The history of philosophy conceived as a struggle between nominalism and realism*

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Abstract

In this article I trace some of the main tenets of the struggle between nominalism and realism as identified by John Deely in his Four ages of understanding. *The aim is to assess Deely's claim that the Age of Modernity was nominalist and that the coming age, the Age of Postmodernism — which he portrays as a renaissance of the late middle ages and as starting with Peirce — is realist. After a general overview of how Peirce interpreted the nominalist-realist controversy, Deely gives special attention to Thomas Aquinas's* On being and essence *and the realism it entails. A subsequent discussion of the Modern Period shows that the issue of nominalism and realism is very much tied up with different conceptions of the intellect. Deely credits the theory of evolution with bringing us a conception of the intellect that is closer to that of the Middle Ages and that opens the way for a truly realistic "fourth age" of the understanding.*

Keywords: Aquinas; Deely; nominalism; Peirce; postmodernism; realism.

Santayana certainly was on to something when he wrote that those who are ignorant of history are bound to repeat it, but something else is true too. Those who *know* history tend to repeat it as well. Whereas the former risk unknowingly rehearsing history's well-documented mistakes, the latter risk uncritically embracing its self-proclaimed successes. One of these successes is the triumph of the moderns over the schoolmen, a feat still celebrated in books on the history of philosophy by banishing medieval thought toward the dimly lit outskirts of history. John Deely's *Four ages of understanding* is different. It is a history of philosophy, but due to its focus on the sign, the late Middle Ages gain enormously in historical significance. Central to Deely's reevaluation of the Middle Ages is the issue of realism and nominalism as it shapes up

at the end of the scholastic era. The nominalist view subsequently came to monopolize the modern period, which lead to a degeneration of the notion of "sign" into the modern notion of "idea," which over time eroded further into minima sensibilia, sense data, etc. Today, however, the modern period has lost much of its steam. According to Deely, what we have been seeing over the last century or so is a veritable renaissance of the schoolmen. Its defining characteristic is a realism that is accompanied and also strengthened by a rediscovery of the sign as something more than a passive sensory imprint or a derivative thereof. This renaissance pretty much began with Peirce.

1.   John Deely on the origin of philosophy

For Deely, philosophy originated when men began to speculate on "what constitutes the objects of human experience so far as those objects have or involve an existence or a being independent of what we human beings may think, feel, or do" (Deely 2001: 3). It originated, Deely claims, when the world that is out there wasn't merely experienced, but was recognized as such and made an object of study; that is, when we began to consider objects as they are independently of our relationship to them. We quite clearly take this attitude when we examine the fossil remains of a dinosaur. We conceive of these remains as something that is what it is independently of what we think them to be or what we want to do with them. We take them to have an independent existence as well as an independent identity — their very own *thatness* and their very own *whatness*. The first philosophers, Deely continues, can thus be credited "with introducing into human thought the idea of reality — of something which is what it is on its own grounds, regardless of what further relations it may have to us or how it may appear in experience" (Deely 2001: 3). The novice might see in this a neat separation between what is really out there, the so-called external world, and what isn't, relegating the latter to the inner realm of thought, appropriately called "the internal world." But things are not that simple and much of the history of philosophy consists of attempts to come to terms with precisely this issue. Often this meant reaching for a world beyond of which Plato's realm of ideas is an early example that set the tone for much that came later. The problem of defining the real, let alone identifying what is real and what is not, still remains one of the great questions of philosophy. It's a metaphysical issue, and hence one of the greatest importance because misconceptions at the level of metaphysics are the hardest to detect and cause the most widespread damage.

In his *Four ages of understanding*, Deely divides the history of philosophy in four grand periods: ancient philosophy, the Latin age, the modern period, and postmodern times. According to Deely, the main contribution of the first is the aforementioned discovery of reality, that of the second, the analysis of being, that of the third, the way of ideas, and that of the last, the way of signs. Currently, Deely asserts, we are standing at the dawn of postmodern times. I have some reservations regarding Deely identifying the coming age with postmodernism as I don't think that postmodernism is to be treated on a par with the other three ages. Like the renaissance, the postmodern age is rather a transition period that defines itself partly in terms of a rebellion against the period that preceded it, and partly by finding its inspiration in earlier times. For the renaissance this was ancient Greece and Rome; for postmodernism, at least in Deely's reading of it, this is the Latin age that the modern period so dismissively discarded. At the same time, if we are at the dawn of a new era, as Deely says we are, it is too soon to characterize its nature. All we can do is to interpret the present in terms of its history. In this context this means examining how the study of certain tenets in medieval thought could help us overcome the problems modern philosophy has run into. For Deely, and in this he follows Peirce, the main ills of modern philosophy lie in its nominalism, and he recognizes in postmodernism a much-needed return to realism that finds its origin in part in a renewed interest in the work of the schoolmen. And since this is precisely what Peirce did in the 1860s when he began to read the work of Duns Scotus and others, Deely has his fourth age of understanding, his ''postmodern age,'' begin with Peirce. According to Deely, after the failed nominalism of the modern period it is time for realism to flex its muscle and show what it is really made of; and it is Peirce's semiotics that in Deely's view gives us the conceptual framework that makes this possible. All of this makes Deely more than a mere chronicler of events; in describing the past he is actively seeking to shape the future.

2.   Peirce on nominalism and realism

Since Deely's account of the origin of philosophy, as the discovery and subsequent study of reality, is cast very much in Peircean terms, and since Deely sees Peirce as the fountainhead of the new era of philosophy, I will begin with a brief discussion of Peirce's conception of reality and his account of the distinction between nominalism and realism.[1]

The notion of reality plays a central role in Peirce's philosophy. Peirce defined reality as that which is unaffected by what you, or I, or anyone in

particular may think it to be (see, for instance, *W* 2: 467). Reality, or the real, is contrasted with the *objects* of dreams and figments of the imagination.[2] The latter are not real because they depend wholly on what someone in particular thinks (or dreams) them to be. According to Peirce, this is how Duns Scotus defined the term. Peirce also repeatedly informs us that it was Scotus who originally introduced the term "reality" into philosophy, and faithful to his own ethics of terminology, Peirce insists that the terms "reality" and "real" should be used as Scotus had first defined them.[3] Hence, we could call this the Scotistic definition of reality, although the idea that it expresses is much older, especially if we accept, with Deely, that it is this conception — however unarticulated at the time — that marks the very origin of philosophy.

The issue of nominalism and realism is, for Peirce, an issue that finds its roots in the Scotistic definition of reality. According to Peirce, both nominalists and realists accept the Scotistic definition; where they differ is in how they make this definition operational.[4] The nominalists, at least as Peirce sees them, interpret the Scotistic definition to imply that reality must be extra-mental. This means that, to them, only the absolutely external causes of perception can be real. This, unsurprisingly, causes them to deny the reality of universals, natural kinds, laws, etc. Their reality is denied precisely because they cannot be *experienced* as direct outward constraints. Consequently, they can only be products of the mind inspired by our direct experience of reality and to be confirmed or falsified by it. Hence, because the nominalist identifies the real with the extra-mental, reality is taken to be equivalent with existence: Only what exists is real.[5] A major problem with this interpretation of Scotus's definition is that it forces us to treat all products of thought on a par with figments of the imagination.[6]

Realists — including Scotus himself — give a different reading of Scotus's definition, arguing that the nominalist's interpretation is too narrow. According to the realist, there are other ways in which objects of thought can be independent of what anyone in particular thinks them to be besides being extra-mental. For instance, a conclusion we are forced to draw when all the facts are known and the idiosyncrasies of individual minds are filtered out, meets Scotus's definition in that this conclusion will be independent of what anyone *in particular* thinks it to be. Consequently, besides the absolutely external causes of perception identified by the nominalists, some *products* of the understanding may be real as well, as they too can be independent of what anyone *in particular* thinks them to be. To give an example, it may be a real fact that within Euclidean geometry the three angles of a triangle equal two right angles, even if there is not a single *existing* triangle for which this is true (e.g. when the uni-

verse is non-Euclidean). It is a real fact if it is independent of whether anyone in particular thinks it to be, even if nothing existing were to conform to it.

This second interpretation of reality — which does not require that everything that is real must also exist — allows for a *realist* interpretation of universals, natural laws, possibilities, etc., thereby avoiding the nominalist's predicament of having to classify them all as mere figments of the imagination. On this realist interpretation everything that exists is real, but not everything that is real needs to exist. Consequently, to do justice to the distinction between realism and nominalism we must carefully distinguish existence from reality.[7] The two differ in the following manner: whereas something is *real* when it is independent of what anyone in particular may think about it, something *exists* when it is independent of what anyone in particular may think about anything.

Peirce argues that nominalism is the simpler doctrine, and he refers to what is generally called Ockham's razor to support that.[8] Taking the razor as a methodological imperative, Peirce further argued that because nominalism is the simpler doctrine it has to be tried first until we are forced out of it by the force majeure of irreconcilable fact. History seems to have followed this course and Deely's *Four ages of understanding* supports this. The Modern Period is in many ways the great nominalist experiment, and it is its nominalism that caused its demise.

3. Aquinas on being

With Scotus's conception of reality in mind, let's turn to Thomas Aquinas's discussion of being and the sort of problems to which his account gives rise. For Aquinas, "the intellect necessarily attributes being to everything it apprehends" (1953 [c.1268/72]: 21), so that whatever we think of has being *(ens)*.[9] Among the things we apprehend, there are those we conceive of having being independently of the fact that we happen to apprehend them, which would make them real in Scotus's sense. Among these there are those that depend for their being on something else. However, there are also those that do not depend for their being upon anything else. What falls within this last group has being by itself (*ens per se*).[10] According to Aquinas, who remains close to Aristotle at this point, there are two ways in which something has being by itself: first, when it falls under one of the ten categories,[11] and, second, when it signifies the truth of a proposition.[12]

In the first sense, Aquinas argues, being applies only to what posits something in the thing (*in re*),[13] for instance, when we say that a man is mortal, that a chair is red, or that there are five fir trees in the yard. Being

in this first sense signifies the thing or what the thing is (*quod quid est*). The thing in question need not be conceived of as an existing individual.[14] For instance, when we say that man is mortal we are not positing something with respect to this or that individual man, but we are positing something with respect to the species man. Moreover, a theological need to safeguard certain unobservables (such as God and angels), and the need for reason to oversee and correct the senses, prevents Aquinas from identifying being in the first sense with direct or unmediated perception, as the moderns tend to do with their notion of *ideas*.[15]

In the second sense, "everything can be called a being concerning which a [true] affirmative proposition can be formed, even if it posits nothing in the thing (*in re*)."[16] Put differently, the *objects* of true propositions can be said to have being *even* when nothing corresponds to them *in re*.[17] For instance, when it is true that "There are no red chairs in this room," the *object* of this claim is the *absence* of red chairs, which is not something that would have being in Aquinas's first sense, as that would commit us to the evidently absurd view of having to ascribe being in Aquinas's first sense to anything that could possibly be absent in this room.[18] However, to make matters slightly more complicated, things that lack being in the first sense, but are objects referred to by means of true propositions, may have an indexical component like existing things. For instance when we say "a red chair is missing," or "there is a button missing on this dress," we can literally point at the absent chair or the missing button.[19]

All of this is not to *deny* that the objects of many true claims have being in the *first* sense of the term. The two senses of being *per se* are not mutually exclusive. The proposition "the chair is red," if true, posits something in the thing, so that its object is a being *per se* both in the first sense of the term and in the second sense. In fact, we could say that, for Aquinas, *everything* that has being in the first sense also has being in the second sense, because it can be made the object of a true affirmative proposition. What is more, for an omniscient God everything that has being in the first sense would be the object of a true proposition. In sum, being in the first sense is properly speaking a subclass of being in the second sense, rather than that being in the second sense is an extension of being in the first sense.

So everything signified by a true proposition has being *per se*. At this point we should be careful, however, not to ascribe to Aquinas a modern-style correspondence theory of truth in which brute facts are primary and how we grasp these facts in the intellect is secondary. For Aquinas the situation is rather the reverse. For Aquinas man-made objects are the paradigm, and there the question is not how well the intellect con-

forms to the object, but how well the object conforms to the intellect. For instance, when the object is a house, our task is not to examine how well the drawings of the architect represent the house — rejecting the drawings wherever they depart — but how well the house corresponds with the architectural drawings, as *that* will tell us what is truly the house and what is not. Similarly, the truth of *natural* things consists in how well *they* conform to the intentions of the Divine Architect that created them. Thus, in a sense, being in Aquinas's second sense is primary. It also means that when determining the truth of natural things we are not looking for a correspondence between something in the intellect and something without the intellect — something that is possibly alien to it — but we are seeking for a correspondence between something within our own intellect and something within the Divine intellect — our intellect being shaped in the image of the latter (Aquinas c.1266: *Summa theologiae*, 1a, Q. 93, aa, 1–2).

Now with respect to things we did not ourselves create, like planets, trees, and microbes, they have only an accidental epistemic relationship to us. Our epistemic relation to them is not constitutive of their being, so that from our perspective they are primary, or even foundational, and our conceptions of them are secondary. It is only because there is something out there in the nature of things that we can say that claims we make about them can be true.[20] Nonetheless, when seeking to understand things in nature, the aim is not to create within the intellect some sort of copy of them, but to take them as signs that may enable us to retrace the ways of the Divine intellect of which they are a product, in the same manner in which we try to understand the house, including all that seems odd to us, by trying to understand what the architect might have intended when he designed it.

The question remains which of the claims we, as finite beings, believe to be true really are true. It seems that in reply we can say at least something like this: notwithstanding our epistemic imperfections, and notwithstanding that on occasion we may stray quite far from the truth, because Aquinas's God is not a deceiver — as this would go against His benevolence — the majority of the claims we wholeheartedly believe to be true, will be true, even though we, as finite fallible beings, would not be able to tell with absolute certainty which of them actually are true.[21]

4.   Revisiting Peirce and Scotus on reality

Aquinas's distinction between two kinds of being by itself *(ens per se)* was later captured with the terms "real being" *(ens reale)* and "being of

reason'' *(ens rationis)*, where the latter are conceived to have being only *in mentum*, or in the mind. The problem with this distinction is that it somehow suggests that *entia rationis* aren't real, as they are not *entia reale* — are not ''in reality'' — but have being only in the mind or in the intellect, that is, in *rationis*. This interpretation further suggests that *entia rationis* can be stratified depending on how and to what degree they relate to something without the mind (i.e., *ens reale*), thus separating witches and centaurs from natural laws and real kinds. This, however, runs counter the primacy, given earlier, to being *per se* in the second sense.

Though I am not sure whether Peirce thinks the *ens reale / ens rationis* distinction originates with Scotus, he does believe that the term reality *(realis)* originates with Scotus, and he observes that Scotus frequently makes use of the *ens reale / ens rationis* distinction. Peirce disagrees, however, with how the distinction is being drawn, and he does so for pretty much the same reason as the one I have given above in my analysis of Aquinas, arguing that *entia rationis*, though creations of the intellect, might be real.

This is what Peirce has to say about Scotus's distinction between *ens reale* and *ens rationis* in an unpublished manuscript that dates from 1909:

Scotus in many places divides *ens* into *ens reale* and *ens rationis*, which I hold to be inaccurate, notwithstanding his noting two senses of *ens rationis* which are not necessarily opposed to real; namely, 1st, that which is *in anima subjective*, as a dream, for example, is an actual state of mind; and 2nd, that which is *in anima objective*, as for example, the *signification* (as opposed to the object represented) of a word is. For it seems to me that any Object that is created by Thought may in the strictest sense be called an *ens rationis*; and yet such an object may be Real. (*MS* 642)

Put briefly, on Peirce's interpretation, *entia rationis* are real when they are taken as actual mental states. When I am dreaming of being surrounded by centaurs, the dream itself is a real fact, notwithstanding the non-reality of the circumstance dreamt of. More importantly, *entia rationis* can be real when they are *in anima objective*, for instance, when we determine that within Euclidean geometry the three angles of a triangle equal two right ones. To further unpack the second claim, we should look more closely at Peirce's discussion of the *ens reale / ens rationis* distinction in Scotus. Peirce (*MS* 642) quotes the following passage of Scotus, which he calls a quasi definition of reality:

Ens reale quod distinguitur ens rationis, est illud quod ex se habet esse circumscripto omni operae intellectus, ut intellectus est.[22]

Translated into English: "A real being *(ens reale)*, as distinguished from a rational being *(ens rationis)*, is that which has its being of itself, assuming we set apart every activity of the understanding insofar as it belongs to the understanding" (see also De Waal 1998: 198, note 6). Peirce has a few minor bones to pick with Scotus's formulation. He wants the final *"est"* to read as *"actu est,"* and he believes that the second *intellectus* is a transcription error for *intellectum* as otherwise Scotus would inadvertently be denying the reality of mental states. However, on the whole, Peirce agrees with how Scotus phrased it.

On Scotus's quasi definition, Peirce continues, reality "is not a mode of being, such as Potency, Actuality, and Necessity, but rather consists in an independence of Thought. Not, however, of *all* thought, but only … of all thought that is such as it is" (*MS* 642), which is a fairly complicated way of saying that it should be independent *not* of what we think, but of what *anyone in particular* may think about it. The aim of this condition is to allow for products of the understanding to be real while filtering out the idiosyncracies of individual minds. Not just any mental product would qualify for being real. Only after the idiosyncrasies of individual minds have been filtered out can we say that a product of the mind is real. On this view an *ens rationis* such as a star cluster, would be a real collection of stars — thus implying that some *collections* are real in addition to the individuals that constitute them — *if* this would be unanimously agreed upon by all who look into the spatial relationships of the stars in question. In contrast, Hamlet is not real, as his characteristics are dependent on what one individual in particular, in this case William Shakespeare, thought them to be. Because of this we can say that whereas the question whether Shakespeare suffered from high cholesterol is a legitimate one, the question whether Hamlet suffered from high cholesterol is not.[23] Against the realist, nominalism denies the *reality* of *all entia rationis*.[24]

5. The modern period as *via nominalismus*

The discussion of the two types of being *per se* raises the question as to the nature of those objects of true propositions that do not represent anything *in re*. To some, the multiplication of the kinds of being that this approach appears to allow is a clear embarrassment. Nominalists, including William Ockham, seek ways to reduce what they see as an excessive ontological commitment in the work of Scotus and others. Ockham's razor, as it is currently called, aims to prevent the acceptance of unneeded entities by requiring that beings should not be multiplied beyond necessity

— *entia non sunt multiplicanda paeter necessitatem*.[25] A medieval way to support the razor is through the "principle of sufficient reason," following Aristotle's dictum in *On the Heavens* that "God and nature create nothing that has not its use," in virtue of which Ockham's razor would bring us closer to how the world really is then would a freehanded metaphysics.[26]

One way to apply the razor is by relegating everything that has no being *per se* in Aquinas's first sense to a being of a lower status. For instance, one can say that objects that are being referred by true propositions but which have no being *per se* in Aquinas's first sense have existence only within the mind of which they are a product; i.e., they are only *in mentum*. One can even go further by treating them on a par with syncategorematics, which is the case when the terms that refer to such objects are held to be mere *flatus voci*. The first view is sometimes referred to as conceptualism to distinguish it from the latter, which is then seen as nominalism proper.

On Aquinas's view we must accept all objects that are referred to by true propositions. One way of applying the razor is to see whether true propositions that imply a commitment to beings *per se* in Aquinas's second sense are translatable into, or derivable from, propositions that only commit themselves to beings *per se* in Aquinas's first sense. On the principle of sufficient reason, the latter — which require less in terms of ontological commitment — would provide a more accurate account of the world than the former, so that our need for introducing certain beings in the former tells us more about the limitations of the human understanding than about the true nature of the world. Many nominalists, however, go even further by seeking to reduce the number of kinds of objects that have being *per se* in Aquinas's first sense. (For instance, though a reduction of the categories, as Ockham seeks to do.)

A no doubt unintended consequence of this approach is that the emphasis is shifting away from the intellect toward the senses, as it is through the senses that we gain knowledge of many of the objects that have being *per se* in Aquinas's first sense; in fact only unmediated confrontation with otherness can be considered wholly devoid of any contribution of the intellect. In other words, it is no longer a natural affinity between our intellect and that of the Creator that allows us to understand the universe, but it is the universe directly imposing itself upon the senses and the attempts of the individual mind to come to grip with its sensory experiences through empirical means — i.e., the method of the sciences — that allows us to grasp the world. In the end this led to a reversal of our epistemic predicament. Whereas, for Aquinas what is created within intellect has primacy — since it is the intellect that gives us insight in the mind

of the Creator — for the nominalist, who sees the products of our intellect as secondary at best, *that to which we do not contribute ourselves* becomes primary.

This shift can be seen most markedly with the British empiricists. For the empiricists, such as John Locke, the mind is at first a blank slate, or *tabula rasa*, which is subsequently "inscribed" by countless singular sensations. In the course of experience the individual mind then forms some sort of image of the universe, with simple ideas forming complex ideas, running from gold to global warming, and including among them the faculties of the mind itself. For the empiricist all knowledge is construed *a posteriori* from sensory impressions. The intellect is forever detached from the world itself, forced to artificially reconstruct it *"in mentum"* from how it is affected by it. Part of the problem is the empiricists' notion that ideas cannot be grounded in one another, so that they must be grounded in something other than ideas, which *ipso facto* means that they must be grounded in something that cannot in principle be known, as only ideas can be known.[27] As Deely put it, ideas become purely self-representing; they can't reach beyond themselves (2001: 740).[28]

The situation is somewhat different with the rationalists, who actively sought to preserve the intellect as an independent source of knowledge, something that is captured in part by their notion of "innate ideas," suggesting that some concepts, such as time or causality, are not acquired through the senses. For the rationalists, the understanding isn't an empty slate, but comes already partly furnished. Leibniz, for instance, countering Locke's notion of a *tabula rasa*, but without committing himself to any strict notion of innate ideas, argued that the mind rather resembles a block of veined marble: it may enter to the world uninscribed, but it certainly comes preformed.

However, by making the veridicality of propositions dependent upon being *per se* in Aquinas's first sense (or, more precisely, of a subclass thereof), the rationalists detached the intellect from the empirical world so that it can apply to the latter only *a priori* as some sort of *deus ex machina* which is at once inexplicable and impotent. The severed understanding is then artificially reconnected through the pineal gland, as with Descartes, or is postulated as being miraculously attuned to the world, as with Leibniz's pre-established harmony.

Both rationalists and empiricists had done such a good job separating the mind from the world it cognizes, that in the latter half of the eighteenth century Immanuel Kant came to the remarkable but sad conclusion that philosophy could no longer account for the external world. With its focus on ideas and its inability to grasp beyond them to see how they originated, philosophy had made the external world a problem it

could not solve. The empiricists had managed to hide reality behind an impenetrable veil of ideas, while the rationalists had so completely aprioriorized the faculties of the mind that they were left with an intellect that is altogether unable to connect with the empirical world.[29] Kant called this the scandal of philosophy, and his *Critique of pure reason*, with its defense of the *synthetic a priori*, was intended to address this scandal.

   Though the subsequent secularization of epistemology made the rationalist's notion of a preformed intellect more difficult to defend, Darwin's theory of evolution began to give credence to the idea. On the theory of evolution, which takes a developmental view of biological species, including humans, it is well-adapted minds that survive and ill adapted ones that die out. By thus restoring the natural connection between the intellect and nature — which for the Schoolmen had run through God, who had created both — the theory of evolution became a conduit for a return to realism that no longer required a supernatural being or a preconceived divine plan to substantiate it. As Peirce observed early on, "from the moment that the Idea of Evolution took possession of the minds of men the pure Corpuscular Philosophy together with nominalism had had their doom pronounced" (*CP* 5.64).

6.   Concrete reasonableness and the realist's return

For the Schoolmen, and also throughout most of the Modern Period, the human species was considered unchanged. The theory of evolution shattered this static notion of man, adding in the process an entirely new variable to the epistemic equation. Humans are now to be considered products of a continuous — and still continuing — process of adaptation, a process that isn't confined to the physical or physiological realm, but that also involves the cognitive faculties. The intellect is not something that is *external* to the universe, but over the course of its development the human organism (like any other organism) has *internalized* — however imperfectly — part of the dynamic order of the universe; a universe that is itself still evolving. Put differently, if we are a product of millions of years of natural selection, this is true also for our intellect, so that when a new individual is born into the world its mind isn't a blank tablet. Quite the contrary, at birth each individual is furnished with an intelligence that is already finely attuned to the world and that has already been thoroughly put to the test.[30] This is not to say that the intellect is *perfectly* attuned to the world; only that it is attuned sufficiently to enable the species to survive and prosper. In this manner we get a naturalistic

explanation of how the intellect is preformed, rather than a supernatural explanation as with the schoolmen.[31]

The above implies that if the mind is characterized in terms of reason, and if that mind is also a product of the interaction — over countless of generations and including its evolutionary forebears — of the organism with its environment, we must conclude that the world that mind interacts with is also to be characterized as reasonable. The so-called laws of thought (insofar as they bear upon logic) are a product of the inner logic, or to use Peirce's phrase, the *concrete reasonableness* of the universe that is to some degree internalized within the organisms that interact with it. This is true for the amoeba as well as for the rocket scientist. Leibniz's analogy of the veined block of marble was pretty apt, and it is now supplemented with an explanation of what caused the formation of those "veins," and one that incidentally pretty much parallels the explanation of how veins are caused in marble itself.

There is one important point, however, where the evolutionary conception of the intellect differs from that of the schoolmen. The true purpose of the intellect is not to provide the knower with some sort of mental replica of the world — the finite mind trying to see the world through the eyes of its Divine Architect — but the true function of the intellect is very straightforward to help the individual cope with its environment. It is here that pragmatism comes in. Meaning and truth are not fossil remains in need of an analysis, but final causes to which the intellect eventually progresses while fulfilling its purpose. For the pragmatist meaning and truth are related to practical consequences.[32]

Given the bankruptcy of the nominalist experiment, however, this pragmatism must be one infused with realism. A nominalistic and a realistic pragmatism differ as follows: A nominalistic pragmatism takes all conceptions of the mind to be purely artificial constructions grounded in discrete sense impressions to which they are — at least in principle — reducible, and it defends the validity of some such constructions by pointing out that they are useful instruments — they facilitate our interaction with the world. This view is a remnant of the radical separation that the Modern Period drew between the intellect and the world. A realistic pragmatism, on the other hand, accepts that some products of the understanding are real even if they cannot be shown to be constructions of sense impressions and even when it *can* be shown positively that they cannot possibly be reduced to them. Since reality is cast in terms of an independence of thought, all we need for establishing that certain products of the intellect are real is to show that they are what they are no matter what anyone in particular thinks them to be. Put briefly, the key point where nominalistic and realistic pragmatism differ is the manner in which they

gauge the intellect, and consequently how they gauge the intellect's contributions to knowledge.

In his Illustrations of the Logic of Science, Peirce developed his pragmatism and applied it to his theory of inquiry and to the conceptions of truth and reality. A sufficiently large community of inquirers — large enough to filter out the idiosyncrasies of the individual inquirers — would, in the long run, find the true answer to any (well-formulated) question they might inquire into. Peirce called this answer the final opinion, which he equated with the truth. For Peirce the pragmatist, there is nothing more to the concept of truth than that it is the opinion that would in the long run be agreed upon by all who investigate.[33] Truth is the final opinion and reality its object. This brings us back to Aquinas's distinction between two types of being *per se*. There we learned that, for Aquinas, *everything* that has being *per se* in the first sense also has being *per se* in the second sense, as it can be made the object of true propositions by us, and as it is already the object of true propositions for God, who is omniscient.[34] Despite the countless differences between the Aquinean and the Peircean approach, and despite significant differences between the knowledge of an omniscient God and a Peircean final opinion, there are also profound similarities. Most importantly, both position products of the understanding at the center, a move that is made possible by treating the intellect as having some sort of direct access to the world, either by the decree of God or by the workings of natural selection. Put differently, when Peirce is telling scientists how to conduct their research in his *Popular Science Monthly* papers — and recall that modern science is generally regarded the main achievement of the Modern Period — Peirce makes extensive use of what he had learned while reading the schoolmen a decade before, even though they are hardly mentioned. In a way, together with his earlier anti-Cartesian papers in the *Journal of Speculative Philosophy*, Peirce's Illustrations of the Logic of Science series marks a quiet beginning of a renaissance of the late middle ages. The Fourth Age of Understanding had begun.

Notes

1. Regarding the influence of the schoolmen on his own thought, Peirce wrote:

   > being greatly impressed with Kant's *Critic of the pure reason* ... I was led to an admiring study of Locke, Berkeley, and Hume, and to that of Aristotle's *Organon*, Metaphysics, and psychological treatises, and somewhat later derived the greatest advantage from a deeply pondering perusal of some of the works of medieval thinkers, St. Augustine, Abelard, and John of Salisbury, with related fragments from St. Thomas Aquinas, most especially from John of Duns, the Scot ... and from William of Ockham. (*CP* 3.560)

2. Peirce is careful to observe that dreams are real (as psycho-physical events); it is the objects that appear in them that aren't.

3. According to Peirce the term occurs only very rarely before Scotus. Incidentally these rare occurrences include a treatise — he doesn't say which — that is attributed to Aquinas (the word does not occur in *On being and essence*). Peirce then continues by observing that the term suddenly surfaces with frequency in the work of Scotus, without it being defined. This makes Peirce remark that the term may have had its origin in the private disputations of the Oxford scholars (*MS* 642). Peirce does extract from Scotus what he calls a quasi definition, which is discussed below.

4. Note that mere adherence to the Scotistic definition of reality does not make one a Scotistic realist. According to Peirce, nominalists and realists alike accept the Scotistic definition of reality.

5. A different way of putting this is that the nominalist's denial of universals — or its expressed individualism — is not what defines nominalism, but is rather a consequence of their conception of reality (either in Scotus's explicitly stated form or in some pre-philosophical intuition akin to it). See also de Waal (1996).

6. Locke runs into this type of problem in his famed *Essay concerning human understanding*, see de Waal (1997).

7. For those who read the work on the Schoolmen in English translation this poses a problem as many translators tend to use both terms as synonyms.

8. Peirce was aware of the fact that what is generally called Ockham's razor wasn't Ockham's: see Deely (2001: 345–346, note 215; 627).

9. Meinong (1968) reserves the term *Aussersein* for this, stating in his "principle of indifference" that objects of thought are by nature indifferent to being, as they can either be *(Sein)* or not be *(Nichtsein)*. Meinong dovetails this with his principle of the independence of *Sosein* and *Sein* on which the *Sosein* (being thus) of an object is not affected by its *Sein* or *Nichtsein*, so that for Meinong the *Sosein* of an object plays at the level of its *Aussersein*. It also covers Locke's notion of "idea," as whatever comes before the understanding when we think etc.

10. Bobik translates *ens per se* as "being, taken without qualifiers" (Aquinas c.1252/56, in 1965: 21). I follow Leckie's translation (Aquinas c.1252/56, in 1937: 4), which can be considered shorthand for "being as it is found in things and considered in and of itself." Note that this includes accidents; the redness in a particular chair his no *ens per se*, but redness abstracted from all individuating qualities (i.e., "redness in and of itself") has *ens per se*, albeit only *in intellectum*, not *in re*. In *II Sent.* dist. 34, q.I, a.I, c., Aquinas is more explicit about what he means by including the explanatory remark: *ens per se* in the first sense applies to "the being of something which is either a substance, e.g. a man, or an accidental property, e.g. the white color of a man" (see Weidemann 2002: 78). With the latter Aquinas means whiteness as it actually exists as a property inherent in an (actually existing) man, but abstracted from this (accidental)

inherence and taken in and of itself (so that it can be predicated of a thing). *Ens per se* is sometimes contrasted with *ens in alio* (something which by its nature demands an act of being in something else), sometimes with *ens per accidens* (Klima 2007).

11. Aquinas separates the first of Aristotle's categories — substance — from the other nine, which are all accidents; i.e., properties that inhere in substances. See par. 110 of *De ente* (Aquinas c.1252/56, in 1965: 255), and Bobik's subsequent interpretation through page 267.

12. Aquinas c.1252/56, in 1937: 4; see also c.1268/72, in 1953: 25. Aristotle's view, which Aquinas refers to, can be found in *Metaphysics*, Bk. 5, 1017 a 23–35; see also Bk. 6, 1027 b 17–35. Aquinas makes the same distinction, including a reference to Bk. 5 of the *Metaphysics* in *II Sent*. dist. 34, q. 1, a. 1, c., and in *I Sent*. dist. 33, q. 1, a. 1, ad 1, and *De pot*. q. 7, a. 2. ad 1.

13. In *Quodl*. IX, q. 2, a. 2[3], c, Aquinas put it thus: "*esse dicitur actus entis in quantum est ens, idest quo denominatur aliquid ens actu in rerum natura*" (quoted in Weidemann 2002: 78). Weideman translates *ens actu in rerum natura* as "actually being in reality," adding a few lines later that this refers to "something naturally existing."

14. Nor need it be corporeal.

15. Immediate perception is sometimes deceptive (as when a stick standing in the water appears to be bend), or the distorted effect of a deeper reality (as when textured glass obscures what is behind it). Though human beings are sensory beings, rationality tops sensation; it is rationality that tells us that the stick is straight and only *looks* bent. Rationality is the faculty bestowed upon us by the God that created the universe, aimed to help us understand that universe, a view that is strengthened by the long-held belief that it is reason, not sensation, that distinguishes us from the so-called lower animals: man is the rational animal. See also Aquinas's *Summa theologiae*, Ia, Q. 17, aa. 2–3.

16. Following, again, Leckie's translation (Aquinas 1937: 4). Bobik, in his translation of *De ente*, translates *in re* as reality (Aquinas 1965: 21), so does Kilma (2007). Both translations follow current usage in Latin dictionaries, which follow the current usage of equivocating reality and existence. Hence, such a translation begs the question with regard to the issue at hand. The English "reality" comes form the Latin *realis*, a word that nowhere occurs in *De ente*. See the comments elsewhere in this paper on Scotus introducing *realis* into philosophical vocabulary. It is tempting to quote Dante where he writes that whereas the Latin language follows premeditated art, the vulgar tongue follows fluid usage, and add that within the context of the current issue that usage has long been dominated by nominalism (at least if we accept Deely's claim that the modern period was nominalist. Josiah Royce (1901), opposing *esse in re* with *esse in intellectu*, translated the former as "real external being as such," thus drawing the difference along the line of the external-internal distinction (see also de Waal 1998).

17. These objects are sometimes called *enuntiabilia*. For instance, in the twelfth century anonymous *Ars burana* an *enuntiabile* is defined as "what is signified by a proposition" (see Klima 1993). Such *enuntiabilia* are beings that cannot be perceived by the senses, but can only be grasped by the intellect.

18. This approach appears to avoid the commitment to so-called possible entities that Quine is weary of, as it restricts the use of "possibility" to whole statements. See Quine (1968: 148–149).

19. The trapeze artist who grips the bar of an unexpectedly absent swing, experiences in that very moment as much secondness (to phrase it in terms of Peirce's categories) *in its absence* as someone who is suddenly struck by a baseball bat. Unexpected, and hence unmediated, absence can be as much an experience of secondness as unexpected presence. Things are more complicated as the above discussion suggests. For instance,

no reference is made to true claims such as "All centaurs are quadrupeds." which brings in the analytic-synthetic distinction.

20. Thus Aquinas argues that of the two modes of being the second compares to the first as an effect to its cause: "*iste secundus modus comparatur as primum sicut effectus as causam. Ex hoc enim quod aliquid in rerum natura est, sequitur veritas et falsitas in propositione*" (V metaph., lect. 9, no. 896; quoted in Weidemann 2002: 85). Moreover, whereas the logical intentions of species, genera, and differentiae — such as humanity, animality, or rationality — are in Aquinas's view "created by the intellect" and, when taken unqualifiedly (i.e., abstracted from all individuating qualities), are not *in re*, such universals *do exist* in individual substances. See *De ente* par. 59–60 (1965: 124).

21. The Cartesian notion of clear and distinct ideas can be seen as a product of this kind of argument: If our intelligence is created in the image of the divine intelligence that created the universe, and one that divine intelligence does not deceive, then if we see something clearly and distinctly, it must be true, and there is no need to even privilege the senses; it is not an empiricism but a rationalism.

22. The quotation can be found in Duns Scotus, *Opera omnia*, 4: 246, line 9–11.

23. Unless Hamlet's high cholesterol can be said to be an implication of things Shakespeare did think of with regard to Hamlet.

24. Thus we could say that the *ens reale / ens rationis* distinction is already latently nominalistic.

25. Although this formulation of the razor — which is how Sir William Hamilton introduced it into late modern philosophy — isn't found in Ockham's work, Ockham made sufficiently similar claims, such as "when a proposition is verified of things, more are superfluous if fewer suffice" (*Quodlibeta septem*, VII.8; quoted in Spade 1999: 101).

26. *De caelo*, 271a 33. Some considered Ockham's razor too rash. Walter of Chatton, a contemporary of Ockham, is credited with devising the first anti-razor. Instead of saying, with Ockham, that we should posit as few entities as we need, Chatton argued that we should posit as many entities as we need. The two are identical, in that each seeks to establish the proper number of entities required (no more, but also no less).

27. See de Waal (2006) for a Peircean semeiotics-based refutation of this.

28. Though the division between primary and secondary qualities was intended to separate certain ideas as certainly belonging to things, this division proved untenable, as shown most clearly by Berkeley, which lead Berkeley to his immaterialism and Hume to his skepticism.

29. For Descartes, for instance, our knowledge of the external world depends upon his proof of the existence of God, and his proof that this God could not be an evil demon.

30. In a sense, those philosophers who stand back in amazement as to how the intellect manages to cut nature at its joints, are as confused as those biologists who are still asking what came first, the chicken or the egg.

31. Deely (1969) argues that Aquinas would have been open to the notion of a biological evolution of species, including humans.

32. The nominalist cannot accept the reality of final causes; only efficient causes can be real.

33. Note that this view does not require that such an opinion be actually reached for any question. Also, this view is compatible with Peirce's conviction that many of our current beliefs are true; it's not our *reaching* such a final opinion that makes the proposition true.

34. We might be more cautious and not require that such an omniscient God has all that knowledge present to him *in expressed true propositions*. It's too strong a requirement for our current purpose, and there are various other options.

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