Duns Scotus and Peirce on the importance of Universals and Scientific Realism

Duns Scoto y Pierce sobre la importancia de los Universales y el Realismo Científico

Duns Scoto e Pierce sobre a importância dos Universais e o Realismo Científico

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ABSTRACT

By offering a historical overview of the problem of universals and by focusing in the contributions of the medieval philosopher John Duns Scotus and the founder of American Pragmatism, Charles Peirce, the article introduces Peirce's insight on the problem. Such insight is tracked by explaining the connections between Aristotle, Duns Scotus, and Peirce. Peirce's account was named by himself 'Scholastic Realism', and such Realism of universals aims to provide a feasible account for contemporary Scientific Realism. The problem of universals, after such a reading, appears as a continuous and vibrant issue that defines both traditional and contemporary philosophical problems.

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Key words:
Scholastic Realism, Peirce, Duns Scotus, Universals.

RESUMEN
Ofreciendo una visión histórica del problema de los universales, enfocándose en las contribuciones del filósofo medieval John Duns Scoto y del fundador del Pragmatismo Americano, Charles Pierce, el artículo presenta la concepción de Pierce sobre el problema. Tal visión es rastreada explicando la conexión entre Aristóteles, Duns Scoto y Pierce. Las consideraciones de Pierce fueron llamadas por él mismo 'Realismo Escolástico', y tal Realismo de los universales tiene como objetivo proveer consideraciones factibles para el Realismo Científico contemporáneo. El problema de los universales, después de tal lectura, aparece como un tema continuo y vibrante que define los problemas filosóficos tradicionales y contemporáneos.

Palabras clave:
Realismo Escolástico, Pierce, Duns Scoto, Universales.

RESUMO
Oferecendo uma visão histórica do problema dos universais, focando-se nas contribuições do filósofo medieval John Duns Scoto e do fundador do Pragmatismo Americano, Charles Pierce, este artigo apresenta a concepção de Pierce sobre o problema. Tal visão é rastreada explicando a conexão entre Aristóteles, Duns Scoto e Pierce. As considerações de Pierce foram chamadas por ele mesmo de "Realismo Escolástico" e tal Realismo dos universais tem com objetivo fornecer considerações factíveis para o Realismo Científico contemporâneo. O problema dos universais, depois de tal leitura, aparece como um tema permanente e vibrante que define os problemas filosóficos tradicionais e contemporâneos.

Palavras-chave:
Realismo Escolástico, Pierce, Duns Scoto, Universais.

There is a short tale by Jorge Luis Borges called in Spanish: 'Funes el Memorioso' (*Funes, the Memorious*). The story reckons that once upon a time, there was a man who was incapable of perceiving commonness among things, though he was extraordinarily able to identify every single thing in its singularity. His knowledge of details could even come down to the very basic and unique features of every single aspect of a thing. So much so, he enumerated every single detail separately: up to the point that even the numbers themselves seemed so unique that they could not have been even used to be equivalent to the objects they represented. The case of Funes is a daunting example of a mental experiment of knowledge comprised only of individuals. After all, the problem describes the ultimate impossibility of not being able to even use language. Language, as a tool in our capacities for expressing meaning, is based in the abstraction of properties of similarity between entities: words have a meaning if there are things that fall into their concept. More importantly, language is meant to connect us adequately with reality, this connection, thus, ought not to be left in mystery. The thought experiment of the story about Funes addresses the fact that we cannot really conceive the use of language without the use of generality, resemblance, and relations.

As noted above in the previuos paragraph, the problem of universals is a problem within the scope of 'special metaphysics' (a given metaphysical problem) that bears consequences for 'general metaphysics' (our entire thought about reality). One might wonder why it is important to care about such a theoretical nuance of philosophy. After all, it seems to find no definitive solution from the times of ancient philosophy up to this date. However, some replies might be offered to the expressed anxiety: first of all, it seems that there always is a need to account for how things can have common features. Knowledge of all kinds is pervaded by the assumption that things actually relate and have properties that can be generalised. Second of all, it is not only important to understand how do we know things: it also seems a prerequisite assumed in knowledge itself. Valuable knowledge, for example, scientific knowledge, seems to illustrate the case. Scientific knowledge teems with concepts that presuppose generality and commonality. This implies that there are regularities occurring around us. A regularity is a law-like behaviour operative in nature and such behaviour renders prediction, induction and theoretical explanation acceptable. The problem of universals, thereby, affects a fundamental aspect of what we consider our best scientific theories: theories that make sense of the world in a scientific manner. This fundamental version of Scientific Realism might not always be expressed

explicitly, but is certainly assumed in the scientific practice of anyone who expects that the patterns of experience described by an experimental procedure to show recalcitrant results, or finally, otherwise be disproved.

Plato and Aristotle

The first philosophers that considered seriously the problem of commonness in a systematic way were Plato and Aristotle. Plato put in Socrates' mouth a number of conundrums. For example: what are the forms of the perfect ideas that instantiate in morality, mathematics (in the form of geometrical and arithmetical issues), and even knowledge in general, making it so possible? Plato proposed a theory of perfect forms that *inform* the objects that share a property by a relation of participation. If I say, for instance, that this book is red and that balloon is red, both objects share the property of being red, or 'redness'. Plato argued that there is a perfect form of redness in a parallel world of individual perfect forms (see Plato, *Gorgias*).

However, Aristotle, while still a disciple of Plato, saw a number of problems in Plato's theory. Aristotle's critique of Plato gravitates around the so-called 'third man' problem. The 'third man' problem questions whether a form is a separate individual. If a form is indeed an individual, then, when two men bear resemblance, the form of the resemblance itself must be a third man in between. However, then again a further fourth man will be needed to relate the first man with the third man, and so forth. Aristotle intended to solve Plato's problem by proposing that the forms do not exist in a parallel world of independent perfect forms. Rather, these forms are attached to the substances and individuals. Thereby, what we know about the forms is only present in their instantiations. Aristotle wrote: "If, then, the principles are universals, these results follow: if they are not universals but of the nature of individuals, they will not be knowable; for the knowledge of anything is universal" (*Metaphysics* 1003a14).

Aristotle developed an interesting theory of categories. In his account, properties find a relation of instantiation in individuals. However, Aristotle's explanation of how properties relate with individuals through instantiation seems to be the subject matter of many different interpretations. The most important source of Aristotle's account is his books on *Metaphysics*. Aristotle himself said

apparently contradicting things of universals in his *Metaphysics*, first saying that there is impossible that they are 'substances' and then acknowledging that universals are 'substances'. Let us contrast two key passages:

> … But if… there must be something apart from the individuals, It will be necessary that the genera exist apart from the individuals –either the lowest or the highest genera; but we found by discussion just now that this is impossible. (*Metaphysics* 999a 25-32)

> Let us now take a fresh starting-point and say what, and what kind of thing, substance should be said to be… Let us start, then, from the fact that substance is a principle and a cause of some sort… It is clear, then, that what is sought is the cause –and this is what-being-is, to speak logically… the question must be why the matter is so-and-so, i.e., the form, and that is the substance. (*Metaphysics* 1041a6-b8)

These passages generated, unsurprisingly, different interpretations. Such interpretations are sometimes inconsistent between each other. The tradition, thus, initiated by Plato, was called '*extra rem*' or '*ante rem*' realism. This realism argues that the form or universal is a separated entity from the thing in which inheres. Aristotle's realism was called '*in re*' realism. His realism defends that the form cannot be separated from the thing in which inheres. The challenge of deciding which realism is correct was fully met by medieval philosophers; they considered the problem as prominent and fundamental to any philosophy.

Medieval Solutions

This essay introduces the problem of universals from a historical point of view. Medieval philosophers worried about what is the foundation of commonness between things, and why those common things have a common intelligible structure that they called 'nature'. The contemporary philosophical debate testifies a return of the schoolmen's problems. Nature, for them, meant what kind of actions we should expect from an entity. The medieval philosophers focused on the expectations derived from nature so conceived. They followed the principle that "actions presuppose the nature". Hereby, they used the received Aristotelian jargon that steadily would become the orthodoxy about

the terms in which the problem of universals was to be formulated. Surprisingly, both contemporary and medieval philosophers, tried continuously to prove that the common structure of reality and mind does not seem to rely in our single minds. Consequently, in spite of there being different languages and idiosyncratic ways to access knowledge of things, there are features of reality pervading and grounding generalisation. Generalisation, thus, does not depend on those subjective features associated with a concept. We can observe that there are two elements of generalisation involved here: on the one hand, the problem involves our knowledge of the world and how that knowledge can be objective; on the other, the problem questions how some entities backing knowledge need to be integrated in a theory of reality, an ontology about how the world is, independent of our knowledge of it. Universals, thereby, are an epistemological as well as a metaphysical problem of the one-over-many, all at once. Regarding these universals, thereof, the problems that scholastics tried to face were the following: (1) How are universals substantiated? (2) What is the status of these structures? (3) How do we grasp universals through our intellective abstraction?

These questions might appear as using bygone philosophical jargon, however, asking how something is substantiated and enters abstraction is nothing else but asking how something has a particular ontological independence and how it relates with our epistemological access to it. I will now focus on a particular medieval philosopher: the Franciscan John Duns Scotus (c. 1266-1308). Let us contrast Scotus against other important medieval philosophers that offered alternative solutions to the problem phrased in the above-mentioned questions by introducing his account of universals.

Scotus on Universals

John Duns Scotus wrote several commentaries on different philosophical topics: We should not forget that he was first and foremost a theologian. Thus, he worried about how faith and reason could be reconciled. Scotus also wrote on free will and determinism, along many other topics. Nonetheless, it was mainly due to his subtle distinctions in metaphysics that he earned the title of 'Subtle Doctor'. He developed distinctions and new terms that gave entirely new approaches to classical problems. These distinctions, suffice to

say, were not always easy to grasp for his disciples (or for anyone who reads his intricate philosophical writing). His disciples, consequently, had different interpretations of Scotus and his distinctions.

Scotus coined an Aristotelian version of an account of universals; let us not forget that an account of universals is ultimately an account of reality. Scotus' account of reality demands a consideration of the problem of universals. The account requires universals to spell out all the traits of reality. His Aristotelism is '*in Re*', which means that the reality of Universals is understood in the context of the singular things where we find the universal. Scotus, like all the other relevant medieval philosophers, articulates his arguments around two principles: on the one hand a principle that accounts for the reality of universals or 'principle of universalization' (PU); on the other a principle that accounts for the reality of individuals or 'principle of individuation' (PI).

Scotus devised a theory that ranges across different senses of the concept of 'unity'. 'Unity' means the connection expressed in a concept that behaves as 'one-over-many'. Scotus extended the understanding of 'unity' by using the concept of 'common nature'. Common nature addresses the recognition of a kind of unity that is prior to the numerical one. The use of the concept of common nature implies the recognition of specific universals in a restricted sense of the property. The unity of a concept can be prior to a numerical one if there is no specification of how many times is instantiated, even if it is instantiated only once. What matters here, thence, is not an operation of counting or enumerating, but the predication that there is a real relation that unifies. When we count individuals, though, we enumerate them by using another further sense of the concept of unity: this unity will be the first element of the list. That, however, is a derivate sense of the concept of unity, a numerical one.

Another concept that cries out for clarification is the concept of 'property'. It was used in a difference sense than the one common to contemporary philosophical literature. The medieval sense of the concept of 'property' derives directly from the Latin *Proprietatis*, and this from *proprium*, meaning something that is intrinsic and not accidental to a thing. In fact, Scotus recognised that universals are properties. This, however, is a restricted sense of property and cannot be applied to any property whatsoever. In consequence, the account of universals formulated by Scotus and most of the medieval philosophers is interested in universals that are essential to things. This kind of

theories will probably discard artificial kinds and rather prefer natural kinds as candidates for genuine properties in the sense noted.

The explication of an essential property rests in Scotus' theory of 'prior to numerical unity'. There is a prior to numerical unity and metaphysical continuity among what is common between things, and this, according to Duns Scotus, is the real common nature. The common nature is a metaphysical continuity amongst the entities, which share a property in the strict sense: an essential property. Now, this common nature, if it is seen from the point of view of the generality that our intellects find across through cognition, it is a real universal. From the point of view of the individuated entity and the contracted haecceity, however, is an existent individual. Scotus saw that in order to defend a consistent system of metaphysics, it was necessary to explain how the 'common nature' is instantiated. Duns Scotus christened his principle of individuation of the common nature as *haecceity*[1] (which, as mentioned above, can be translated as 'thisness').

Scotus' account of haecceity affirms that an entity, a haecceity or primitive "thisness" individuates each substantial nature. Consequently, according to the spirit of his arguments in q. 2-6 of the second book of the *Ordinatio* (see also, Ord. II, q3. n1), there is a disjunctive syllogism that makes us chose haecceity amongst other alternative principles of individuation:

1. The common nature is individuated either by negations, or existence, or accidents such as quantity, matter, or haecceity.
2. Neither negations, nor existence, nor accidents, nor matter individuates it.
3. Therefore, it is individuated by a *haecceity*.

Why can the principle of individuation not be negation, existence, accident or matter? There are different reasons why Scotus rejected the classical theories of individuation. The schoolmen frequently advanced their own theories in commentaries to the Classics. Even though most of them appear to analyse arguments of Plato or Aristotle, they are rather actually presenting their own theories disguised in the genre of commentaries. Regarding the style, Scotus

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1   From the Latin *haecceitas*, and this from *haec*, the demonstrative 'this'.

was not much different; he was inspired in Aristotle's metaphysics and Peter Lombard's sentences. His theories, nevertheless, are very original and surpass the genre of commentary by far. This is one of the reasons why Scotus' account is revolutionary with respect to other ones: he did advance a completely new theory of individuation by his principle of haecceity (See Williams 100-102). Let us explore the reasons why he would reject other accounts:

First, Scotus denied that negation can be the grounds for individuation. Here he is contending against the theory of the 'double-negation' or 'two-fold negation' proposed by Henry of Ghent. The latter presented a doctrine based in the following principle of individuation:

> (HG) Whatever (a) is not anything else, and (b) is not internally divided, is an individual.

(HG) is a principle of individuation based on difference by negation: what determines something against another is what makes something different. Scotus rejected this kind of individuation because, although effectively it discriminates, it also presupposes the individuality of each thing as the principle of differentiation. In his critique of Henry of Ghent, Scotus assumes a tacit principle of this form:

> If a principle causes items to be individual, the principle causes them to be differentiated from other items.

Second, other philosophers like Bonaventure, Aquinas, and the Jewish philosopher Avicebron (ST *Ia Iae*), affirm that existence, or the 'act of being', could explain individuation due to the reason that each existence is the actualising of the potential aspects of common natures. Consider the case of a straight line, if it is potentially divisible in infinitely many places, then a division in the line is only real when is actualised by a cut: so long as the cut does actualise the potentialities we can rightly say that a cut 'exists'. 'Existence', hence, cannot be a principle of individuation: the existence is a result of the cut. Saying otherwise means that the cut happened because of the existence of the point, but that would presuppose that the infinitely many points where cuts can happen exist, and that is a fallacy. Existence is a result of individuation, and it presupposes that what exists is an individual entity and, thus, another tacit principle of reasoning comes in:

> What presupposes the determination and distinction of another is not the reason for distinguishing or determining the other. (Ord. II.3.1.3.62)

In addition, existence presupposes the determination given by a particular mode of being distinct to the mode of being of essence:

> The being of existence does not have its own differences other than the differences of the being of essence. (Ord. II.3.1.3.61)

Thirdly, an entity can be individuated by accidents that finally determine it. Accidents inhere in things, quantity and quality cannot be the principle of individuation: we can think of them independently of their particular instantiations, they are also shared in different things; their instantiations in things are properties that would hardly work to individuate something. It has been said that a particular bundle of properties, however, happens to be specific to each thing, but then again Scotus argued that the properties of a thing follow from its individuation, not the other way around. He follows the reasoning of Boethius, who talking about individuation interpreted numerical difference as an accident. Boethius wrote:

> The variety of accidents is what makes difference in number… if in the mind we separate out all the accidents, nevertheless place is diverse for each of them. We can in no way suppose that it is one [space] for two men. (*De Trinitate* 1.24-31)

Finally, it is needed to question whether matter can be an individuation principle, against what Thomas Aquinas defended as 'designated matter'. For Scotus, 'designated matter' cannot be a principle of individuation for two reasons: (1) matter, as we testify by simple observation, is dynamic, so in its changing character it holds a particular existence to itself; thence, the matter of my body is not the same all along as it changes, holding a different existence as far as my cells change, etc.; secondly, (2) matter is existent in itself, so the act of being of matter does not entail the act of the entity composed by it. Consider the example of a dead corpse: it is effectively the same matter of a living body if, nonetheless, it is individuated as matter even though it is not a living body any longer. A living entity must be something different in order to result as a particular existence and concretion of humanity.

Why 'haecceity' should be accepted as principle of individuation?

There were alternatives to Scotus' account, as Aquinas' account of designated matter. This account might be raised against the need of Scotus' concept of haecceity. A second argument, consequently, is proposed by Scotus. This argument is aimed at being decisive against the other principles of individuation. Aquinas, as noted above, argued that matter needs to be considered as the principle of individuation because we know things by their manifestation into physical matter. In the case of negation, for example, we cannot have any direct acquaintance of a negation, as it is a result of an inference, while for a designated matter we actually do. Scotus second argument, however, supposes that our acquaintance with two seemingly identical objects does not have to block our cognition of the individuation of the object. Consider, then, the second form of the argument of the second book of Duns Scotus in the *Ordinatio*:

1. Suppose x and y are different singular substances in the same species, S.
2. It follows that x and y are different beings, yet somehow the same.
3. Their difference is not accounted for by the nature in x or by the nature in y.
4. Besides, the nature in x and the nature in y, there are some primarily diverse items by which x and y differ.
5. These primarily diverse items are not negations, nor accidents, and so on…
6. It follows that they are positive entities that per se determine the nature of that to which they belong (Bates 88-9).

Scotus picture of haecceity follows that positive aspect noted in the argument above by determining in levels each entity. Following the mentioned premises we obtain a picture like this:

x	Y
Nature n	Nature n
Something singular, k	Something singular, h

Consequently, k and h cannot be the same singular: primarily diverse items that suffice to differentiate singular substantial forms are singular entities. They enter into a composition with the common nature. Suppose the case of

two identical drops of water: if the designation of the matter were everything to individuation, then there would be no available individuation for them. However, there is individuation, as we can actually distinguish them both in their numerical difference as well as in their individuality. As Jorge Gracia explains it, the haecceity, therefore: "Concerns the necessary and sufficient conditions for something to be individual" (18).

The discussion of the contemporary conception of haecceity is actually different to the Scotistic formulation presented above. Contemporary accounts of haecceity rather follow Kaplan's definition: "the doctrine that it makes sense to ask questions about the transworld identity of individuals independently of their properties and relations." (722). The contemporary definition takes for granted that the interest in identifying a primitive 'thisness' helps to make sense of the identity of properties and relations across the possible worlds. The contemporary theories take the principle of individuation for granted. This contrasts with Scotus' interests: from his theory, one can note that the principle of individuation is prior to the principle of identity, which is, as it were, a manifestation of individuation. Scotus' account does not theorise for transworld-identity for a still stronger reason: Scotus conception of haecceity does not allow that the primitive *thisness* can be instantiated in two or more numerically different items, even identical copies across possible worlds. Adams and others theorists of haecceity show little interest in Scotus' idea that there is something prior to numerical unity at the bottom of the *per se* unity given in individuation (Wolter 732). The haecceity of contemporary theories accepts that the same *haecceity* accounts for the 'copies' of the same object across possible worlds, but the fact that there are at least two singular 'copies' of an entity violates Scotus' postulates. Finally, there are claims of contemporary philosophers of haecceity, like Robert Merrihew Adams, that contrast with Scotus' idea of haecceity by their use of modal conditions: "There are facts, and also possibilities, that are not purely qualitative ...the thesis… is that all the non-qualitative possibilities are possibilities for actual individuals." (3). Adams believes that haecceity counts as a non-transferable qualitative possibility of a given individual[2]. Adams (23), like Kaplan, makes a distinction between

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2   This does not mean that this conception of 'haecceity' cannot be paired with Scotus' conception. However, I ilustrate that in order to pair the two notions it would be necessary a careful and different study to this.

'existence' and 'actuality', which has no equivalent in Scotus (or Peirce) given in their use of modality:

> I argued that whether there are possibilities about an individual depends on whether there actually are propositions about the individual, rather than on whether there would have been such propositions if the possibilities in question had been realized. This conclusion can be incorporated in a possible worlds semantics by stating the conditions for the truth of modal propositions in terms of truth a t a possible world instead of truth in a possible world. (Adams 23)[3]

Peirce focused in an idea of haecceity originated in Scotus, not exactly equivalent to the contemporary one. Hence, this study will focus in the Scotistic idea of 'haecceity' as an influence in Peirce's thought. The topic, however, is interesting in its own right and can be studied with more detail elsewhere.

Scotus' Solution to the problem of universals

There are two senses for the word 'universal' that have been considered so far in this discussion: first, the common nature undergoes a process of universalization within the mind and in that sense it is a creation of the mind. That is a sense in which universals are captured by the intellect, what Scotus calls the 'logical universalization'. Scotus uses the term *habitualiter* to express a real aspect of the common nature but in the instantiation of a concept relative to a mind. The second sense is the metaphysical one, grounded in the real commonness of nature that things have among themselves, but contracted by a different individuation or haecceity in each thing. Scotus offers the term *actualiter* to express how the common nature is instantiated or contracted in an individual.

Consider the statement: "Obama is a man". Something must be 'in' Obama for him to be a man: he needs to share a Common Nature in order to be

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3   If any, the resemblance with medieval philosophy is to be found in Aquinas, for whom the relation "potency-act" works as the foundation of a principle of individuation (ST *Ia IIae*, q. 1).

recognised as a man. That Common Nature needs to be instantiated in such a way that nobody can be a man in the way that Obama is. Now, the distinction of both aspects is just a formal distinction, so the contraction of the common nature and the haecceity are one and the same thing. The formal distinction, nonetheless, is more than a logical distinction: it is a real distinction. This way of a solution is clearly different from what Plato could have envisaged. The common nature of Obama is not another man, but humanity; and humanity is not an individual. What Scotus affirmed, then, is that there is a real continuity in the humanity of Obama and the rest of the humans. The mind discovers that continuity by a logical operation of universalization, but that universalization is instantiated in Obama's haecceity, so it is impossible to separate Obama from his humanity in a non-conceptual way (although it is possible to do it conceptually, i.e., in Scotus' words: *formaliter*). However, it is also impossible to separate Obama's case of humanity from humanity in general. The metaphysical continuity across all the humans is expressed in other instantiations of the humanity as it is, for example, Cameron's, Merkel's and other people's humanity: all of them have to fall under the same definition of a universal, i.e., a shared Common nature. This very same Common nature becomes a logical universal when we conceptually identify it.

There is a worry, however, here: philosophers leaning towards nominalism of universals claim that if the formal distinction is not logical then it has to be grounded in a real division of things. Scotus' solution was to offer different modes of being for the contracted things: they are objective contracted realities, but they are metaphysical realities too. This means that their being can be said in different ways, and their unity can be understood in different degrees.

Nominalism of universals

A contrasting alternative to face the problem of universals, nevertheless, is the denial of permitting them in our ontology at all. Nominalism is well known as the theory that rejects the existence and the reality of universals calling them *flatus vocis* (no more than words). However, many different theories are called 'Nominalism', and Peirce had a very technical sense for the concept. Therefore, it is important to specify where to place the types of nominalism we will be concerned with.

First of all and attending to the history of philosophy, nominalism was traditionally initiated by the medieval philosopher Roscellinus (c. 1050-c.1125), but more famously defended by another Franciscan philosopher disciple of Scotus: William of Ockham (c. 1287-1347). Ockham defended a version of nominalism called 'conceptualism'. Let the following list offer a brief classification of the nominalist alternatives available in history ranging from the medieval philosophy up to contemporary ontology. All the following versions of nominalism are kinds of nominalism that denies the reality of universals.

Peirce interest in Scholastic Realism

Peirce noted that the problem of universals was treated in a rather dichotomist fashion: it is often presented as a clash between metaphysical realism (that is often conceived as Platonistic realism) and nominalism. Peirce was convinced that the problem of universals is decisive and important. He said that the problem is "as pressing today as ever it was" (CP 4.1). An adequate treatment and a solution to the problem, consequently, cannot come from the traditional formulation of the problem as a dichotomy between Platonism and Nominalism. Peirce, on the contrary, believed that:

> The current explanations of the realist-nominalist controversy are equally false and unintelligible. (CP 8.12, 1871)

Peirce, effectively, stated his disapproval to the traditional interpretation of universals. This interpretation considers that the problem of universals is about 'Platonic ideas'. For Peirce this interpretation is opinionated and results from a crass misunderstanding:

> [I]t must not be imagined that any notable realist of the thirteenth or fourteenth century took the ground that any "universal" was what we in English should call a 'thing', as it seems, that at an earlier age, some realists and some nominalists too, had done […] their very definition of a 'universal', admits that it is of the same generic nature as a word, namely, is: 'Quod natum optum est *predicari* de pluribus.' Neither was it their doctrine that any 'universal' *itself* is real. They might indeed, some of them, think so; but their realism did not consist in *that* opinion, but in holding that what the

word *signifies*, in contradistinction to what it can be truly said of, is real. Anybody may happen to opine that 'the' is a real English word; but that will not constitute him a realist. But if he thinks that, whether the word 'hard' itself be real or not, the property, the character, the predicate, *hardness,* is not invented by men, as the word is, but is really and truly in the hard things and is one in them all, as a description of habit, disposition, or behavior, *then*, he is a realist. (CP 1.27, 1871 n.1)

From the quotation above, it should be noted that Peirce accepted that the universal is a word as well as a reality. On this issue, he said, the nominalist is not altogether mistaken:

The nominalists say it is a *mere* name. Strike out the 'mere' and this opinion is approximately true. (CP 3.460)

The problem at stake, thence, lies in what effectively gives the universal character to some particular word, for the word to be meaningful as a sign. Peirce expressed this as what gives the "*fundamentum universalitatis*" (CP 6.377). The problem correctly formulated, according to Peirce, is:

The real is that which is not whatever we may happen to think it, but is unaffected by what we may think of it. The question therefore, is whether a *man*, *horse*, and other names of natural classes, correspond with anything which all men, or all horses, really have in common, independent of our thought, or whether these classes are constituted simply by a likeness in the way in which our minds are affected by individual objects which have in themselves no resemblance or relationship whatsoever. (CP 8.12, 1871)

From this citation, though, we are able to identify some elements of what Peirce recognised as the genuine problem of universals based on resemblance and commonality. Moreover, Peirce even believed that Platonism was a nominalist viewpoint, as I shall explain clarifying the nature of such a bewildering claim. The 'nominalistic Platonism' consists in conceiving the existence as:

[I]ndependent of all relation to the mind's conception of it. (CP 8.13)

A true realist, thence, would be not somebody who believes in existent universals as actual things, but:

> In fact, a realist is simply one who knows more recondite reality that which is represented in a true representation. Since, therefore, the word ''man' is true of something, that which 'man' means is real. The nominalists must admit that man is truly applicable to something; but he believes that there is beneath this thing in itself, an incognizable reality. (CP. 8.13)

In order to be a realist, therefore, one has to make a decisive step against the nominalist prejudice reflected in the abovementioned dichotomy. In this process it is important to:

> [G]et rid […] of the Ockhamistic prejudice of political partizenship that in thought, in being, and in development, the indefinite is due to a degeneration from a primary state of perfect definiteness. The truth is rather on the side of the scholastic realists that the unsettled is the primal state, and that definiteness and determinateness, the two poles of settledness, are, in the large, approximations, developmentally, epistemologically, and metaphysically. (CP 6.348)

The rejection of nominalism is more than a recommended way of conduct ourselves, should we wanted to be in the correct path. For Peirce, the pragmatist, predominantly:

> …will be the most open-minded of all men. (CP 5.499, 1909)

Consequently, there is a duty to reject nominalism as a "philistine line of thought" (CP 1.383, 1890). Nominalism is said to be:

> …the dreary outlook upon a world in which all that can be loved, or admired, or understood, is figment. (SS: 118, 1909)

Forster (2) reminds us that much of Peirce's antipathy against nominalism derives from his views about science:

> [S]cience has always being at the heart realistic, and must always be so. (CP 1.20 1903)

Peirce drew this scientific realism from the sympathy he had to his colleague Francis Abbot. Abbot defended the realist attitude in science in his writings

about theological realism. Peirce, furthermore, also was a practising scientist that made observations based on fallible hypothesis, these could not have been meaningful without a realist combination of expectation, experimentation, and prediction. Quite opposite to realism, the nominalist mind-set (as Peirce conceived it) created a worldview that affects science with disastrous consequences:

> It is not modern philosophers only who are nominalists. The nominalistic *Weltanschaaung* has become incorporated into what I will venture to call the very flesh and blood of the average modern mind. (CP 5.61, 1903)

The pragmatist, as an open-minded individual, rejects nominalism. Resistance to nominalism in such a manner implies doing science, but most of all, establishing a different *Weltanschaaung* that constitutes what Peirce called 'Scientific Metaphysics'. By advising the pragmatist to opt for a realist stance, Peirce provided what nominalism otherwise blocked: an ultimate and impartial basis for the organisation of scientific inquiry carried out by a selfish-less community.

Peirce and Scotus

After having a study in Peirce's production, there is no doubt that Peirce credited Duns Scotus for articulating a realism that improved the other available options in the history of philosophy. For Peirce, Scotus' realism is the best means available to fight against science's foe, i.e., nominalism. However, not all the scholars are convinced that Peirce's version or Realism is actually as close as Scotus' as Peirce thought it to be. I shall defuse these doubts, as I will spell out reasons to believe that Peirce's Scholastic Realism it is actually faithful to the spirit, buy not necessarily the letter, of Scotus' realism. Indeed, the most important Scotistic doctrines are present in Peirce's thought: they all gravitate around Scotus' theory of reality in the first place, and they descend to his realistic theory of universals in a second place. A very strong point of agreement between both philosophers, thence, is a basic but important distinction: reality and existence are not coextensive and, thus, they should not be identified. This is a crucial distinction for understanding what Peirce's realism is about. The grounds of this claim are different in Scotus and in Peirce, but still convergent. Scotus suggested that reality is to be

defined in these terms: what is a necessary condition for the intellect in order to grasp the essence of a thing. Peirce adopted Scotus' definition in what he named 'the Scotistic definition of Reality' based on mind-independence. The 'Scotistic definition' can be formulated this way: whatever is independent of idiosyncratic opinions and emerges from the different universes of experience shared by a community guided by norms of inquiry is to be considered 'real'. Now, Peirce's contribution to Scotus' Aristotelian account lies in the amplitude of his comprehension of experience. Peirce's account is broader in scope and ranges beyond the traditional metaphysics of Scotus' theory. This account is to be found in the context of a theory of categories as well as the architectonic philosophy: Peirce regards categories as real. Existence, however, is a predicate reserved to the category of Secondness, where the actuality and resistance of facts comes to matter.

Peirce considered that questions about reality are of utmost importance for philosophy. His formulation of these questions varies. For Peirce, the classical responses to these questions are extreme and should, thus, be excluded: on the one hand, nominalism should be rejected because it affirms that the structures of reality exist only in the mind as concepts. These concepts ultimately access some impenetrable things-in-themselves, and thus, we cannot account or theorise about them without overcoming scepticism. That leaves the philosophical problem unresolved in a dichotomy of mind and world barred of scepticism. On the other hand, Platonism should be rejected because affirms that the structures of reality exist in the same way that the facts that instantiate them. This is unacceptable due to the empirical evidence: if, for example, 'whiteness' is also a white thing then the concept fails to explain a shared property. Peirce approached the issue by first noting that only Scotus did the necessary distinctions to give a sensible response to the problem: Scotus approached this issue by first noting that anything which exists outside the mind also exists within the mind simply by being known. The opposite is not true, however. Something that exists within the mind does not necessarily exist outside the mind. Something, which exists outside the mind, is a real being (*ens reale*) while something that exists only in the mind is a being of reason (*ens rationis*). Suppose that I have a dream about myself running through some trees into an open field: the trees in my dream are figments of my imagination, but they are composed of features that make them common to real trees. There is, therefore, a real concept necessary for them to be 'unreal trees'. How, nonetheless, will I be able to tell whether a concept is real and independent of

the figments of my imagination? Scotus thought that there must be an objective intelligible structure shared there: what he called the 'common nature'. When the common nature is instantiated as a being of reason, it is called a 'universal' (still being real). When the intelligible structure is instantiated, there a fact (existence) occurs: existence is the 'contraction' of the common nature and the haecceity of the thing that is unique to that thing. Therefore, the thing at stake has one single mode of being as 'existence'. In consequence, Peirce and Scotus shared the conviction that reality is not coextensive with existence, as reality can be said in different ways or 'modes'.

For Peirce, Scotus made clear that the mind 'discovers' universals; it does not 'create' them. This level of Peirce's realistic doctrine is another important point of agreement between the two philosophers: both share the doctrine of universals as a doctrine of 'real common natures' in Scotus and as a doctrine of 'real generals' in Peirce. Peirce did not fully agree with Scotus in all respects, he rejected his theory of contraction: he found him too moderate and because of that, dangerously close to nominalism. For Peirce, in contrast with Scotus, real universality must not only be indeterminate in respect to the mind, it can also be indeterminate and vague *in re*. This means that universality can be real even if not contracted in an individual haecceity, moreover, even as a 'real possibility'. Peirce denied the Scotistic theory of contraction in individuality. He instead provided a theory of Categories able to deal with the problem of instantiation in a better and less problematic way. This will be shown below. Peirce, thus, judged Scotus as regrettably close to nominalism in his theory of contraction:

> Even Duns Scotus is too nominalistic when he says that universals are contracted to the mode of individuality in singulars, meaning, as he does, by singulars ordinary existing things. The pragmatist cannot admit that. (CP 8.208; 1905)

Consequently, what is at stake is how to find a plausible solution to make sense of the reality of universals without the risk of reducing them to individuals. Unjustified reduction to individuality is typically a nominalistic move.

Peirce's Interest in Universals: Scholastic Realism

Without getting far ahead in the details of Peirce's development, let me start by approaching the meaning of what Peirce christened 'Scholastic Realism'. Scholastic Realism is a doctrine about reality, not only about universals, as shown below. The core of the doctrine is a plural theory of reality: this theory allows the reality of Universals or Generals, as Peirce called them. Influenced by Francis Abbot, Peirce believed that Scholastic Realism is a necessary hallmark of well-conducted scientific research:

> Science has been always at the heart realistic, and always must be so. (CP 1.20)

Moreover, Peirce's more famous theory of pragmatism requires the acceptance of Scholastic Realism as a premise:

> Pragmaticism could hardly entered a head that was not already convinced that there are real generals. (CP 5.503)

John Boler believed that there are reasons to accept that Peirce's account of reality as the object of the final opinion is close to Scotus':

> …Peirce and Scotus agree that nature or law must be an intelligibility that is real and objective. Scotus defined a formality as what can be correctly conceived of an object but is real before the operation of the intellect. Peirce's definition of reality seems to me to be nearly a pragmatic reformulation of Scotus' realitas or formalitas: reality is what would be thought in the ultimate opinion of the community. (Boler 128)

This Scotism in Peirce, however, falls short in what was Scotus' main contribution: the formal distinction based on different modes of reality and of unity. Peirce's mature Scholastic Realism, though, finally captured Scotus' formal distinction and solution to universals in the Category of 'Thirdness'. It should be noticed that I disagree with the traditional Peircean scholarship, and with John Boler on this. The Category of Thirdness converges with Scotus' metaphysics in several respects:

- Peirce defined Thirdness as 'mediation': mediation refers to the commonness between things: a shared property mediates by giving unity across individuals. Cognition requires conceiving things in a unified kind sometimes and, when this is the case, mediations are fundamental. These forms of Thirdness are a mode of being real in the Scotistic sense.
- Peirce's mature concept of continuity (Synechism) converged with Scotus' theory of different kinds of unity beyond numerical properties. Thus, for example, properties of intelligible structures are general and vague in terms of numerical unity but not in terms of common unity. Peirce, in his later years, wrote:

I use [Thirdness] as the name of that element of the phenomenon which is predominate wherever Mediation is predominant, and which reaches its fullness in Representation. Continuity represents Thirdness almost to perfection. (CP 3, 422)

Peirce seemingly summarised his developments. I argue that instead of moving away from Scotus he rather came to defend doctrines that were closer to Scotus' subtlety and terminology. It remains to be explained, therefore, why Peirce was reluctant to accept that the contraction was the ultimate metaphysical unity, as mentioned above. For Peirce, the individual has a mode of being less 'real' than the generals. This is deduced in virtue of the priority that continuity holds over the instantiations. In further chapters it will be noted how he demonstrated this by his 'Cambridge Experiment', in which the concept of 'prediction' and real 'would be's' were introduced. In addition, John Boler formulates the conflict of Peirce and Scotus in these words:

> The schoolmen maintained that a nature cannot be identified with any actual individual or collection of individuals. Peirce wants to show that the reality of a continuum cannot be reduced to any actuality or collection of actualities. (Boler 127)

Therefore, probably the main reason Peirce thought of himself as an extreme realist of universals, as opposed to Scotus, is because he gave priority to the mode of being of generality: Thirdness over Secondness. Peirce's doctrine, nevertheless, remains in the Aristotelism of Scotus. Peirce's doctrine goes much further than the initial Aristotelian categories by introducing a system of categories backed up by phenomenology, logic of relations, and semiotics.

Scotus did not have these doctrines to support similar theories indeed. However, I believe, that the conflict between the two philosophers is not as drastic as it has been presented by Boler: Peirce did not deny contraction, he actually stressed that in the universes of experience the reality of universals is necessary to understand the individuals. Individuals and Secondness are extremely important, however, because they re-present, as it were, the actuality of the generals. Perhaps Peirce is closer to Scotus than what he actually thought, and the influence of the latter in the former can be traced not only on what Peirce overly said about Scotus' influence on him. I argue that the influence should also be traced in the ideas of Scotistic background. This is certainly unprecedented in Peirce's scholarship. In the chapter devoted to the modes of being it will be seen how Scotus' formal distinction is adopted, accepted, and developed by Peirce in his Architectonic System.

Conclusion

I must finally conclude this essay by pointing out that the problem of universals is a living tradition that has never actually left the philosophical arena. The controversy started in the classic philosophers of antiquity and was greatly developed by the medieval scholars. Peirce, however, was the only philosopher that addressed the crucial place of the problem in a straight relationship with the development of a philosophy providing a theory of inquiry and meaning. Peirce's consideration of the problem gave sense of how Science is possible by addressing the problem of universals. Should we care, after all, about the problem of universals? The answer is affirmative: we certainly need to care about the problem of universals. Any question of the same kind would be justified if and only if we take seriously the fact that a question about generality is even possible. **e**

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