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In this paper I examine Michael Devitt's version of essentialism, a view that stirred a lot of debate amongst philosophers of biology by going against the mainstream view of "death of essentialism" in evolutionary biology. So far, much more attention was directed to refuting Devitt's view then to analyzing what his essentialism consists in. I go through the main tenets of the essentialist view, examine the relation between Devitt's view and the so-called traditional essentialism, and the cluster approaches to natural kinds. I conclude that Devitt holds a very flexible variety of pluralistic essentialism, that I term promiscuous essentialism. The benefit of holding such a view is that it can encompass a wide range of categories, but its downside is that knowing the essence of a kind can be minimally explanatory. For this reason, the criterion for privileging certain kinds cannot follow from identifying their essence, which was originally one of the main motivations for holding an essentialist view.

Keywords: Natural kinds, species, essentialism, pluralism, philosophy of biology, cluster kinds.

1. *Introduction*

Michael Devitt in his thought-provoking paper "Resurrecting Biological Essentialism" argues that species and Linnean taxa more generally have essences that are, at least partly, constituted by intrinsic properties (Devitt 2008a). Many philosophers of biology reacted to his view by defending the near consensus view, according to which, at least when it comes to species, there is no place for essentialism in biology (Barker 2010; Ereshefsky 2010; Lewens 2012). Most of the reactions did not reflect upon Devitt's version of essentialism as being somehow specific or different from the traditional variety. In this regard, Marc Ereshefsky's (2010) discussion presents an exemption. He identifies Devitt's view as belonging to "new biological essentialism", but does not discuss what traditional essentialism consists in, and how the new biological essentialism differs from it. The aim of this paper is to offer an analysis

of Devitt's essentialism and to situate it in the taxonomy of possible essentialist positions and examine its relation to cluster kinds view of natural kinds.

Essentialism is normally taken to have three core tenets: (1) all and only kind members possess a common essence; (2) essence causes traits typically associated with kind members; and (3) identifying an essence helps us to explain and predict traits associated with kind members (Ereshefsky 2017). However, if we examine further the platitudes associated with the essentialist view we will find two additional claims: (4) that essences ought to be intrinsic properties of kind members, as opposed to being extrinsic or relational ones, and (5) natural kind monism, i.e. the claim that there is one correct way of dividing the world into natural kinds[1] (see, for instance, Wilkerson 1993). I will take these five tenets to make up the traditional essentialist view.

In the next section, I will present some reasons for endorsing (4) and (5) in addition to the three basic essentialist tenets. After that, I will distinguish essentialist approaches from cluster approaches to natural kinds and argue that, regardless of some authors like Ereshefsky (2010) and perhaps even Devitt (2008a) who include them among essentialist views, they cannot be considered as such because they defy tenet (1) of essentialist positions. Thus, I will argue that if Devitt's view is construed as essentialist then it cannot be considered as belonging to cluster approaches to natural kinds. Devitt does not elaborate much what is the specific brand of essentialism that he endorses. However, he does mention that Kripke's (1980), Putnam's (1975) and Wiggins's (1980) type of essentialism represents a received view in philosophy, with the exception of philosophy of biology. Thus, I use this as evidence for interpreting what type of essentialism Devitt wishes to resurrect. I will use Putnam here as the relevant source and argue that both Devitt and Putnam endorse a pluralist version of essentialism, thereby denying tenet (5) of the traditional essentialist view. The I will argue that while for Putnam it is not entirely clear how broad his pluralist view is, it appears that Devitt's essentialism is very encompassing. In fact, his essentialism seems so broad that it resembles John Dupré's promiscuous realism, which is why I term his view promiscuous essentialism. Finally, I will indicate some problematic consequences of such a view. Namely, Devitt's essentialism seems to be so relaxed that the essence of a kind could be a property that plays a minimally explanatory role.

[1] Natural kind monism is rarely explicitly stated in this form (although, see above quoted Willkerson) but can be found in accounts that emphasize that natural kinds should form a hierarchy; the view that there should be no cross-cutting kinds, and that if two kinds overlap one should be a subkind of the other (see, for instance, Ellis 2001). While in priciple, this hierarchy thesis is compatible with pluralism in case we have different hierarchical systems of natural kinds, normally it is assumed that there is one correct hierarchy, and that there should be no cross-cutting classifications whatsoever. This assumption will be taken for granted in the rest of the paper, but this issue is discussed further in section 2.

2. *Traditional essentialism*

Essentialism requires that all and only members of a natural kind have a certain property—essence—which is, in turn, responsible for the traits characteristic for that kind. To illustrate, take Putnam's famous example that the essence of water is H_2O. The molecular structure of water is what makes all instances of water members of the same kind. Moreover, this molecular structure is causally responsible for other, characteristic properties of water, such as being colorless, odorless and transparent. Thus, discovering the essence of a kind allows us to explain and predict properties of members of a kind. This sums up the three main tenets of essentialist views. Two further claims that have been typically associated with essentialism are (4) that essences ought to be intrinsic properties of kind members; and (5) natural kind monism.

With regards to (4), the paradigmatic examples of essentialist kinds are taken to have intrinsic properties. That is, properties associated with a natural kinds will be possessed by members of that kind independently of their relation to other things (Ellis 2001; Wilkerson 1988). Take for instance chemical elements. It is taken that the essence of chemical elements is their atomic number, or, to be more specific, properties of the nucleus of atoms belonging to an element. Gold, for example, has the atomic number 79, which means that it has 79 protons in the nucleus, and the same number of electrons in the extranuclear region of the atom. Since the chemical characteristics of gold (and other elements) are closely related to the number and arrangement of electrons in their atoms, it is taken that elements are entirely distinguishable from each other by their atomic numbers. The basic idea is that our scientific investigations of the world will lead to classifications that reflect the discontinuities and boundaries between natural objects and processes. Thus, upon encountering an entity or process, and after examining its intrinsic properties, we should be able to decide to which kind(s) it belongs.

One reason for excluding extrinsic or relational properties as essences of natural kinds is that very heterogeneous sets of entities can enter into the same relations and possess common extrinsic properties. Functional kinds, for instance, are defined by invoking relational or extrinsic properties; entities are classified into a kind because of something they (can) do, a function they can serve, and not because of some intrinsic similarities. For instance, a watch is a functional kind because it is defined by its function to measure time. A watch can be digital, analog, mechanical, electronic, and so on and so forth. Objects made out of different materials are watches if they serve a function in relation to measuring time. Similarly, money is a functional kind because it is individuated by its role in human economy and not by intrinsic properties of objects that can play this role (paper, metal, digital currency, etc.). For this reason many functional kinds are taken to be non-reducible to natural kinds (Fodor 1974).

A variation of essentialism in chemistry is microstructuralism, the view that microstructural properties make up the essence of chemical kinds. In the case of chemical elements this can be the nuclear structure, but it remains to be specified what exactly this structure consists in, or, how to pinpoint what constitutes microstructural similarity. If we wish to focus on nuclear charge, for instance, then classification according to atomic number (i.e. the number of protons in the nucleus) will be relevant. On the other hand, if we focus on nuclear mass, then the number of neutrons will be relevant as well, and we will base a classification on more fine-grained isotopes of elements. Or, we can classify substances by focusing on the patterns of radioactive decay and reach categories such as radionuclides which cross-cuts classification into chemical elements. The possibility of different microstructural features being essences of different natural kinds opens up the question whether there is one correct division into kinds according to microstructural essences. This brings us to tenet (5) associated with essentialist views, namely that there is one correct way of dividing the world into natural kinds according to their essences, i.e. natural kind monism.

On the monistic view no cross-cutting classifications can be considered natural kinds. In case there is an overlap between natural kinds categories, one of them ought to be a subkind of the other. That is, there should be no cross-cutting categories. For instance, the category of ubiquitous organisms refers to organisms that can tolerate a wide range of environmental conditions and it comprises diverse organisms such as bacteria and fungi. However, it cross-cuts standard biological taxonomy according to which bacteria and fungi belong to different biological domains, bacteria comprising their own domain, and fungi belonging to the domain of eukaryotes. In such cases, the natural kind monist ought to conclude that at most one of the cross-cutting classifications represents a natural kind. The only overlap can happen between categories belonging to the same hierarchy where one is a subcategory of the other. For example, humans belong to the category Homo sapiens, but also to the categories Mammal and Vertebrate, because Homo sapiens is a species belonging to a class of Mammals, and they both belong to subphylum Vertebrates. This view is called a *hierarchy thesis* regarding natural kinds and it is often suggested as one of the criteria that natural classifications ought to fulfill (Bird and Tobin 2017). Monists who do not endorse the hierarchy thesis ought to claim that we can find natural kinds only on the lowest level of classifications, and at that level there should be no overlap between kinds.

Essentialism is typically perceived as a monistic approach to natural kinds. This can be illustrated by Hilary Putnam's view on natural kinds. His position can be qualified as essentialist in the light of the fact that he defines natural kinds as consisting of individuals that bear sameness relation to the specified paradigmatic exemplar of the kind. However, he also adds that the sameness relations we use to identify

natural kinds are interest relative. More concretely, he claims that, for instance, one thing holds the "same liquid" relation to something else if the two agree in important physical properties, where importance is an interest relative notion (Putnam 1975a). Thus, in our everyday contexts it is correct to say that water is H_2O because for everyday contexts the important properties of water are captured by the compound H_2O. But when we are doing chemistry then "the same liquid as" also refers to other molecular structure because water, beside H_2O, consists of D_2O, D_4O_2, D_6O_3, etc.

Ian Hacking (2015) argues that Putnam's insistence on interest-relativity of natural kinds commits him to the view that kinds lack essences. Hacking's interpretation of Putnam is plausible if we assume that essentialist natural kinds ought to be fixed categories that do not depend or change with our interests, and once we identify the kind's essence we have clearly established the demarcating lines of that kind. The assumption is that neither demarcation nor essence is something that can change with our interests. I introduced Putnam's view here exactly because he is usually considered as a typical proponent of essentialism, which, by many interpretations, goes hand in hand with natural kind monism. Thus, Wilkerson (1993: 4, 5), when discussing and defending Putnam's position against Dupre's criticism says that it and other "doctrines of natural kinds" hold that "although there are many similarities and differences between things, one set of similarities is privileged, because they are the real essences which determine natural kinds." Commitment to monism is often not stated explicitly in the traditional essentialist views, but can be inferred from the fact that they typically endorse the hierarchy thesis (see for instance, Ellis 2002).

On this reading essences ought to be somehow special or privileged properties, and once we identify them, we know what the uniquely appropriate way of dividing the world into natural kind categories is. On the other hand, approaches that put emphasis on the importance of the fact that categories ought to serve our interests are pluralistic, because in different contexts and disciplines our interests can vary and with them the categories we deem natural. It seems highly unlikely that the view that puts focus on interest-relativity of groupings will arrive at a monistic division of natural kinds.

In section 4 I will discuss Devitt's view as a type of pluralistic or promiscuous essentialism, because he appears to allow for a wide range of interests to play a role in demarcating natural kinds. However, before engaging this issue I will argue that there is an important distinction between essentialist and cluster approaches to natural kinds and that Devitt's view can be interpreted as essentialist with this distinction in mind.

3. *Essentialism vs. cluster kinds*

The main argument against the traditional essentialism in philosophy of biology relied on the strictness of the requirement that all and only members of a kind should share an essence. Given the evolutionary history of different organisms, it is unlikely that we will find such a property that is unique to kind members and that will provide grounds for biological classification into species. In fact, according to this argument, even if there were such a property it would likely disappear from a population of organisms given the workings of evolutionary forces such as mutation, recombination or random drift (see, for example, Ereshefsky 2017, Okasha 2002).

Devitt (2008a), against this consensus in the philosophy of biology, claims to be resurrecting species essentialism. However, it is not clear what kind of essentialism he seems to be resurrecting. The aforementioned anti-essentialist consensus argues against species being defined by intrinsic essences and claims that species are defined by relational properties (some even argue for extrinsic or relational essentialism (see, for instance, Okasha 2002)). Take one of the more popular species concepts, for example, the Biological Species Concept (BSC) defines species as members of populations that can potentially interbreed. In this case, the potential to interbreed with other species members is a relational property which specifies species membership, and not some intrinsic property that species members share. Devitt, on the other hand, claims that species members, and Linnean taxa in general, share at least some intrinsic properties and that species concepts are not entirely relational. This, by itself does not seem sufficient to establish an essentialist view. Anti-essentialists do not have to deny that species members can share some important intrinsic properties. Nonetheless, they put emphasis on variation between individuals given the operations of evolutionary processes, and, thus, claim that species are distinguished by "clusters of covarying [chromosomal and genetic] traits, not by shared essences" (Okasha 2002: 197). Devitt seems to endorse this view but gives it a different spin. He quotes exactly this statement by Okasha and adds that the clusters in question are exactly the essences he is talking about. This brings us to the interesting question about the relationship between essentialism and cluster approaches to natural kinds.

There are at least two possible ways to interpret this relationship, depending on how strictly we define essentialism. We can identify essences with necessary and sufficient conditions for kind membership (Magnus 2012), which I take it corresponds to tenet (1) of essentialist views: all and only kind members possess a common essence. According to P. D. Magnus, and I tend to agree, this is the main feature of essentialist accounts. In addition, Magnus claims that this criterion amounts to the assumption that natural kinds ought to have sharp boundaries,

i.e. be categorically distinct (Magnus 2012: 19). This means that for any individual entity, it must be clear whether it is a member of a certain kind or not.

An argument that has been worked out for the sharpness or categorical distinctness of essentialist natural kinds relies on the intuitions that natural kinds ought to pick out real features of the world. Accordingly, Brian Ellis (2001: 19, 20), for instance, argues that if natural kinds were continuous, and thus, not categorically distinct, then it would be up to us where to draw the line where one kind ends and another begins. This would make the delimitation of natural kinds a matter of convention, in opposition to essentialist claim that they are determined by *real* features of the world.

The cluster views were introduced exactly with the intention of accommodating the fact that many natural kinds are not categorically distinct, and their aim was to work out a more encompassing account that would capture many actual scientific categories. Take the example of species, members of such kinds tend to share many common properties, but no property is unique to them. For instance, black stripes are characteristic of tigers. However, there are also tigers that do not have them. Accordingly, a specific property or a well-defined set of properties characteristic for a cluster kind is not a necessary condition for an entity to belong to that kind and thus natural kind boundaries can be vague. For instance, dogs and wolves have many similarities and they can have viable offspring. But, given their habitats, social structure and many other typical features it is not clear that it is useful to consider them the same species or natural kind.

There is however, another interpretation of the relation between essentialism and cluster views that does not require essences to be unique, and natural kinds to be categorically distinct. By essence we can understand only that there are some facts about the world corresponding to the unity of the kind, as one interpretation would suggest (Magnus 2012). On this reading, anyone who believes that there are natural kinds at all, thinks that they have this type of essences, and we end up with a position that is even more encompassing than cluster kinds view. This takes away significance from essentialist views and merely equates them with positions holding that natural kinds ought to possess some unity that corresponds to some facts about the world. If we interpret Devitt as holding this view, then not much resurrecting has been done on his part since cluster kinds accounts are popular in philosophy of biology (Boyd 1999; Griffiths 1999; Robert A. Wilson, Barker, and Brigandt 2007).

We need to address the possibility, however, that Devitt has a different view of the consensus in philosophy of biology, and that he thinks cluster accounts of natural kinds are considered outdated or simply wrong. He talks about clustering views, i.e. the HPC view, as holding, as he does, that species have at least partly intrinsic essences.

But then he quotes Paul Griffiths (1999) as arguing that species have purely historical essences which is then interpreted by Devitt as being incompatible with the HPC theory (Devitt 2008a). This is interesting since Griffiths is standardly taken as a proponent of the HPC theory (see, for example, Ereshefsky 2017). Explaining Griffiths' view should help to make more precise the difference between clustering and essentialist accounts.

Griffiths (1999) argues that causal homeostatic mechanisms play the same role as essence plays in traditional essentialist accounts—that is, on this new understanding, essence refers to the states of affairs that license induction and explanation within a theoretical category. Thus, for some types of scientific categories, the role of essence can be played by entirely extrinsic or relational properties. Griffiths thinks that this is compatible with the HPC theory and offers the example of money. There can be indefinitely many physical instances of money (or even non-physical ones) but the essence, i.e. the reason why all these instances are considered money is that they are recognized and evaluated as such by the consumers, that is, by this relational property.

When it comes to species, however, he claims that in addition to relational or historical essences, members need to share some intrinsic properties as well. This is clear when he talks about causal mechanisms, such as developmental ones, responsible for, for example, prey detection in certain species of birds (Griffiths 1999). Perhaps the best way to put it is to say that the extrinsic essence is responsible for the fact that species members share intrinsic properties as well. Griffiths explains why kinds whose only essential properties are historical should be subjects of lawlike, counterfactual-supporting generalizations about morphological and physiological properties; because the principle of heredity acts as a kind of inertial force until some adaptive force acts to change that form (see his explanations of *phylogenetic inertia* in support of this view (1999: 220)). This is consistent with using phylogenetic relations as a species essence, for instance, Phylogenetic Species Concept (PSC) identifies species as sets of organisms sharing a common ancestor. Another way that extrinsic essence can be responsible for sharing intrinsic properties is by enabling the exchange and sharing of genetic material causing many of the shared traits (BSC species concept limits species members to those that are able to exchange genetic material trough reproduction). I take it that the other proponents of the so-called relational essentialism about species hold similar views. This is consistent with Mayr's (1961) distinction between ultimate and proximate causation and the corresponding two sorts of explanation, which Devitt cites approvingly (Devitt 2008a: 353).

What is the difference, then, between relational essentialists[2] and Devitt, if they also hold that species members need to have some in-

[2] Griffiths (1999), Okasha (2002) and LaPorte (2004) are taken as proponents of relational essentialism.

trinsic properties in common, in addition to relational ones? I take it that proponents of such accounts do not call the intrinsic properties in question species' essences, exactly because on traditional essentialist accounts, essences refer to necessary and sufficient properties for species membership. While phylogenetic relationships can be taken as sufficient and necessary conditions for belonging to a certain species on certain species concepts, it is not so easy (or it is perhaps impossible) to specify the necessary and sufficient intrinsic properties that species members ought to share because of variation between them. In other words, while it is, at least on some species concepts, clear to what species an organism belongs to, just from knowing a certain (important) relational property,[3] this is not clear just from examining organism's intrinsic properties. Thus, I take it that relational essentialism would agree that species members do share common clusters of properties (and they share them because of the relational essence), but we cannot specify any set of such properties that will be unique only to members of one species. If we wish to take Devitt's view as arguing for something stronger than this, then he must be committed to the claim that we can delimit a set of necessary and sufficient intrinsic properties for species members. Otherwise, it is not clear how intrinsic his biological essentialism is.

In the next section I attempt to characterize in more detail Devitt's version of essentialism on the assumption that he does endorse intrinsic essentialism.[4]

4. *Devitt's promiscuous essentialism*

As was illustrated in section 2, Putnam's essentialism, which Devitt takes as paradigmatic essentialist view in contemporary philosophical debates and seems to rely upon in his own essentialist view, is pluralistic, in opposition to the traditional essentialism. Pluralists about natural kinds hold that we can arrive at many different, cross-cutting classifications of the entities (and/or processes) in the world. Depending on what we are interested in, we will arrive at different classificatory systems. For instance, if we are interested in patterns of radioactive decay we will arrive at a classification that cross-cuts the standard

[3] Be it that the organism shares a common ancestor with other members of that species or that it can interbreed with them, the reader can fill out here her favorite relational species concept if the concept allows for clear cut distinction between different species.

[4] Perhaps his invoking of clusters has a different purpose; to point out that the essence of a species need not correspond to a crude idea that there is one gene that makes a tiger a member of the tiger species, for example. Thus, when he talks about clusters or patterns of properties and that the intrinsic essence does not need to be neat and tidy, he might have in mind the fact that essences can be very complex and comprise various properties that come together and make up a species. This is compatible with the view that essences are unique properties that all and only kind members share.

chemical classification into chemical elements, which is suitable for many other interests such as explaining material transformations. There is nothing inconsistent in claiming that we can have essentialist classifications that allow cross-cutting categories, if the essences in question are uniquely shared by members of the kind. For instance, category vitamin A is defined by its biological properties in a vitamin-deficient organism, but it consists of at least six vitamer chemicals that differ in their chemical structure, so the category cross-cuts standard chemical classifications. In this case, the specific biological activity of the vitamins can be considered as their essence, even though it does not correspond to the microstructural essence of the compounds comprising the category.

Devitt allows for a vast range of categories to be considered essentialist, and not just a limited set of basic physical, chemical or biological classifications. He shares the basic pluralist intuition that, depending on our interests, we might carve out the world differently and that different properties will make up essences of those kinds. This can be seen from the example he offers to support his claim that essences can be partly intrinsic and partly relational, or entirely relational. The essence of being a pencil is partly determined by its relation to human intentions and partly by its physical properties, the essence of being Australian is entirely relational or extrinsic.

That there is a certain amount of terminological misunderstanding in this whole debate can be seen from the fact that Devitt's essentialism, as interpreted here, is stating something very similar to Dupré's promiscuous realism. Dupré, however argues against essentialism. His promiscuous realism is a claim that there are many sameness relations that can determine kind membership, and which ones will be taken as relevant will depend on our interests in various circumstances. He puts both scientific and every day or folk categories on equal footing in the sense that they all can be considered natural kinds. Devitt's examples of essentialist kinds such as being Australian, or pencil, goes in the similar direction. Only, on my interpretation, his view should not allow vague boundaries between categories, while Dupré's does. While this fulfils the minimal essentialist requirements, it downsizes the role of essences to a considerable degree. Essence was originally assumed to be important in grounding the explanatory success of natural kind categories. This is what Devitt relies on in his criticism of the anti-essentialist consensus regarding species; he claims that being a member of a biological taxon ought to be explanatory.

If we take as core of essentialism the three main tenets (1)–(3), even these mentioned categories can fulfil them. Accordingly, if the categories 'pencil' and 'being Australian' are defined strictly enough, this criterion will yield clearly demarcated categories where all and only members of a kind share an essential property. For example, if we define pencils as instruments for writing that consist of a solid pigment core

inside a protective casting, and if the definition is strict enough, we will have a clearly delineated category of writing instruments where all members share an essential property. Also, that essence will be responsible for (some) traits associated with that category members (tenet 2), and by identifying it we can explain and predict properties of category members (tenet 3).

With regards to biological classifications Devitt says he defends the doctrine of intrinsic biological essentialism, according to which Linnean taxa have, at least partly, underlying intrinsic properties. Linnean taxa are not just species, which are standardly taken as candidates for natural kinds, they also include all categories in the Linnean hierarchy such as kingdoms, phyla, classes, orders, families and genera. Take the example of the kingdom Archaeplastidans, they are characterized by having plastids—chloroplasts that carry out photosynthesis and are derived from captured cyanobacteria. If this is a feature of all the organisms classified in this kingdom, we can take it to be the essence of that category.

It is questionable whether there is such a feature for all the taxonomic ranks, but I take it that an essentialist about taxonomic ranks must argue that there is such a feature. A potential problem with such an approach is that, while it is compatible with tenet (1) of essentialist views, it is questionable to what degree it can be taken to fulfill tenets (2) and (3). Namely, the fact that all Archaeplastidans have plastids is responsible for some of their shared traits, but there is also much divergence in other traits of these organisms. For instance, they can vary from being isolated cells to colonies and multi-celled organisms. Thus, such categories have a very limited predictive and explanatory value.

To use another, more familiar example, how explanatory is the category of vertebrate? It is taken to comprise all species with a backbone, but it includes such diverse organisms as Fire salamander, Saltwater crocodile and House sparrow. Knowing that an organism is a member of this category is minimally explanatory because all it can explain is a few facts about the most general features of its body plan. If we wish to provide an account of natural kinds as explanatory categories, then either the essence should be some very important property that causes many other properties of kind members, or, the essence is not what makes such categories explanatory in the first place.

Even more extreme case is Devitt's own example of 'being Australian' as a relational or extrinsic essentialist category. While this might formally be considered as an essentialist category, the minimal number of characteristics of category members that the essence (however we might specify it) is responsible for, has next to zero explanatory and predictive value, which can make us wonder whether it is justified to call these essentialist categories. While a certain amount of pluralism surely is compatible with essentialism, regardless of this not being the traditional approach to essentialism, this type of promiscuous essen-

tialism seems to go too far, which can make us reconsider it as an essentialist view.

Admittedly, it is not clear whether Devitt himself would consider all the aforementioned essentialist categories as natural kinds, since he thinks that natural kinds need to be *explanatory significant* (Devitt 2008b). Now, he says that explanatory significance comes in degrees, but we might agree that the kind 'being Australian' has next to zero explanatory value and can therefore be excluded from the category of natural kinds. If Devitt wants a way out of this type of promiscuous essentialism, he needs to offer a criterion, based on which we can decide what categories are fulfilling the *explanatoriness* requirement. When he talks about 'carving nature at its joints' Devitt mentions that kinds of entities posited by a scientific theory ought to play a *causally significant role* but does not elaborate further on how to recognize and delineate such causally significant roles.

Traditionally, essences fulfilled that function. Recognizing a kind's essence allows us to establish that kind as genuinely explanatory and the essence in question is what grounds this explanatoriness. If, however, essences are downsized to such a degree that even 'being Australian' can be an essentialist kind, then essence no longer plays the same role. Let us go back to the example of species, how can we tell that *Canis lupus familiaris* plays a causally significant role, or possesses an essence? It appears that Devitt's response is that it must possess it, because it is obviously explanatorily significant, and, consequently, it is the job of working biologists to find specific essences of particular species. This seems like it inverts what the main upshot of essentialism was supposed to be; that finding an essence will provide the grounding for the explanatoriness of natural kind categories. If we start out by stating that certain categories are obviously explanatory and conclude from this that they must possess an essence, then we have no criterion of how to distinguish genuinely explanatory categories from the ones that are not explanatory, other than some common-sense estimation. This strategy can easily lead into the promiscuous variety of essentialism.

5. *Conclusion*

I have analyzed Devitt's version of essentialism and its relation to the traditional essentialism and the cluster accounts of natural kinds. I have argued that his variety of essentialism is either too promiscuous, or, he needs to offer a criterion of what makes natural kinds genuinely explanatory in opposition to any everyday classifications that share some common property. While traditionally in essentialist views, essence was supposed to play that role, Devitt's downsized notion of an essence appears unsuitable for it.

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