient cause of the effect is either to be found in the moving body itself, or in its past motion. Suppose it to lie in the body's past motion. We are dealing with actual motion for which an actually operative cause is necessary. The past motion does not now exist. But what does not now exist cannot be actually operative. The past motion was necessary that the body be able to advance to where it now is. Its job is finished--it is the movebat, the necessary antecedent in all motion. What does not exist cannot possibly produce the new effect successively brought into being as the moving body advances.

The other hypothesis, namely, that the sufficient cause is to be found in the moving body itself, is more difficult
to answer. You cannot, of course, say that the ball is the
reason of its own motion. This would say nothing more than
that the reason why it moves is that it is in motion—which
answers nothing. Certain recent Scholastics have revived an
ingenious hypothesis which at first sight seems good, but upon
closer examination exhibits certain faults. This theory,
proposed by the old Scholastics and advanced by the Neo-
Scholastics, Frs. Garrigou-Lagrange, O.P.²⁰and Pesch, S.J.,²¹
states that the cause which communicates motion to a body
puts in that body a new quality—impetus or impulsus—which
produces local motion so long as the motion endures. When
the impetus is exhausted, the motion ceases. Fr. Joyce, S.J.,
attacks this theory with rather close reasoning, which we
give in full:

(1) Unless we are prepared to deny all validity
to the first law of motion, we must admit that if a
body is once set in motion, this movement would
never cease, were it not for the action of impeding
forces; as regards duration it would be infinite.
Yet a corporeal quality which is a principle of
movement without end appears to involve a sheer
contradiction. An accident is necessarily pro-
portioned to the substance which it qualifies and
in which it inheres. But according to this hypo-
thesis, a finite substance is the subject of a
quality, which in one respect at least, is infinite.
(2) Further, even if this be supposed possible,
another difficulty presents itself. The inherent
impetus must constantly produce new effects; for, as
we have pointed out, the parts of any given motion
differ from one another, occurring, as they do, in
a definite order, the previous stages being pre-
requisites to the production of each subsequent one.
But it is manifest that the same quality cannot be
continuously modifying its efficiency unless it is
undergoing change itself. We have, in fact, merely
shifted the difficulty from the motion to the
alleged quality which produces it. We must provide
an explanation for the change in the quality.
(3) Again: the impetus, if it exist, is actually
operative, and in consequence not indeterminate but
fully determined. Yet we are required to regard this
fully determined quality as being a principle of
motion which is indifferently of any velocity and
of any direction. According to the laws of motion
a body in constrained motion will leave its path
and fly off at a tangent at whatever point of its
course the constraint is removed. Now there is no
need that the constraint should be due to a single
force acting from one centre. Successive forces
may have been brought to bear upon the body from
widely different quarters. But, if we accept the
theory in question, it is reserved for the last of
all to determine the velocity and the direction of
the effects of every one. Such a result seems
wholly irreconcilable with reason.22

Fr. Garrigou-Lagrange explicitly states that the quality
of impetus must be finite, and of necessity cannot persevere
to infinity. But, in so speaking, he implicitly denies
validity to the first law of motion, which does not seem to
be so easily laid aside. There are others, as Gredt,23 who
hold that the quality of impetus once received cannot be
destroyed or remitted: whence the motion will endure in
aeternum unless checked by some external object. Fr. Joyce
seems to have refuted both these opinions. There is a third
theory, which, until a better happens along, presents a good
explanation. Fr. Hoenen, S.J.24 advances the hypothesis
that motion perseveres because of the continuous action and
reaction of the ether. Fr. Boyer, S.J.25 is of the same mind.

Everyone is agreed that an external force is needed in
the case of motion starting from rest. Likewise, it is
universally admitted that an external force is needed ante-
cedently to all changes in the rate of movement and of all deviations from a straight line, even when these conform to law. Would it not be curious if an external agency were required for the maintenance of motion in an ellipse, for instance, or in a parabola, but not in a straight line? Does the fact that Newton posited uniform motion necessarily indicate the exclusion of external agency considered necessary for changes of the rate of motion?

Only in the single hypothetical case of absolute uniformity of movement in a straight line can Newton and Aristotle be made to appear to contradict each other. But what would be the reality answering to our idea of a body so moving? It would be a body now, for the moment, here, but with a definite and energetic potency to move away: nothing more. Motion, as such, does not, and cannot exist as a whole. But the potency manifests its reality by continuously passing into the act of movement, without ceasing to be potential. The continuous transition means continuous external agency. To say that a body must move because it can move would be absurd. When Newton, therefore, proceeds in the second part of his First Law to declare that "a body in motion will continue to move uniformly in a straight line unless acted upon by an external force" he should be taken to exclude only a certain class of external agencies, those, viz., which he calls "forces." Otherwise he is in plain contradiction, not only to Aristotle and St. Thomas, but also to common sense.

We are driven then to the conclusion that all motion requires the continuous action of an external force to explain its persistence, and that without such agency the motion must cease. When Aristotle and St. Thomas laid down the principle **Quidquid movetur ab alio movetur** they did not make a stab in the dark, but had weighty reasons for their thesis. And
Newton, to the chagrin of Haldane and other anti-Scholastics, does not go beyond this principle. The fact is, he did not go as far as Aristotle and St. Thomas. He did not deny that the uniform motion itself is due to an agency ab extra, but merely that it is produced by an agency belonging to that category of agents which he denominated "external forces."

Does the fact that Newton used the plural term "forces" contradict our single prime mover? Not at all. It is a fact of physics that a plurality of forces is brought to bear on a moving body, but it is likewise evident that these forces coalesce into a single motion. It is a philosophic truth that when many agents are employed in the execution of a work which has a true unity, the work must be attributed to the principal agent which uses the others instrumentally. Then we must conclude that the phenomenon of local motion reveals the existence of two orders of movers, the lower of the two being the order stressed by Newton. It may be true, as we quoted Fr. Garrigou-Lagrange above, and as Fr. Nolan observes, that Newton's law is an hypothesis suggested by the facts, and cannot be proved experimentally. Fr. Joyce, however, who has gone into the matter at length, prefers to call it "a logical abstraction based on a wide induction."27

Thus Newton's first law as manifested in external phenomena provides the most cogent evidence for the truth of our thesis. Either there exists a higher mover or multiplicity can be the source of unity. Haldane's remark, then,
that the first part of St. Thomas' thesis is "bad science," is quite sadly beside the mark.

What is that agency which even Newton's law demands?

We may conclude this first proposition of the thesis with the words of Fr. Rigby, S.J.:

The agency required is of a higher and more universal order than that to which mechanical forces belong. It transcends the possibility of measurement in terms of time and space. It is continuously at work in moving bodies, reducing and tending to reduce the manifold to unity, the variable to uniformity, and that which is liable to fail to indefectibility; in one word, reducing potentiality to act, and so establishing and crowning the results achieved by the agency of material things.28

Non datur regressus in infinitum.

In this second part of the argument we see more clearly still the necessity of the concepts of act and potency, and hence the validity of the metaphysical argument. The fundamental conception of the whole thesis is that the potential cannot per se pass into actuality, for this would say that the non-existent can be the cause of the existent. In other words, were the potential capable of becoming actual of itself, it would be its own cause, which is to say that it existed before it began to exist--an evident absurdity. Consequently, we must posit the existence of some other entity, which, itself wholly actual, is capable of being and acting as a cause, and through its agency the passage from potentiality to actuality must be accomplished. This entity must either be eternal and changeless, or is itself likewise in motion.
According to the first we have reached the primus motor immobilis—God; according to the second we must posit a third entity which in its turn must act as a cause. And so on indefinitely.

An infinite regress, however, is impossible. Were there no prime mover, but only a series of secondary agents, there could be no motion. For a secondary agent cannot per se pass from potency to act, as we have shown. Its activity from moment to moment and during each successive phase of movement is due to the influx of a higher cause. But if all the causes were secondary, and there were no prime mover—the sufficient reason for its own action—no motion would ever arise. We must bear in mind, however, that the priority of the unmoved mover is a logical priority, not a temporal one. St. Thomas saw this distinction as necessary to the discussion of the question whether the world were created from eternity or no.

In his Commentary on Peter Lombard's Sentences, he says:

Quod eundem effectum praecedere causas infinitas per se, vel essentialiter, est impossible; sed accidentaliter est possibile; hoc est dictu, aliquem effectum de cuius ratione sit quod procedit a causis infinitis, esse impossiblem; sed causas illas quorum multiplicatio nihil interest ad effectum, accidit effectui esse infinitas. Verbi gratia, ad esse cultelli exiguntur per se aliquae causae moventes, sicut faber et instrumentum; et haec esse infinita est impossible, quia ex hoc sequetur infinita esse simul actu; sed quod cultellus factus a quodam fabro sane, qui multoties instrumenta sua renovavit, sequitur multitudinem successivam instrumentorum, hoc est per accidens; et nihil prohibet esse infinita instrumenta praecedentia istum cultel- lum, si faber fuisset ab aeterno.29
Thus there is nothing contradictory in the conception of an infinite number of secondary causes succeeding each other in time. In fact, St. Thomas clearly saw the impossibility of disproving it philosophically. This is not to say that he believed in the actual existence of such a series, for this would be to hold the eternity of the world, and to depart from the teaching of the Church and Revelation. St. Thomas was an innovator in many phases of his philosophy, and never more so than in this point. And, like all innovators, he was vehemently attacked for his daring teachings. But, though he held it illegitimate to argue to the existence of God from the supposed necessity of a prius to the temporal series, his contention was that every causal series, whether temporally finite or infinite, is inherently contradictory unless regarded as dependent upon an ultimate cause which is not in time at all. In any such series each member is moved by its predecessor, and this in turn by the member previous to it; and though we proceed in this manner to infinity, we are no nearer reaching an ultimate and self-explanatory source of motion.

Professor Haldane rejected this second proposition on the ground that it was bad logic and bad mathematics. He rejects one after the other the four proofs given by Aristotle and included by St. Thomas in the Summa Contra Gentiles, as we have seen in Chapter IV. "Why," he asks, "is it impossible for an infinite number of bodies to be in motion at once, if there is an infinite number of movable bodies?" But that is
precisely the point. Is there an infinite number of movable bodies? Haldane makes a gratuitous assumption, which Aristotle and St. Thomas saw to contain a contradiction.

If you regress ad infinitum in the series of things moved and moving, you must assume an infinite number of bodies, for everything that is in motion is divisible and consequently a body. Now, every body which moves and is moved, is in motion simultaneously imparting movement. Hence, all this infinite number of bodies which impart movement because themselves set in motion, must move simultaneously, if one of them moves. But each of them must, as it is in itself a finite body, move in a finite time, therefore the infinite number of bodies moving simultaneously, must be in motion in a finite time. But this is impossible. It is therefore impossible to regress ad infinitum in the series of things moved and moving.

Moreover, the impossibility of an infinite number of bodies being in motion in a finite time, is proved by Aristotle in this way: the thing that gives and the thing that receives motion must be together, as can be shown inductively by reviewing all the kinds of movement. But bodies can be together only by continuity or contiguity. Since therefore all the things moved and moving are necessarily bodies, they must form, as it were, a single moving object, the parts of which are in contiguity or continuity. And thus a single infinite thing would have to be in motion in a finite time—a proposition which Aristotle has proved to be impossible.32

The second argument, showing the impossibility of an infinite regress, summarized by Professor Haldane and quoted in Chapter IV of this thesis, reads as follows in Aristotle:

If a series of things moved and moving are arranged in order, i.e. if they form a series in which each thing gives movement to the next, it is inevitable that, if the first mover disappears or ceases to move, none of the following things will be either moving or moved: it is in fact the first mover that imparts the power of movement to all the others. Now, if we deal with an infinite series of things moving and moved, there will be no first mover and
all the things will function as intermediate movers. Consequently, in the absence of a first mover, nothing will be moved and there will be no movement in the world.33

As we saw, Haldane finds fault with this reasoning by bringing in examples of infinite series of points on given lines. Thus, says Haldane, professing to follow the reasoning of St. Thomas and Aristotle, a moving particle attempting to traverse this infinite series of points would be unable to reach the first point, but all would be intermediate points. Hence there would be no movement. Since there are infinite series of points, the argument is absurd.34 Arnold Lunn rightly accuses his correspondent of confusing the infinite divisibility of a continuous line with the possibility of an infinite number of real changes in real entities.35 Haldane notes other infinite series of the mathematicians, saying that they are common and easily handled. As a parting thrust, he accuses the Scholastics of founding their first four arguments for the existence of God on the objection they felt to infinite series.36

That St. Thomas felt any objection to infinite series in his proof of the existence of the Unmoved Mover is only partly true, and is quite beside the point. He does not argue that an infinite regress is impossible, but that an infinite regress does not get rid of contingency and dependence. In fact, he contended that it is entirely illegitimate to argue to the existence of God from the supposed necessity of a priori to the
temporal series, as was noted above. In the arguments against an infinite regress there is no reference to any beginning of movement in time. They merely establish that in the universe as actually given, movement, as actually given, would be unintelligible without a First Mover communicating it to all things. Thus nothing would have to be changed in the proofs if the false assumption of the eternity of movement were admitted. St. Thomas expressly states this in the *Summa Contra Gentiles*. Catholic dogma teaches that the world was created in time, but St. Thomas was firmly convinced that this fact could not be proved philosophically. It would have been very easy for St. Thomas to establish this first proof had he started from this fact of Revelation, for everything that is produced requires a cause originating the new thing, since nothing can transfer itself from potency to act, from non-being to being. Thus, in giving preference to the assumption of the eternity of the world and of movement, he took the more difficult way, and, in proving his thesis, a fortiori proved it on the hypothesis of a universe and movement which had a beginning in time.

St. Thomas, then, admits the impossibility of disproving the existence of infinite series in time with the aid of reason alone. But such a series, if it really exists, cannot be actually infinite, that is, *per se* and essentially. For instance, the manufacture of a knife demands a moving cause, i.e. other instruments; these instruments, in turn, demand a
cause, the workman who makes them; the workman also demands an
efficient cause. Hence there is no proceeding to infinity in
such moving causes. If Professor Haldane were to demand that
his infinite series be actually existent, as he seems to
demand, he would involve himself in an absurdity. St. Thomas
did say that there was nothing repugnant in the concept of an
infinite series of accidentally subordinate movers which are
only instruments, for example, in the hands of a workman.38
But the point of the whole argument is the necessity of get­
ting rid of contingency in such a series. You may argue as
long as you like that the hands of a watch are moved by the
spring, the spring by a wheel, that wheel by another, and so
on ad infinitum, but you never get rid of contingency--you
never give a sufficient reason for the movement. Contingent
beings have not in themselves the reason why they should
exist rather than not exist, why they should move rather than
not move. In the absence of a necessary cause or mover they
simply would not be or move. Hence, the irritated remark of
Haldane: "Of course an infinite series does not help me to
get rid of dependence. Why should it?"39 is not the least of
his absurdities.

Professor Gilson, paraphrasing St. Thomas, gives the
reason why an infinite regress at the present moment when we
consider the universe, would be an absurdity.

The reason is that the causes, or the series
of which we argue, are hierarchically arranged; i.e.
that, in the assumption on which the proof from the
first Mover rests, everything that is in motion is
given motion by a moving cause, superior to it, and
which consequently is the cause both of its own
movement and of its moving power. What the superior
cause has to account for, is not only the movement
of the individual thing of any degree (for another
individual of the same degree would suffice to ex-
plain it, as one stone moves another stone), but the
movement of the whole species. It is true that,
taking our standpoint within a species, we see with­
out difficulty the sufficient reason of the individu­
als or of the movements in question, once the species
is given; but each individual or each moving cause,
having ex hypothesi received from another its nature
and power of movement, can no longer be considered
as being itself the cause of its nature or its power.
But the problem presents itself in the same manner
for each individual of the species under discussion,
since, for each, the nature defining it, has been
received from outside. The sufficient reason for
the efficacy of the individuals must therefore be
sought outside or above the species. Consequently
we must either suppose that whatever receives its
nature, is at the same time the cause of it and
therefore the cause of itself—which is absurd; or
that everything which acts by virtue of a nature
received, is only an instrumental cause, leading back,
through superior causes, to a first cause.

Having found fault with the second of Aristotle's proofs
against an infinite regress, Professor Haldane logically dis­
misses the third, since it is only the second in reverse order.
Aristotle's words are lucid enough, and, joined with the
reasoning just given in the second proof, should sufficiently
answer the objection brought against this third one.

We begin with the superior term and argue thus:
The intermediate moving cause cannot impart movement,
unless there be a primary moving cause. But in an
infinite regress of a series of moved and moving
things, all are at the same time moved and moving.
Therefore only intermediate moving causes exist, and,
since there is no primary moving cause, there will be
no movement in the world; unless, indeed, we should
ever observe an axe or saw operating without the
action of the carpenter.
These, then, are the proofs by which Aristotle and St. Thomas establish the second proposition and the existence of a first immobile mover. After these three there is included another argument, by which the same conclusion to the immobile mover is reached indirectly, namely, by showing that the proposition (implicitly contained in the first argument) "Whatever imparts motion is set in motion by another" is not a necessary proposition, i.e. one in which the predicate is contained in the very notion of the subject and the truth of which is absolute and universal. Haldane contends that "the world might be such that some movers are necessarily moved, and some just happened to be moved. In this case there would necessarily be some movement, but it might perhaps only be accidentally true that all movers are moved." The professor seems to have lost the point of this argument, which is to disprove an infinite regress. Since this part of the argument is given at great length in the Summa Contra Gentiles, it will suffice to summarize it here.

If the proposition "Whatever imparts motion is set in motion by another" is true only accidentally, then it is possible that none of the things which impart movement are themselves in motion, a proposition that is denied by all thinking men. Therefore, if it is possible that nothing is in motion, it is possible that there is no longer anything that imparts motion, and hence no movement. The proposition is thus not true accidentally.
An impossibility results if we say that the proposition is true necessarily. For thus the mover may receive either a motion of the same kind which it imparts, or a motion of a different kind. If it receives a motion of the same kind, it follows that everything that produces a change, is itself changed, everything that heals is itself healed, etc. This is evidently impossible. On the other hand, if the mover receives a movement of a different kind, it would follow, since the number of kinds and forms of movement are finite, that a regress ad infinitum would be impossible.

Some scientists have argued that motion in a circle does not require a first mover. They argue that one molecule on a circle can move a second, the second a third, the third a fourth, and so on until the last of the series moves the first, whereupon the process is repeated. But, either the movement had a beginning or it did not. If the former, then our argument is granted and we have a prime mover. If the movement had not a beginning, then we must admit that the first molecule was at the same time in a state of motion and in a state of repose. It is in motion because it moves the second molecule; it is in repose because it is moved by the last molecule. Here we are face to face with a contradiction, and the conclusion is forced upon us that there exists an external first mover.45

Modern scientists have conceived motion as relative to a closed system, understanding by that term a system of bodies
and forces so ordered that it may be considered as an integral whole, prescinding from all forces external to it. Viewed absolutely it may be undergoing no transference in space. But this hypothesis does not affect the Aristotelian argument, since relative motion necessarily involves absolute motion.46

From all these arguments we can readily see that all movement necessarily implies a mover other than itself, that as long as there is motion there is an efficient cause producing that motion, and that however far we regress in things moving and moved we never arrive at a sufficient explanation of movement unless we posit a first in the series. That this Prime Mover must be itself unmoved flows directly from the impossibility of an infinite regress. That the Aristotelian and Thomistic argument contains no faulty logic seems to be evident, and as to the charge of "bad mathematics," this is equally absurd, for, granted the metaphysical correctness of the argument, it cannot contradict the principles of mathematics.
Notes on Chapter V


3 Driscoll, *Christian Philosophy: God*, p. 133


5 *Physics*, III, ch. 1, 201a10

6 *Ibid.*, III, ch. 3

7 *Summa Contra Gentiles*, I, 13

8 *Ibid.*, I, 13

9 *Physics*, IV, ch. 4

10 *Summa Theologica*, Ia, q. 75, a. 5 ad 2

11 *Dieu: Son Existence et Sa Nature*, p. 259

12 *Summa Theologica*, Ia, q. 77, a. 1

13 Patterson, *The Conception of God in the Philosophy of Aquinas*, p. 56

14 Remer, *Theologia Naturalis*, p. 19

15 *op. cit.*, p. 134

16 *Disputationes Metaphysicae*, Disp. XXX, s. 1

17 *Theodicea*, p. 11

18 *op. cit.*, p. 253, n.

19 *Science and the Supernatural*, p. 170


21 *op. cit.*, pp. 35-37

22 Joyce, *Principles of Natural Theology*, pp. 98, 99


24 *Annotationes Cosmologicae*, p. 176
25 op. cit., Vol. II, p. 309
27 op. cit., p. 101
28 op. cit., p. 434
29 2 Disp. 1 q. 1: a. 5
30 Science and the Supernatural, p. 172
31 Ibid., p. 171
32 Gilson, The Philosophy of St. Thomas Aquinas, pp. 70, 71
33 Ibid., p. 71
34 Science and the Supernatural, p. 171
35 Ibid., p. 257
36 Ibid., p. 171
37 I, 13
38 Comm. in Lib. Sent., 2 Disp. 1 q. 1: a. 5
39 Science and the Supernatural, p. 301
40 Summa Contra Gentiles, III, 65
41 op. cit., pp. 77, 78
42 Gilson, op. cit., pp. 71, 72
43 Lunn and Haldane, op. cit., p. 172
44 I, 13
45 Driscoll, op. cit., pp. 143, 144
46 Joyce, op. cit., pp. 95, 96
CHAPTER VI

The Primus Motor Immobilia

It may be objected that the argument from motion does not conclude to the existence of God, but merely to a first mover unmoved. Strictly speaking, the objection has some validity. St. Thomas says in the Summa Theologica that, if we speak of a first Mover not set in motion by anything else, everyone will understand that we mean God. He did not expect us to accept this conclusion as pure and simple evidence: we shall get the full proof when all the Divine attributes which human reason can apprehend from this notion of a first immobile Mover are developed.

As we saw from the proof, the primus Motor immobilia is really a mover, by which is understood an efficient cause which reduces a movable being from potency to act. It is immobile not in the sense that it lacks activity, but in the sense that it moves without being moved, i.e. without receiving any perfection toward which it is said to move, and that it is not in potency to receiving any real act.

Cette cause première, nous la disons immobile assurément, mais seulement en ce sens qu'elle n'est pas mue par un autre, qu'elle est première absolument dans cet ordre; en d'autres termes, l'idée d'immobilité ici n'est fait que nier absolument toute passivité, c'est-a-dire sous forme positive, qu'elle affirme dans le premier moteur universel une plénitude exclusive de toute privation.

It is first ontologically, or the efficient cause for
which no other cause is required, and from which proceed as from the supreme self-sufficing principle both the motion itself and ultimately the whole series of movers.

From this notion of the immobile prime mover we can deduce more than sufficient attributes to prove that the notion is predicable only of God.

1. The prime mover is pure act, i.e. there is nothing potential in it. The argument has already excluded all potentiality in the order of action. The prime mover not only can act, but its action is identical with itself. Therefore, there can be no potentiality in its being, for "operari sequitur esse et modus operandi modum essendi." That which is self-operative must be self-existent. If there were in this prime mover a transition from non-being to being, this could be so only in virtue of a higher cause, and then we should no longer have the prime mover.3

2. The prime mover is infinitely perfect, because it is pure actuality without any admixture of potentiality. This is equally true whether we consider the essence or the action of such a being.4

Act means the determination of being in point of accomplishment and perfection; pure act is, therefore, pure perfection. It is at the same time pure being; pure intellection, always in act, of pure being always actually known; pure love, always in act, of the plenitude of being always actually loved.5

3. The prime mover is immaterial and incorporeal. It is immaterial because matter is essentially a potential subject,
susceptible of change, preeminently the subject of becoming. The prime mover is, on the contrary, pure act, totally without becoming. It is not corporeal because not material. A body is composed of parts and depends on parts, whereas the pure act excludes all composition and dependency. There is no question of more perfect or less perfect in the prime mover, because, being pure act, it is pure perfection.6

4. The prime mover is intelligent. Immateriality is the basis of intelligibility and of intelligence.7 Moreover, that which moves all things toward an end must itself know that end and the proportion of the things ordered toward that end.

5. The prime mover is omnipresent, because to move all things demands the presence of the mover.

6. The prime mover is eternal, because it always has of itself being and activity without any change. With it there can be no question of time, for time means succession, which is impossible in pure act.

7. The prime mover is unique, because pure act cannot be multiplied. Were two pure acts to be posited, then neither would be pure act, for the very notion "two pure acts" is a contradiction.

All of these attributes have been rationally deduced from the notion "first immobile mover." Hence, to deny that by the sole force of reason man can attain to a knowledge of the existence of God is not only to show ignorance of the Thomsitic arguments, but to deny a fact evident to all men from the very
beginnings of philosophic enquiry.

Finally, one word about the Prime Mover of Aristotle and St. Thomas. Most of the modern critics of the traditional arguments for the existence of God, Haldane among them, identify the proofs of the pagan and the saint. This seems to be true if one reads only the *Summa Contra Gentiles*. But the *Summa Theologica* contains St. Thomas' fully developed views on the subject, and in them is seen how far apart are the notions of the Prime Mover of the two philosophers. True enough the cosmography of both is the same, but, underneath the physical analogy, what a metaphysical difference! Aristotle equates the Prime Mover with local motion; St. Thomas transports Him to the realm of Being. Then, too, what a difference in the notion of God!

Lorsqu'on lit, dans les commentaires de la Divine Comédie, que le dernier vers du grand poème ne fait que traduire la pensée d'Aristote, on est bien loin de compter, car l'amor che muove il Sole e l'altre stelle n'ha de commun que le nom avec le premier motore immobile. Le Dieu de Saint Thomas et de Dante est un Dieu qui aime, celui d'Aristote est un Dieu qui se laisse aimer; l'amour qui meut le ciel et les astres chez Aristote est l'amour du ciel et des astres pour Dieu, au lieu que celui qui les meut chez Saint Thomas et Dante est l'amour de Dieu pour le monde; entre les deux causes motrices, il y a toute la différence qui sépare la cause finale de la cause efficiente. Et l'on doit aller encore plus loin.

Rerum Deus tenax vigor
Immutus in te permanens.
Notes on Chapter VI

1 Summa Theologica, Ia, q. 2, a. 3


3 Summa Theologica, Ia, q. 3, a. 1, 2, 4

4 Ibid., Ia, q. 4, a. 1 and 2; q. 7, a. 1


6 Summa Theologica, Ia, q. 3, a. 1 and 2; Physics, VIII, Lect. 23

7 Ibid., Ia, q. 14, a. 1

8 Gilson, L'Esprit de la Philosophie Médiévale, p. 78
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L.D.S.
The thesis, "J. B. S. Haldane and the Thomistic Argument for the Existence of God from Motion", written by Cletus F. Hartmann, S.J., has been accepted by the Graduate School with reference to form, and by the readers whose names appear below, with reference to content. It is, therefore, accepted in partial fulfillment of the requirements for the degree of Master of Arts.

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April 30, 1941

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May 5, 1941