During much of his life, Peirce was an active scientist who contributed to a wide variety of disciplines while exhibiting a deep interest in philosophical questions and the logic of inquiry. Peirce’s conception of what constitutes science was a broad one. Rejecting that science could be defined in terms of its method – the so-called scientific method – Peirce defined science in terms of the attitude with which one engages in inquiry. An inquiry is scientific, Peirce argued, when it is engaged in with a desire to have one’s questions answered without any preconceived notion of what the answer should be; it is an inquiry with no holds barred. In Peirce’s view, this outlook stands in stark contrast with what he found in religion. The religions Peirce was exposed to tended to define themselves in terms of a creed, doctrine, or dogma – a set of answers that were not up for discussion. Whereas science, as Peirce envisioned it, should embody a single and open community freely inquiring into the world – finding answers no matter what free inquiry will bring – religion resembled an archipelago with on each island a community defined by its creeds and separated from the others by inhospitable waters. Christian creeds are largely shaped by interpretations of the Bible or, in the case of Catholicism, by pronouncements of the Church. They can be confined to the supernatural, as when it is said that there is a single God composed of three persons, or to the moral, as in the doctrine of original sin. However, they can also pertain to the natural world, and thus directly compete with science, as in the claim that the universe is less than 10,000 years old, or that dinosaurs roamed among the early descendants of Adam. Such dissimilarities notwithstanding, Peirce saw science and religion as springing from a single desire: to make sense of the world wherein we find ourselves. In this brief paper I try to say something about the relationship between science, religion, and God along Peircean lines.²

¹ Indiana University. IU School of Liberal Arts at iupui, Cavanaugh Hall 441, 425 University Blvd. Indianapolis, IN 46202. E-mail: cdwaal@iupui.edu
² This essay is a general reflection on Peirce’s work. Key texts are “Fixation of Belief,” “How to Make Our Ideas Clear,” and “A Neglected Argument for the Reality of God,” all
It is often said that religion should embrace science where natural claims are concerned. So Young Earth Creationism must give way to radiometric age dating, which puts the earth’s age at approximately 4.54 billion years, even though this vastly exceeds the biblically inspired maximum of 10,000 years. For Peirce, the problem with the creationist’s account is that it declares a set of facts extracted from a religious text not up for discussion, and it is this restriction put upon inquiry that causes the large discrepancy in their answers. For Peirce, such restrictions are never warranted as they obstruct our attempts to answer honestly the questions we are asking, in this case “How old is the earth?”

Peirce committed himself to a stronger view, however, arguing that religion must abandon not just those creeds that compete with science, but all creeds. Take the Catholic dogma that during the Eucharist the substance of bread and wine change into the flesh and blood of Christ, without any change in accidents – a process termed transubstantiation. Since by definition the change is wholly without cognizable effects, whether it occurs or not cannot be settled by inquiry. Hence, it seems it can be established only by faith or decree. Now for a pragmatist like Peirce, for whom the cognitive meaning of a term is exhausted by the cognizable effects that might conceivably influence rational conduct, transubstantiation would be a term wholly devoid of meaning, as it has no such cognizable effects, and so would any expression the meaning of which depends on the meaning of that term. Hence, for Peirce, religious creeds either compete with science, or if not, are cognitively meaningless. In both cases they should be let go.

What does this mean for religion? Should religion give in and wholeheartedly embrace science and all it has to offer? To answer this question we should take a closer look at Peirce’s views on scientific inquiry. Peirce rejected the standard definition of science as systematized knowledge. In fact, he rejected that science be defined in terms of knowledge at all. What sets science apart is not that its conclusions are right, but how these conclusions are reached – the method that was used. This method is not some extraneous rule imposed from on high, but is itself a product of inquiry. That is to say, science itself determines what counts as acceptable inference, and it does so, as it were, on the fly. Now, since the method of science is itself a conclusion of science, and since Peirce rejected the idea of defining science in terms of its conclusions, science cannot be defined in terms of its method either. What is left, as said, is

the intention with which inquiry is engaged in. That is to say, an inquiry is scientific when it is entered into with a living and genuine desire to find answers to the questions that are being asked. That these questions are answerable is in the end an issue of faith. That is to say, within scientific inquiry we proceed upon the hope that there is a true answer to every question that is being asked, and we make this a regulative principle of inquiry. In brief, if the demand is that religion becomes scientific, this must not be taken to mean that it mindlessly accepts received scientific opinion, nor that it embraces the so-called scientific method, but that one engages in religious matters with the very same attitude that makes an inquiry scientific.

Let us look more closely now at this scientific attitude. It calls for unbridled inquiry, inquiry without any preconceived notions of how things should be. This outlook did not come easy. It too is a product of inquiry, more particularly of the development of a stance of epistemic humility – a stance that resulted from the many theories (often so convincing that things could not even be imagined to be otherwise) that shipwrecked on some recalcitrant fact or other. As a result, the scientist, as Peirce conceived him, does not seek to tame the world by having it acquiesce to some scheme, but approaches his subject with an open, reverend wonder, with the aim of letting the world speak for itself as much as possible. This attitude, this state of unpretentious wonder, is itself a religious one, even if the religions Peirce is criticizing have mostly lost it. Hence, at its very core, the scientist’s devotion to his subject matter is a religious one, so that deep down the scientific attitude is a religious one. This means that, for Peirce, religion should not embrace something like the scientific method as if it is an asset that needs to be borrowed from its more affluent neighbor, but religion needs to reconnect with the self-effacing wonder that lies at the origin of religious as well as scientific inquiry, and in the process it will become clear that the questions it asks will be different than the questions of science, thereby giving to religion its own raison d’être.

Let’s, however, explore further this religious aspect of science, and see whether it could allow for a notion of God – a notion traditionally considered supernatural and thus antiscientific. I think Peirce opened an avenue in this direction when he developed what he called the “humble argument.” When in letting our thoughts wander freely without purpose we come to think of the universe, Peirce reasoned, the hypothesis of God, however lightly entertained, is unavoidable. That is to say, sooner or later it surfaces and to try to actively prevent it from happening, as self-proclaimed atheists sometimes do, puts a constraint on the free flow of thought that runs counter the scientific attitude; it is not just believers who cling to creeds. Once the hypothesis is raised, Peirce continued, one cannot doubt its truth, for to doubt a hypothesis one needs some reason, however weak, to suggest its falsity. For that the hypothesis thus entertained is simply too vague and elusive. Of course, this
is not true for any pronouncements about such a God, say that it created the universe, came from an egg, begat a son, is infinite, or when we speculate about its mode of being, including even the claim that it exists. Here reasons for doubt present themselves almost instantly, and here is the urge to pronounce creeds the strongest.

Reflecting on the above, one could say that the hypothesis of God solidifies the reverent awe that inspires the attitude the inquirer of nature should have by revealing its experiential ground. To this we may even add that the best way to capture this ground is through the vernacular use of the word God, with all its vagueness, ambiguity, fluidness, and multiplicity, and making that notion of God, a notion not encased in creeds of any kind, as a regulative principle of inquiry. When we conceive of God this way, dawning, however vaguely, within experience, it can constitute a ground for hypotheses conducive to scientific inquiry as Peirce conceived it. The result is a richer conception of science, one that eschews not only religious creeds, but also secular creeds, such as materialism and nominalism to name two hypotheses that are abundantly accepted on inadequate ground. Such a hypothesis of God, instead of being bad metaphysics, as it has been historically, would rather constitute a prime instrument that safeguards us from bad metaphysics, whether religious or secular.

**Peirce’s anti-nominalism**

Rosa Maria Mayorga 3

As 2014 marks the centennial of Charles Peirce’s death, it is apparent, by the sheer number and varied fields of those scholars interested in his work, that he is finally receiving the recognition that was denied him throughout his tragic life and for many decades thereafter 4. A polymath and prolific writer, Peirce explored many topics, but one theme that permeates practically all his writings is the “anti-nominalism” which he professes throughout his life 5. Ear-

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3 Chairperson Department of Arts and Philosophy, Miami Dade College, Wolfson Campus, 300 NE 2nd Ave, Miami, FL 33132, USA. E-mail: rmayorga@mdc.edu

4 The 2014 Charles S. Peirce International Centennial Congress, to be held at the University of Massachusetts Lowell in July 2014, has as its theme “Invigorating Philosophy for the 21st Century.” The 230+ contributions listed on the program include, in addition to the expected topics in logic, semiotics, metaphysics, etc., papers in economics, business, biology, psychology, linguistics, music, dance, literature, theater, all of which bear witness to the enriching influence and contemporary relevance of his thought.

5 Peirce published little of his philosophical work. Some of the thousands of pages of manuscripts and handwritten notes that survived were first compiled thematically in the eight volumes of the Collected Papers of Charles Sanders Peirce (CP). The Peirce Edition Project is currently engaged in ordering chronologically Peirce’s massive oeuvre in the Writings of Charles Sanders Peirce (W).
ly in his career, Peirce studies the scholastics, and although one would expect a scientist like Peirce to side with William of Ockham’s razor-sharp nominalistic views regarding universals, or general concepts, it is actually in John Duns Scotus’ universal realism that Peirce finds the inspiration for his own “scientific metaphysics.” Eventually, as I have argued elsewhere, Peirce’s realist stance is a common thread as he struggles, towards the end of his life, to develop and incorporate a normative theory within his “pragmaticism,” as he called his brand of pragmatism.

The problem of universals, which can be traced to Plato, and which resulted in the celebrated realist-nominalist controversy during the Middle Ages, “is as pressing today as ever it was,” Peirce claims. For the medievals, the focus was whether genera and species are real. Nominalists, exemplified by Ockham, denied their reality, claiming that only external (existent, concrete) things are real; since genera and species are products of cognition (thoughts), they are therefore not real. Realists saw this claim as highly problematic, especially its epistemological upshot – since we are aware only of our thoughts, if these are not real, then we cannot claim to have any knowledge of the external world. Scotus famously provided a “subtle” solution that validates our knowledge claims – he maintained that genera and species, although products of cognition, are nevertheless real in a different, but not less important, sense than external things. If the uniformities among things which we perceive and which serve to form our general concepts about the world (the result of a complex cognitive process of abstraction) are not real in a significant sense, then our knowledge of the world is false. Scotus basically claims, then, that reality and existence are not synonymous; rather, something can be “real” and not have the kind of existence that external, concrete things have. To support this claim Scotus develops an intricate metaphysics featuring the distinctio formalis, or formal distinction. Briefly put, this allows him to claim that the uniformity we perceive among external things is the real common nature which is actually (actualiter) in the thing (in re) and also in our thoughts (habitualiter). It is the very same nature which in the mind is universal and in re extra animan is singular; for if it were not, in knowing anything of a universal we should be knowing nothing of things, but only of our own thoughts. The same common nature that is in the thing is at the same time in our thoughts; it is not numerically distinct (it is the same) yet it is formally distinct because the indi-

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6 Peirce’s early training was in chemistry and was employed as a scientist for over twenty years in the US Coast Survey. Although he actively sought an academic career in philosophy, he never acquired a permanent university appointment.


8 CP4.1, 1898.

9 Scotus was known as the “Subtle Doctor.”

10 CP8.18, 1871.
viduating aspect (the *haecceitas*) present in the individual existing thing is not present in our thought. Hence, since the common nature is grasped directly into the intellect through the abstractive process, we can truly claim to have knowledge of the object, since we have knowledge of its essence, or *quidditas* (what it is).11

Peirce declares his debt to Scotus many times, claiming towards the end of his life that “I have never been able to think differently on that question of nominalism and realism.”12 Peirce’s realism (and anti-nominalism) is apparent in his categories, his definition of the real, his theory of truth, his notion of the continuity in nature, which he called “synechism,” and as I will briefly mention towards the end, in his normative theory.

Peirce expands on the focus on genera and species of the schoolmen, preferring to use “the word law, or regularity... the kind of universals to which modern science pays most attention.”13 We can see Scoto’s influence in the development of Peirce’s metaphysical categories of Firstness (potentiality), Secondness (existence), and Thirdness (law), since these encompass a description of reality that recognizes more than just the existence of external objects. Peirce claims to get his definition of the real, what “is quite independent of how you, or I, or any number of men think” directly from Scotus.14 Peirce’s realism is also evident in his theory of truth, which identifies the latter with permanently settled belief, or the “final opinion” of a community of inquirers at “the end of inquiry.”15 Unlike Descartes, for example, Peirce mistrusts the individual knower; for Peirce, all human thought and opinion contains an element of error, “dependent on the limitations and bent of the individual.”16 At the same time, however, he was convinced that «human opinion universally tends in the long run to a definite form, which is the truth.»17

In “How to Make Our Ideas Clear,” Peirce famously pronounces his pragmatic theory of truth – «The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by the truth, and the object represented in this opinion is the real.»18 To make a distinction between the true conception of a thing and the thing itself is, Peirce would say, «only to regard one and the same thing from two different points of view; for the immediate object of thought in a true judgment is the reality.»19 The realist will, therefore, believe in the objectivity of all necessary conceptions, space, time, relation, and the like.

For Peirce the scientist, Scotus’ recognition of the importance of generals (universals) over and above individual existing things, is in sync with the mod-

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12 CP1.20, 1903.
13 CP4.1, 1898.
14 CP8.12, 1871.
15 CP5.375, 1877.
16 CP8.12, 1871.
17 Ibidem.
18 CP5.407, 1893.
19 CP1.16, 1903.
ern concept of science; indeed, without the notion of a real law of nature, there would be no science as we know it. Peirce believed that the laws of nature can be described as a true continuum, something «whose possibilities of determination no multitude of individuals can exhaust.»20 Nominalists’ emphasis on the individual object is also shown to be wrongheaded from a synecchistic understanding of the universe, for «realists showed that the general is not capable of full actualization in the world of action and reaction, but is of the nature of what is thought.»21 Just as no multitude of instances can exhaust a law or concept, for Peirce no specific multitude of individuals can exhaust all the possible answers about everything. As he further develops and revises his theories, Peirce’s anti-nominalism eventually becomes more pronounced. At one point, he proclaims himself to be an “extreme” scholastic realist, more so than even Scotus himself.

Towards the end of his career, Peirce attempts to develop a normative theory which encompasses esthetics, ethics, and logic.22 For many years, he tells us, he had dismissed esthetics as a “silly science” and had considered ethics «as useless a science as can be conceived.»23 He eventually came to see them, though, together with logic, as interconnected, when he realized that the normative aspect of ethics as self-controlled, or deliberate action was intimately related to logic as self-controlled or deliberate thought. Now logic «is a study of the means of attaining the end of thought;» but it cannot solve that problem until it clearly knows what that end is.24 Ethics, then, studies conduct conforming to an end, or ideal, while logic studies the thought, or right reasoning, conforming to an end or ideal. Esthetics is to provide that ideal, which is not beauty, as traditionally thought, but rather, Peirce claims, is “reasonable-ness.”25 Although Peirce was not able to fully develop his normative theory, we can still detect his anti-nominalism in his remarks:

«Accordingly, the pragmaticist does not make the summum bonum to consist in action, but makes it to consist in that process of evolution whereby the existent comes more and more to embody those generals which were just now said to be destined, which is what we strive to express in calling them reasonable»26

Desde que comencé a interesarme por Charles Sanders Peirce (1839-1914) hace ya más de veinte años, llamó mi atención la peculiar afinidad que advertía entre el pensamiento del lógico y científico norteamericano y el de alguien aparentemente tan distante de su entorno cultural como John Henry Newman (1801-1890). Que el más famoso de los anglicanos conversos al catolicismo tuviera alguna conexión con Peirce no parecía imposible, pero sí improbable si se tiene en cuenta el ambiente hostil hacia la Iglesia Católica imperante entonces en Nueva Inglaterra.

De hecho, ni en los Collected Papers ni en la Chronological Edition de Charles S. Peirce hay referencias a Newman. En este breve trabajo, daré cuenta de las conexiones efectivas entre los dos autores que he descubierto hasta el momento.

Los lectores de Peirce recuerdan su viva narración autobiográfica del descubrimiento de la lógica a los 12 años el día en que cayó en sus manos el libro Elements of Logic del profesor de Oxford, Richard Whately. Peirce recuerda aquel evento en numerosas ocasiones. Sin embargo, es poco conocido que John Henry Newman participó decisivamente en la preparación de este libro, tal como reconoce Whately en el prefacio. En los escritos autobiográficos de Newman explica que en 1822 – cuando contaba con 21 años y era ayudante de Whately en Oriel College – este le pidió que preparara una síntesis de un manuscrito suyo titulado Analytical Dialogues con vistas a su eventual publicación.

Lo que Newman preparó fue el borrador del tratado que se publicaría cuatro años más tarde con el título Elements of Logic y que tanto influirá en Peirce.

La segunda mención a Newman fue descubierta en 1994 entre la documentación del Hegeler Institute y la Open Court Publishing Company, que se conserva en la Southern Illinois University. Se trata de una referencia a Newman y sus diferencias con Huxley en el párrafo final de una carta de Peirce a Paul Carus (1852-1919), prolífico editor de *The Open Court* y *The Monist*, del 9 de abril de 1893 expresando abiertamente sus opiniones acerca de algunos aspectos de la religión y la oración. A Carus, defensor de una “religión de la ciencia”, le interesó la carta y la hizo componer tipográficamente con vistas a publicarla y probablemente discutirla. Cuando Peirce recibió la galerada se sintió halagado por Carus, pero no autorizó su publicación. Lo que interesa es su párrafo final:

«La diferencia entre las creencias de un Newman y un Huxley es una cosa absolutamente trivial en comparación con la concordancia entre sus auténticas creencias religiosas. Hacer sentir este fundamento común sería el mejor servicio que un filósofo podría hacer por la religión».

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35 «List of Books most needed. As all would be much used they should have stiff covers or binding».


37 In the Works, «Peirce Project Newsletter», 1, nn. 3-4, 1994, p. 7: http://www.iupui.edu/~peirce/news/1_3/13_4x.htm#works1

Para esta investigación sobre la conexión entre Charles S. Peirce y John H. Newman lo relevante es la mención de las diferencias de este con Thomas H. Huxley (1825-1895), el gran defensor de Darwin y de la evolución, conocido por su agnosticismo.39 Lo que Peirce viene a decir es que aunque Newman – cardenal de la Iglesia Católica fallecido tres años antes (1890) – y Thomas Huxley – quien había acuñado el término “agnosticismo” – difieran entre sí, el terreno común de sus creencias es muy grande y es eso lo que un filósofo debe particularmente destacar.40

Entre 1883 y 1909 Charles S. Peirce dedicó un esfuerzo importante a la preparación de miles de voces – quizás en torno a unas 10.000 – del *Century Dictionary*.41 En la actualidad está terminando de prepararse, bajo la dirección de François Latraverse en Quebec,42 el volumen 7 de la *Chronological Edition* dedicado a esta materia. Mientras tanto, como el *Century Dictionary* está accesible online ha sido posible explorar la presencia de Newman en él.

Para el investigador de las conexiones entre ambos pensadores resulta deslumbrante comprobar que esta obra incluye 64 citas de *Grammar of Assent* (1870) y 65 del primer volumen de los *Parochial Sermons* (1868) de John H. Newman. Una investigación detallada arroja la cifra de que al menos 27 de las citas de *Grammar of Assent* y 24 de los *Parochial Sermons* corresponden a entradas preparadas por Peirce.43 Estos datos muestran, sin duda, una notable familiaridad de Charles S. Peirce con John H. Newman y da sentido a aquella indicación del MS 1573 de disponer de *The Grammar of Assent* encuadernada, ya que había de ser muy usada. Merece destacar en particular, la explicación de la noción newmaniana de “illative sense” en la tercera acepción de “illative” en

43 Las notas del CD no están firmadas, pero fueron identificadas a partir del ejemplar de C.S. Peirce (“interleaved copy”) que se conserva en la Houghton Library y están listadas en K. Ketner, ed., *A Comprehensive Bibliography of the Published Works of Charles Sanders Peirce*, Bowling Green State University, Philosophy Documentation Center, Bowling Green, OH, 1986².
la página 2986: «Illative sense, a name given by J. H. Newman to that faculty of the human mind whereby it forms a final judgment upon the validity of an inference».

El número y la calidad de las citas de Newman en las entradas con las que Peirce colaboró en el Century Dictionary sugieren un buen conocimiento de su pensamiento y, en particular, una notable admiración por la precisión en su uso de los términos en la lengua inglesa.

Frente a la aparente desconexión en la bibliografía académica entre Charles S. Peirce y John Henry Newman, esta exploración presenta como principales resultados tanto que hay un tronco común en la formación de ambos en Elements of Logic del “proto-pragamatista” Richard Whately, como que el Peirce maduro es un profundo conocedor de los textos de Newman, al menos de Grammar of Assent de 1870 y del primer volumen de los Parochial Sermons.