

Aquinas and the Aristotelian Logical Ontology

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Unless the primary Laws of Thought were Laws of things, our thought would be doomed by its very nature to misapprehend the nature of things.¹
[H. W. B. Joseph]

In the history of philosophy, Aristotle and Thomas Aquinas occupy a minority position on the issue of how we learn the laws of logic. While Platonists and traditional rationalists will argue that such knowledge must be innate, and while most philosophers after Hume and Kant are agreed upon the impossibility of deriving necessity from experience, against both of these traditions Aristotle and Aquinas hold that the laws of logic are learned empirically—and that they are nonetheless known to be *necessarily* true.

The difficulties in defending such a view are well known, yet if such an Aristotelian approach to the laws of logic can be maintained it will have several advantages over other views. The Aristotelian will not have the problem, as the conventionalist does, of trying to give reasons why the laws of logic should be preferred to any other arbitrary set of rules. Nor will the Aristotelian have the problem of explaining why, if the laws of logic are innate in us, they have anything to do with the way the world actually is. Instead, the Aristotelian, since he holds that the laws of logic are both necessary and learned empirically, can argue that the laws of logic have a *factual* and *necessary* foundation and hence that they can serve as guiding principles in our scientific attempts to understand the world.

However, there have been problems in developing an Aristotelian account, as is well known. Indeed, it was in the light of specific problems with Aristotle's own account that Aquinas, with whom we are here primarily concerned, was led to develop a unique account, one which remains faithful to Aristotle's original program, thus maintaining all of its positive features while hopefully avoiding its flaws.

In this essay I am interested in developing Aquinas's account of how we learn the laws of logic. But as it is a development of Aristotle's account, an overview of Aristotle's own position is needed in order to set the context for that of Aquinas.²

II

According to Aristotle, the laws of logic are to serve as guiding principles in our construction of a deductive system of knowledge. As first principles, they are the most general truths possible; they are "true of being *qua* being, and each genus has being."³ They are also first principles in the sense that they are laws which a man "must know if he is to learn anything whatever."⁴ Now, if we attempt to maintain that all knowledge is acquired by deduction, then we have the problem of grounding our first principles. If we say they are themselves validated deductively, then they cannot really be first principles—and we still need to know how those deductively earlier principles are themselves validated. Are *they* validated deductively? If so, then on the premise that all knowledge is gained via deduction we will ultimately be pushed into an infinite regress or into some sort of circle. And in response to the untenability of such anti-foundational views, Aristotle says that his own position is that "not all knowledge is demonstrative: on the contrary, knowledge of the immediate premises is independent of demonstration."⁵

The laws of logic, then, are learned by *induction*, by a passage from sensory awareness to general truths. But to grasp general truths, one must be able to think in terms of concepts—which means that one must be able to grasp universals, as it is the universal element in things which serves, on

the Aristotelian account, to ground general truths. So an inductive account of learning the laws of logic is a special case of grasping universals.

Since for Aristotle universals exist only in individual things,⁶ the epistemological task of the mind is to separate the universal element from the form/matter integrate of which it is a part. This requires several stages. After several sense-perceptions, which are retained by the memory, “the soul is such as to be capable”⁷ of separating the universal from the accompanying matter and retaining it alone. What is retained is what is general to the type of thing being considered; it is “the one beside the many”⁸ and what “belongs to something both of every case and in itself and as such.”⁹ This abstractive/ inductive process of separating the more universal from the more particular of what is given in sense-perception continues until the most general universals, the categories, are grasped. And since the laws of logic, the first principles are among the most general of principles, “it is clear that we must get to know the primary premisses by induction; for the method by which even sense-perception implants the universal is inductive.”¹⁰

But for the laws of logic a special type of induction is needed, for there are several unique criteria they must fulfill. Since they are completely general, they cannot be acquired by enumerative induction: while a complete enumeration would yield the required certainty, an exhaustive survey of all the instances covered by the laws of logic is not possible. Also, the laws of logic cannot be inductive generalizations which require subsequent deductive validation, since they are supposed to serve as the grounding principles of demonstration. What is needed, then, is a type of induction that requires only a limited number of instances, but which yields a completely necessary and general principle that cannot rationally be doubted. What is needed, as Aristotle puts it, is an induction which is a direct *intuitive* grasp of necessity by the mind given awareness of only a few instances—in short, an intuitive induction. The process is inductive because it goes from the particular to the general; and it is intuitive because, as one commentator points out, the grasping of the general law is not to be construed as an inductive *argument*, “since the general proposition, once

conceived, is self-evident and does not require to be inferred from premises.”¹² The observed instances serve only to make it possible for the general law to be *conceived* by the mind; they do not serve as premises by which the mind argumentatively *derives* the general law as a conclusion.

At this point, a clarificatory question arises as to the point at which, according to Aristotle, the required element of necessity in a law of logic is grasped. With respect to the Law of Contradiction, one commentator asks the question in this way: Does the first grasping of necessity

occur in the sensory perception of the preliminary fact(s)—so that one first perceives that this particular *A cannot be* both B and non-B, that that particular *C cannot be* both D and non-D, etc., and then generalizes? Or does it occur only at the stage at which one has conceived the general principle—so that one first perceives only that this particular *A is not* both B and non-B, that that particular *C is not* both D and non-D, etc., then generalizes and grasps the necessity of the Law on the general level, and only *then* recognizes necessity in the preliminary particular facts one perceived?¹³

Aristotle did not himself clearly state which of these alternatives he would adopt, though there are two considerations which indicate that Aristotle would have to opt for the second. The first is an ontological consideration. For Aristotle, necessity is found *only* at the level of universals, while contingency is always found at the level of matter and particulars. Matter is the seat of potentiality, while it is only universals which are unchangingly actual. This implication of this is that the mind would have to be operating at the level of universals in order to recognize necessity; for in perceiving particulars it always has to be aware of contingency and the potential for change. It is only upon considering universals *in isolation* from particulars that necessary connections are discovered by the mind.

The second consideration is an epistemological one, based on Aristotle’s cognitive division of labor between sense-perception and the rational faculty. While sense-perception makes us aware of particular individuals, it is the mind’s rational faculty that abstracts and retains the

universal. Cognitively, we start with sense-perceptions of particulars, so particulars “are more knowable and obvious to us,” although it is universals which “are clearer and more knowable by nature.”¹⁴ What this implies is that necessity, which is found at the level of universals, is not immediately grasped in sense-perception. And if we bring in another Aristotelian tenet, namely that the most universal things are “the hardest to know; for they are furthest from the senses,”¹⁵ then it must be that a law of logic, being completely general, cannot be grasped in sense-perception; its necessity can only be grasped once it is considered in isolation. The senses give things located at particular places and times. But a law of logic is completely universal, since it “holds in every case” and is “always and everywhere”¹⁶; so its necessity cannot be recognized in sense-perception, but only once the appropriate universals are abstracted and the connections between them grasped.

Schematically, then, Aristotle holds that we learn the laws of logic by the following steps. First, on the basis of sense-perceptions we derive several true, empirical judgments to the effect that such-and-such a thing is not both $\underline{x}$ and non- $\underline{x}$, and that such-and-such other thing is not both $\underline{y}$ and non- $\underline{y}$. Next, by a series of higher and higher abstraction/inductions, we come to conceive the completely general proposition “Nothing can be both A and non-A.” Then, once conceived, this proposition is intuited by the mind to be necessarily true—that is to say, that *being necessarily excludes the possibility of being A and non-A at the same time and in the same respect*. The Law of Contradiction is now known. As a final step, the Law can be applied to particular cases, and the necessity of particular things’ not being both A and non-A can be seen to be true.

It is because of the complete universality of the laws of logic that Aristotle calls them *first* principles. And since any attempt to deny them leads only to nonsensical utterances,¹⁷ Aristotle also stresses their epistemological status as laws which “every one must have who knows anything about being”¹⁸ and as *immediate propositions*, where an immediate proposition is “one which has no other proposition prior to it.”¹⁹

But, having said this much, an inconsistency in Aristotle's account arises. Aristotle appears to have said both that the laws of logic need to be known before anything else can be known, *and* that several true, empirical judgments must be known before such completely general laws can be derived. Since the laws are to be derived by a special form of induction, it seems that *some* previous knowledge is needed to serve as the basis for that derivation. But, on the other hand, since Aristotle also needs them to serve as first principles, for them to be first principles no other propositions can be prior to them; they must be known if one is to learn anything, he says. It seems that the inductive element of the process interferes with the special status of the laws of logic as first principles.

Assuming this inconsistency cannot be overcome (Aristotle does not indicate that he is aware of it), then there are two options available, assuming also that one wishes to remain within an Aristotelian framework. One could emphasize the status of the laws of logic as first principles while rejecting the inductive element of the intuitive process. But to remain Aristotelian one cannot appeal to innate ideas or divine illumination; experience and abstraction must remain as indispensable elements in the process. What would then be needed is an account of some way of grasping the necessity of a law of logic without first having to form other propositions. Alternatively, one could emphasize the inductive element in the process while rejecting the first principle status of the laws of logic. This would allow the formation of empirical judgments which are known to be necessarily so *prior* to knowing the laws of logic. But then, such a view would require an account of how necessity can be grasped in sense-perception and then generalized upon.

The first alternative is, roughly, the one that Aquinas opts for, so it is the one to be developed here. While Aquinas accepts the overall Aristotelian framework presented above, his solution to the inconsistency in Aristotle's account involves saying that the abstractive capacity of the mind implicitly grasps the most general of universals, "being," in its first sensations—and not, as Aristotle has it, only after a series of inductions. By having knowledge of this broadest of universals right from the outset,

including implicit knowledge of the necessity within it, knowledge of the laws of logic is implicit in the earliest cognitive efforts of a mind. This knowledge, while implicit, is both empirical and gotten by abstraction, it is the very first thing learned, and the required necessity is maintained. It is the details of this account of Aquinas's, still developed within the Aristotelian framework, to which we now turn.

III

In approaching the issue of how we learn the laws of logic, Aquinas accepts the basic Aristotelian constraints on a solution to the problem. He agrees that knowledge of these first principles is gained empirically, that is, via the senses.²⁰ He states also that the Law of Contradiction, specifically, is the first judgment known by a mind.²¹ What is needed is a way to reconcile these two conditions. Aristotle's account ran afoul of the second constraint by admitting mediating, singular, empirical judgments. Aquinas rejects this aspect of Aristotle's account. But Aristotle had also required that the laws of logic be true of "being *qua* being," and it is upon what is involved in a mind's grasp of the universal "being" (*ens*) that Aquinas focuses for his proposed solution.

We start with the process by which minds grasp universals. Knowledge starts with the senses, and the senses put us in contact with material things. On the Aristotelian view, universals exist embedded in material things (with a few metaphysical exceptions) and not, as the Platonists say, in some special realm. But the mind does not retain the entire matter/form complex that makes up material things; it retains only the universal element. So, since the universal "does not exist in the same way in the intellect and in the thing,"²² the mind has work to do. This gives rise to the need for what Aquinas calls the "agent intellect,"²³ the faculty of soul which accomplishes the abstraction of universals. Aquinas here endorses Aristotle's general account of the abstraction of form from matter by the intellect:

But to know what is in individual matter, yet not as existing in such matter, is to abstract the form from individual matter which is represented by

phantasms. Therefore we must needs say that our intellect understands material things by abstracting from phantasms.²⁴

“Phantasms” are what is presented to the mind by the physical sense organs. They are “in a way the matter” upon which the agent intellect acts to extract the universal element and then “to immute the possible intellect” in order to retain the universal.²⁵ While the senses have individual things as the objects of their attentions, the intellect deals solely with universals.²⁶ And since the abstracting process is the process of the intellect’s moving from the particulars given in sense to the universal, it is the process by which the most general universal(s) required for knowledge of the laws of logic is attained.

Aquinas sometimes also speaks of this process as an “inductive” one, but when we are concerned with knowledge of first principles, as J. B. Sullivan points out:

“induction” is not used in the sense of inductive reasoning, from premises to conclusion judgment by judgment, but in the sense of *abstraction*, the process whereby the intellect “takes out” and comes to know a universal essence existing in things perceived by the senses.²⁷

If we then call the process involved here an inductive derivation of a general law, Aristotle seems to have construed it as moving in steps from knowledge of lesser to wider and wider universals. One starts with awareness of the more determinate and particular, and then one widens one’s grasp by stages until, much later, the widest universals are reached. Aquinas rejects this in favor of the view that the widest universals are the *very first* universals to be abstracted in the course of a mind’s cognitive development. In trying to find a way to pass directly from sensations to knowledge of the Law of Contradiction without appealing to innate ideas or using any intermediate, singular, empirical judgments, Aquinas argues that with the very first sensations the mind, by a “natural habit,”²⁸ abstracts out the universal “being,” where “being” is the widest universal. The direction here is the exact reverse of Aristotle’s, for the intellect first

grasps the widest possible abstraction, and then specifies and particularizes as it develops and learns more.

But how can this be so? If the senses give particulars, as Aquinas says they do, how can the intellect suddenly move from the presentation of particular phantasms to the cognizance of the widest possible universal? And not only that, how can this be reconciled with another of Aristotle's statements, which Aquinas also accepts, namely that the widest of universals are the hardest to know on account of their being the farthest from the senses? This is not obvious.

The first part of the answer, for Aquinas, depends on the recognition of the fact that the human intellect is not omniscient and perfect: when it first grasps something, the intellect does not do so in a complete and final manner; it understands only partially and imperfectly, and then as it learns more its understanding increases and becomes more and more complete. The knowledge of angels, by contrast, is not like this, but whatever universals the human intellect grasps for the first time, at *any* stage in its development, it grasps only partially and incompletely. Aquinas expresses this by saying that the mind moves from a less perfect to a more perfect act of the intellect.

apprehends something of a thing, such as its quiddity, which is the first and proper object of the intellect; and then understands the properties, accidents and various dispositions affecting the essence.²⁹

The perfect act of the intellect is *complete* understanding of the thing in question, while an imperfect act of the intellect is a *partial* understanding of the thing.³⁰ Now, before the first sensations, the human intellect has no actual knowledge, only the *potential* to acquire knowledge. But to acquire knowledge it must move first from potentiality to actuality, and, since humans are not angels, that movement is going to be necessarily incomplete. The human mind does not and cannot move from no knowledge to perfect understanding in a single act, but only in stages from no understanding to partial understanding to increasingly complete understanding. The point here is that if the intellect does in fact grasp

“being” as its very first universal, this will not imply for Aquinas that a perfect understanding of that universal is attained at the same time.

As the next part of his solution, Aquinas points out that “it is evident that to know something that comprises many things, without a proper knowledge of each thing contained in it, is to know that thing confusedly.”³¹ If we consider universals, we see that they are a kind of whole, for each universal subsumes many particulars. “Man,” for instance, subsumes Socrates, Plato, and indefinitely many others. Further, it is also possible to know a universal without knowing every particular subsumed under it: one can know the universal “man” even if one does not happen to know Socrates’ father. But this means that we as humans first gain only an *incomplete* grasp of the universals we acquire, and that our knowledge of those universals becomes more complete as we learn more detailed information about the less general universals and the particulars they subsume. These points are nicely summarized in a passage from the *Commentary on Aristotle’s Physics*:

That universals are confused is clear. For universals contain in themselves their species in potency. And whoever knows something in the universal knows it indistinctly. The knowledge, however, becomes distinct when each of the things which are contained in potency in the universal is known in act. For he who knows animal does not know the rational except in potency. Thus knowing something in potency is prior to knowing it in act. Therefore, according to this order of learning, in which we proceed from potency to act, we know animal before we know man.³²

And in the *Summa Theologiae*, in making the same point, but with an all-embracing formulation, Aquinas tells us that “the same reason holds in comparing any more universal concept with the less universal.”³³

In the same passage from the *Summa* Aquinas argues that an exactly parallel process occurs with the senses, and he gives two instructive examples illustrating how we are aware of the more common prior to the less common. First, “in reference to place, when a thing is seen afar off it is seen to be a body before it is seen to be an animal, and to be an animal

before it is seen to be a man, and to be a man before it is seen to be Socrates or Plato.” And then, borrowing an example from Aristotle’s *Physics*,³⁴ he points out that children are able to distinguish men from not-men before they can distinguish particular men from each other, “and therefore, *children at first call all men fathers, and later distinguish each one from the others.*” From these illustrations Aquinas concludes that in *both* the realm of sense and the realm of intellect, the more universal is judged of prior to the more determinate and particular.

If it is true that in the order of learning we acquire the more universal before the less universal (but at first very incompletely), and if we extend this account to all possible universals, as Aquinas says we can, then it must be true that we first acquire incomplete knowledge of the most general universal of all: “Being.” “Being” is the universal with the widest extension, since it is common to everything, including all other universals. Thus, the first thing grasped and the first thing judged of by the intellect must have to do with the universal “being.”

Assuming that “being” has being acquired by the intellect, albeit in some incomplete way, let us now ask what can be judged of it, given that we are here dealing with a mind in its very first act of moving away from mere potentiality. Such a mind has no other knowledge, and since “being” is the very first universal it is grasping, it cannot yet think in terms of narrower concepts such as body or number. What kind of judgment can such a mind form? At most, such a mind could judge that, whatever the thing it is aware of is, it is. That is to say, it (whatever the object of awareness is) *is a being*. This is not to say that the mind can form an explicit judgment to the effect that “It is”—the point for Aquinas has to be that before such a mind can judge of *anything* else about the thing it is aware of, it *first* at least has to know that it *exists*, which is to say that the mind is aware of “being.” Aquinas later makes this explicit, saying “... that which first falls under the apprehension is *being*, the understanding of which is included in all things whatsoever a man apprehends.”³⁵ The first thing that the mind understands about anything is that it is a being, and in order to learn anything else about that thing, this must be recognized.

From here, for Aquinas, it is a short step the Law of Contradiction, the law he considers to be primary. The general idea of how that step is accomplished is that once the concept of “being” is abstracted, upon minimal analysis of that concept, knowledge of the necessity inherent in the Law of Contradiction follows directly. As a later Thomist commentator puts it, “although first principles are not actually innate in the intellect, they are derived by it immediately upon cognition of their terms, as soon as these are abstracted from the phantasms of sense.”³⁶ No intermediate judgments are needed: upon the occasion of the intellect’s analysis of “being” the Law’s truth becomes literally self-evident: it itself is all that is needed for its truth to become evident.

In greater detail, Aquinas’s exposition of this is as follows. Since the intellect cannot be mistaken when it is directed toward its proper object, and since the proper object of the intellect is the essence or quiddity of things, “... the intellect cannot err in regard to those propositions which are understood as soon as their terms are understood. Such is the case with first principles.”³⁷ And again: “For the first principles become known by the natural light of the active intellect itself; they are not acquired through reasoning, but only through this, ... that their terms become known.”³⁸ The intellect does this by discovering what is necessitated by the concept “being.” And what is necessary to “being” is simply *being*: in grasping “being,” the intellect, even in its cognitive infancy, will just “see” that being must necessarily be being, or, in other words, that being necessarily cannot be not-being. Yet once this much is understood, knowledge of the Law of Contradiction is attained. Further cognitive development is then possible: in experiencing anything whatever, the mind will know that it necessarily must be non-contradictory, since the now known Law of Contradiction applies universally to everything that has being. “Therefore,” states Aquinas in conclusion, “the first indemonstrable principle is that *the same thing cannot be affirmed and denied at the same time*, which is based on the notion of *being* and *not-being*: and on this principle all others are based... .”³⁹ So, “being” is the first universal abstracted by the intellect, and immediately upon the

occasion of that abstraction the judgment “Being cannot be not-being” follows self-evidently and naturally.

All of the above is intended as an explication of the action of a mind in its cognitive infancy, so the question may arise as to just how much of this is explicitly taking place in a mind which has no other concepts or principles or even knowledge of a language in which to express them. Aquinas cannot be saying that a formal philosophical analysis of the concept “being” takes place, nor that the intellect at that point is able to explicitly formulate and enunciate the Law of Contradiction. Neither of these would be possible to a mind at the outset of its development. Such analyses and formulations are possible only retroactively to philosophically trained minds. What *does* occur is that, even given the most minimal analysis, what is entailed by “being” is grasped, and that hence at least *implicit* knowledge of the Law is acquired. We know that the mind cannot spring suddenly from potentiality to a perfect grasp of the Law; just as with any concept or judgment, it moves from potency to incomplete knowledge. But incomplete knowledge is knowledge nonetheless, and in this case the knowledge acquired is that crucial and fundamental judgment which serves to make possible the acquisition of more varied and complete knowledge.

The Law of Contradiction is now applied to the new beings the mind encounters. When the mind becomes aware of something, it always becomes aware of that something first as a being, and hence as subject to the Law. In this way the Law serves as a guiding principle for the mind in all of its cognitive efforts. As it is known that “being” cannot also be “not-being,” it is known that everything which is a being cannot also not be the being it is. This means that one cannot, and *knows* (at least implicitly) that one cannot, ever properly ascribe something and its negation to the same being. Everything one ascribes, and everything one ascribes to, falls under being. This is to say that things are what they are, and *only* what they are; they are not also not what they are. (This is not to say that things cannot change or that one part of a being cannot be *A* while another part of it is *non-A*; thus we need to add the usual qualifications “at the same time and in the same respect.”)

The Law of Contradiction is thus for Aquinas not just an abstract logical principle. It *is* an abstract logical principle, but it is *also* fully applicable to the empirical world. It is applicable there, because it was the empirical world from which it was derived in the first place. The Law is *both* an ontological law and a logical law, and its status as the latter derives from its status as the former. Because whatever has being is necessarily non-contradictory, our thoughts and judgments about beings should be non-contradictory. Beings do not possess contradictory properties, so in our judgments about beings we cannot properly ascribe contradictory predicates to them. By following the logical Law of Contradiction in our judgments we are also following one of the ontological laws of the world. Thus Aquinas is in complete agreement with the characteristic Aristotelian integration of the abstract and the concrete, the viewpoint expressed in the quotation from the twentieth-century Aristotelian Joseph placed at the beginning of this essay.

Aquinas's explication is not intended to be an *argument* for the truth of the Law of Contradiction. He agrees with Aristotle that its truth is known upon the occasion of its conception; it itself is the only evidence needed for its truth to be grasped. And so it should be, in the Aristotelian view, since to try to argue for the truth of the basic principle of argument—or, in other words, to try to prove what all proof presupposes—is obviously futile and circular. But this means only that proof is not the sole means of validating knowledge. In the case of first principles, they can only be articulated and the meanings of their terms made clear; once this is done, the mind naturally intuitively grasps their necessary truth. (As Aristotle and Aquinas point out, if someone wishes to be stubborn and try to deny or to not recognize the necessity of the Law, one can indicate to the person the impossible consequences of such a position—as does Aristotle in *Metaphysics* IV, 4. Such a method of *reductio ad impossibile* is legitimate as a negative way of arriving at the truth of the Law. But even such a *reductio* is not a proof properly speaking; it itself presupposes the truth of the Law, since it presupposes that the words used mean what they mean and not also not what they mean, etc. It can serve only as device to present, in stark form, exactly what a denial of the Law

implies.) Aquinas's proposed explication, accordingly, is an attempt to articulate explicitly in stages what occurs in a mind as a unified act of intuitive thought at the outset of its development. Ultimately, such an explication may be valuable in learning what goes on in our mind at a time before we can remember, but the *validation* of the Law can only be attained by each mind's having its own intuitive insight upon conceiving it.

IV

Aquinas now appears to have found a way to uphold the two major Aristotelian constraints upon an account of how we learn the laws of logic, and to have done so while avoiding the apparent contradiction in Aristotle's own account. The empirical element is maintained, for it is sensation which provides the material for the agent intellect to act upon; it is not the case that sensory experience is relegated to the role of merely providing a stimulus to make conscious already innate knowledge. And the Law is the first judgment known, so it maintains its status as a law one "must know if he is to know anything." It is a *first* principle and it is learned empirically. It is first because we judge of the more universal before the less universal, and since "being" is the most universal of universals, the intellect first judges of a thing that it *exists*. And in the very act of grasping "being" the intellect grasps the necessity of the Law of Contradiction.

Further, Aquinas's account squares with the requirements that a law of logic be necessary and that it be universally applicable. It is necessary, for the Law is based directly on what is necessary to the universal "being." It is universally applicable since nothing is more universally applicable than "being." "Being" is grasped in every cognitive act of the mind, and since the Law of Contradiction is grasped whenever "being" is, Aquinas can also maintain, as Aristotle did, that the Law as a first principle is among the "most knowable" of things.

Aristotle had also said that in a sense the most universal things are "the hardest to know," but Aquinas can integrate this seemingly contrary dictum into his account by arguing that to *really* know them means to know them in detail and determinately, and not vaguely and indistinctly. This means that one has to know them "in act," and this requires much effort

and study. Since the first grasp of a universal is necessarily incomplete, further cognitive work is needed to complete one's understanding. In the case of the concept "being," to really know it one has to know *everything* subsumed under it, and this is indeed a hard thing to do.

So, given Aquinas's full account, the logical Law of Contradiction can legitimately claim all of the following Aristotelian merits: it is the first judgment known by a mind; it is learned empirically; it is a necessary truth; it is self-evident; it is the most certain of principles; it is in one sense among the most knowable of principles, while in another sense, being so universal, it is among the hardest to know; it is universally applicable; and it is both a law of thought and of reality.

As mentioned earlier, Aquinas's account ultimately is based upon his theory of universals. That theory is a version of realism. It is by actually having "being" as a universal embedded in particulars that it is possible for the senses, in cognizing those particulars, to present the material needed for the agent intellect to abstract what in turn generates knowledge of the Law of Contradiction. But if the general thrust of the account presented above works, then the attractiveness of the results would give some epistemological impetus to such a theory of universals—or, for that matter, to any theory of concepts which maintains a strong link between our general concepts and the empirical world. Ontologically based laws of logic have enormous epistemological value, both on their own account, and because such laws would help us avoid some of the problems other accounts of the source of logical laws seem to have: they would not be so seemingly arbitrary, as on conventionalist accounts; they would not be contingent and subject to change, as on pragmatist accounts; they would not be seemingly divorced from the empirical world, as on many rationalist accounts, and so on. Such a prospect is of crucial importance, as the status we ascribe to the laws of logic is central to our philosophical accounts of the world and of our knowledge of it.

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References

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19. *Post. An.* 72a7–8.
20. Thomas Aquinas, *Summa Theologica*, in *Introduction to St. Thomas Aquinas*, ed. Anton C. Pegis (New York: The Modern Library, 1945, 1948); I, q. 85, a. 3, corp. All future references to the *Summa* (henceforth 'ST') are to this translation.
21. Aquinas, ST I–II, q. 94, a. 2, corp. Paul Vincent Spade has pointed out to me that in addition to Aristotle, Aquinas is being influenced by Avicenna's *Metaphysics* on this issue. Avicenna holds that "being," "thing," and "necessity" are the first things impressed upon the intellect.

22. ST I, q. 85, a. 6, Rep. 3.
23. ST I, q. 54, a. 4, corp.
24. ST I, q. 85, a. 1, corp.
25. ST I, q. 84, a. 6, corp.
26. ST I, q. 85, a. 3, corp.
27. J.B. Sullivan, *An Examination of First Principles in Thought and Being in the Light of Aristotle and Aquinas* (Washington, D.C.: The Catholic University of America Press, 1939), p. 21.
28. Aquinas, ST I–II, q. 51, a. 1, corp.
29. ST I, q. 85, a. 5, corp.
30. ST I, q. 85, a. 3, corp.
31. ibid.
32. Aquinas, *Commentary on Aristotle's Physics*, trans R.J. Blackwell, R.J. Spath, and W.E. Thirlkel (New Haven: Yale University Press, 1963), Lecture 1, Section 7, pp. 6–7.
33. ST I, q. 85, a. 3, corp.
34. Aristotle, *Phys.* 184b 11–13.
35. Aquinas, ST I–II, q. 94, a.2, corp.
36. Sullivan, *op. cit.*, p. 134.
37. Aquinas, ST I, q. 85, a. 6, corp.
38. Aquinas, In IV *Metaph.*, lect. 2; quoted in Sullivan, *op. cit.*, p. 135.
39. Aquinas, ST II–II, q. 94, a. 2, corp.