Filosofia Unisinos
Unisinos Journal of Philosophy
17(2):212-226, may/aug 2016
Unisinos – doi: 10.4013/fsu.2016.172.16

DOSSIER

Delusion as a folk psychological kind

Delírio como uma categoria da psicologia do senso comum

José Eduardo Porcher[1]

ABSTRACT

In this paper I discuss the scientific respectability of delusion as a psychiatric category. First, I present the essentialist objection to the natural kindhood of psychiatric categories, as well as non-essentialism about natural kinds as a response to that objection. Second, I present a nuanced classification of kinds of kinds. Third, drawing on the claim that the attribution of delusion relies on a folk psychological underpinning, I present the mind-dependence objection to the natural kind status of delusion. Finally, I argue that even if delusion as a generic kind stands little chance of being vindicated as a non-essentialist natural kind, we stand to gain from a natural kind methodology regarding subtypes of delusion for which there is evidence of genuine causal signatures and mechanisms.

Keywords: delusion, folk psychiatry, psychiatry.

RESUMO

Nesse artigo avalio a respeitabilidade do delírio enquanto categoria psiquiátrica—um estatuto que é discutivelmente colocado em perigo pelo fato de que a detecção e a atribuição do delírio parecem se derivar não da classificação causal, mas sim da aplicação do que podemos chamar 'psiquiatria do senso comum' (*folk psychiatry*). Primeiramente, examino a questão de se tipos psiquiátricos, como um todo, atendem às demandas requeridas para que um tipo seja uma distinção objetiva na natureza. Introduzo um sentido liberal no qual espécies biológicas, bem como categorias psiquiátricas, podem ser vistas como tipos naturais—a saber, o modelo de agrupamentos homeostáticos de propriedades. Subsequentemente, apresento e avalio como modelos da detecção e atribuição de transtornos mentais podem ter impacto mesmo sobre uma compreensão liberal do delírio como um tipo natural. Finalmente, concluo argumentando em favor de uma compreensão da categoria do delírio em geral como um tipo da psicologia do senso comum recomendando, por sua vez, uma metodologia de tipos naturais para a investigação de subtipos de delírio.

Palavras-chave: delírio, psiquiatria do senso comum, psiquiatria.

[1] Postdoctoral Research Fellow (PNPD/CAPES). Universidade Federal do Paraná. Rua Dr. Faivre, 405, 6° andar, Ed. D. Pedro II, 80060-180, Curitiba, PR, Brasil. E-mail: jeporcher@gmail.com

Introduction

Delusion is defined by the most recent edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) as a 'false belief based on incorrect inference about external reality that is firmly held despite what almost everyone else believes and despite what constitutes incontrovertible and obvious proof or evidence to the contrary' (American Psychiatric Association, 2013, p. 819). Predictably, a great variety of phenomena are apt to be grouped under such a definition. Indeed, people who are deemed to be clinically delusional affirm many different things in many different contexts. Here are some of them (Davies and Coltheart, 2000, p. 1):

- 'My closest relatives have been replaced by impostors.'
- 'I am dead.'
- I am being followed around by people who are known to me but who are unrecognizable because they are in disguise.'
- The person in the mirror is not really me.'
- A person I knew who died is nevertheless in the hospital ward today.'
- This arm [the speaker's left arm] is not mine, it is yours; you have three arms.'
- 'Someone else is able to control my thoughts.'
- 'Someone else's thoughts are being inserted into my mind.'[2]

What follows is an investigation about our warrant for grouping such disparate phenomena together. My primary aim is to assess the prospects for a unified theory of delusion through the examination of the scientific respectability of this psychiatric category—a status which is arguably put in jeopardy by the fact that the detection and attribution of delusion seem to stem not from causal classification but from the application of what we may call 'folk psychiatry.' I will do so by first introducing the philosophical notion of *natural kind* and examining the question of whether psychiatric kinds as a whole meet the demands required for a kind to be an objective, mind-independent distinction in nature. I will then introduce a liberal sense in which biological taxa as well as psychiatric categories might be viewed as natural kinds—namely, the *homeostatic property cluster* model. Subsequently, I will introduce and assess how models of the detection and attribution of mental disorder may impact even a liberal understanding of delusion as a natural kind. Finally, I will conclude by making a case for a folk-psychological understanding of 'delusion' in general while also recommending a natural-kind methodology for the investigation of subtypes of delusion.

Essentialism

Are mental disorders real? In philosophical jargon, one of the main theoretical challenges for psychiatry is to determine whether the *kinds* it investigates are *natural*. Psychiatry's scientific credentials came under heavy criticism in the 1960's and 1970's—the most radical embodiment of which was represented by the so-called anti-psychiatry movement, which questioned whether mental disorder represents the pathologizing of normal problems of living. Thomas Szasz, the father of anti-psychiatry, argued not only that mental disorder as a kind fails to pick a real distinction in nature, but that it is just a 'convenient myth' (1961, p. 113). This intuition is reinforced by controversies such as that over the recent removal of the "bereavement exclusion" in the diagnosis of depression in the DSM-5. Likewise the proposed addition of 'persistent complex bereavement disorder' in an attempt to classify those who are significantly impaired by prolonged grief symptoms for at least one month after six months of bereavement (Zachar, 2015). Against the backdrop of challenges to the validity of psychiatric classifications as a whole, the task is to make clear the basis on which conditions are included or excluded from the manuals and why this basis is scientific and objective and not just a matter of social rules of normal behavior (Bolton, 2008, p. 164). If entities classified as mental disorders could be shown to be natural kinds, then many of the controversies surrounding the status of psychiatry as a serious scientific endeavor could be resolved. However, this will depend on what exactly one takes natural kinds to be.

What are natural kinds? What characteristics must a kind have in order for it to be considered a natural kind? The traditional account of natural kinds is represented by various forms of *essentialism* which date back to the Aristotelian tradition, in which essences had both causal and classificatory (or sortal) roles. The causal role referred to the underlying properties that determined and sustained an instance's visible properties. Because these underlying properties were supposed to be fixed, they were identified with the nature of a kind—that which makes it be what it is. After the rise of natural philosophy in the seventeenth century, the essential hidden properties which Locke called 'real essences' came to be identified with underlying structural properties which, he argued, are not observable.[3]

As Marc Ereshefsky (2009) observes, essentialism usually involves three main tenets: first, all and only the members of a kind share a common essence; second, that essence is a property, or a set of properties, that all the members of a kind must have; and third, a kind's essence causes the other properties associated with that kind. So, for example, the essence of

[2] These examples pertain to eight different subtypes of clinical delusion, respectively: Capgras delusion, Cotard delusion, Frégoli delusion, mirrored-self misidentification, reduplicative paramnesia, somatoparaphrenia, thought control, and thought insertion. See Radden (2011) and Porcher (2016) for a more in-depth introduction to delusion.

[3] It is fair to say that Locke underestimated the kinds of observation that technology would eventually allow us to make of properties which are potentially essential, such as the number of protons in the nucleus of an atom, or the genetic code in specific DNA sequences.

gold is gold's atomic structure, and that atomic structure occurs in all and only pieces of gold. That structure is a property that all gold must have as opposed to such accidental properties as being valuable to humans. And the atomic structure of gold causes pieces of gold to have the properties associated with that kind, such as readily dissolving in mercury at room temperature, conducting heat and electricity, and being unaffected by air and moisture.

The reason why it matters for the development of a science whether its kinds are natural in the sense of picking out essential distinctions has to do with the fact that such kinds will be ideally suited to figure in key scientific practices such as induction, explanation, classification, and discovery. Natural kinds pick out classes about which non-accidental, scientifically relevant, inductive generalizations can be formulated, since its members share many non-accidentally related properties. The reliably co-varying clustering of properties that instances of natural kinds possess is, however, contingent (as opposed to logically or conceptually necessary) and its existence calls out for explanation, usually undertaken through the identification and specification of the structures, processes, and mechanisms that causally explain the property clusters associated with the kind under consideration.

In other words, one's ability to make inferences about members of a natural kind is explained with reference to their shared underlying properties. Being some such natural kind explains why an instance of that kind has the features that it does, and that explanation is to be found in studying the intrinsic underlying properties an instance shares with other instances of that kind. Furthermore, with respect to the classificatory role, if one can identify the essence of a thing, one may be able to determine its place in the natural order. According to essentialism, if you want to know whether something is a true member of a natural kind, you should check whether the causally essential underlying properties are present, as such properties will invariably be necessary and sufficient conditions for membership in a natural kind. Thus, essentialism implies that there is a correct classification of naturally occurring kinds out there waiting to be discovered. As the philosophical adage goes, nature is such that it can be "carved at its joints."

Besides figuring in the practices of generalization, explanation, classification, and discovery, Richard Samuels (2009) points out three further characteristics that flow from natural-kindhood as necessary conditions for the scientific respectability of any given kind. Given that natural kinds possess a sortal essence,[4] they will be *discrete* classes of entities that can be clearly demarcated from other phenomena and they will be highly *homogeneous* classes as well. Moreover, natural kinds will be *mind-independent* in an important sense,[5] which Sam Page (2006) calls *individuative independence*, namely, that of being circumscribed by boundaries that are totally independent of how we categorize things. Page illustrates his concept by alluding to the individuation of the night sky into constellations: 'Though it is *prima facie* plausible that reality is individuated intrinsically into stars, reality is not individuated intrinsically into constellations, since it is people who divide the night sky into constellations' (2006, p. 328).

Essentialism about psychiatric kinds—the view that psychiatric disorders are (or at any rate should be) akin to stars, not constellations—is associated with the biomedical model of psychiatry, which proposes that psychiatric kinds can and should be isolated by studying underlying biopathological processes. Jerome Wakefield's (1992) *harmful dysfunction* model, arguably the most influential philosophical theory about the nature of mental disorder, recognizes the claims of Szasz and others concerning the evaluative nature of psychiatric diagnosis without thereby abandoning realism about psychiatric disorders. Wakefield argues that the presence or absence of a dysfunction is a factual matter, just as the presence or absence of a natural function is. Since natural functions were selected for during evolution because of their contribution to the survival of the organism, evaluative statements about functions (and, hence, dysfunctions) can be translated into objective, factual statements about evolutionary history. To qualify as a "disorder," however, Wakefield acknowledges that there must also be evidence that the condition in question is *harmful* to its bearer—and this will be an inherently evaluative, normatively assessable aspect of all judgments of pathology.

Given the present stage of development of biological psychiatry, however, the essences of the dysfunctions that constitute psychiatric disorders—alongside the evaluative aspect of suffering or impairment—are yet to be discovered, just as the essence of electrons and gold once were. Until the necessary scientific discoveries are made, their essences are, so to speak, in a black box. As Peter Zachar explains, Wakefield's (2004) black-box essentialism follows the scenario proposed by Hilary Putnam and Saul Kripke wherein, at some point

[4] As Samuels (2009, p. 57) uses the term, sortal essences consist of intrinsic properties and, as a matter of metaphysical necessity, they are possessed by all and only the members of the kind. *Causal* essences, on the other hand, do not imply these commitments, and are simply the set of properties that figure in causal explanations of a given kind. So all sortal essences are causal essences but not vice versa.

[5] Following Page (2006), Samuels (2009, p. 53-54) identifies three possible senses of mind-independence that do not flow from natural-kindhood and are, therefore, irrelevant to the characterization of natural kinds. The first is that attached to theoretical entities (e.g. quarks, electrical fields, and chemical compounds), which should not be considered trivially mind-dependent, non-natural kinds. The second is that attached to entities whose existence metaphysically necessitates the existence of minds, such as psychological kinds as beliefs, desires, delusions, etc. and, again, should not be considered trivially non-natural. Finally, and perhaps more controversially, Samuels rejects the relevance of causal dependence on mental activity, which is true of such kinds as toy poodles and the radioactive chemical element californium, as he argues that this feature should not trivially imply that such kinds are not "natural" in the *scientifically* relevant sense (i.e. though not naturally-occurring, they may nevertheless turn out to figure in all relevant scientific practices).

in history, there occurs a "baptismal" event in which, in the example at hand, a disorder is clinically observed and named: "'This is psychopathy,' said Hervey Cleckley (1941). 'This is autism,' said Leo Kanner (1935). If the original disorder concept can be developed into a proper scientific construct (one based on an objective dysfunction), the clinician's original concept can be said to have indirectly referred to the objective dysfunction all along" (Zachar, 2014b, p. 83-84).

Note, however, with respect to the aforementioned conditions for the scientific respectability of a given kind, that biological taxa such as species appear to meet all of them and, still, they are widely regarded as failing to constitute essentialistic natural kinds[6] as do chemical kinds such as ascorbic acid and H_2O, and physical kinds such as quark and lenticular galaxy. This is the case because, as the first tenet of essentialism requires, for a biological trait to be the essence of a species that trait must occur in *all and only* the members of that species. However, as Ereshefsky (2001, p. 98) points out, a number of biological forces work against the uniqueness and universality of a trait in any given species. For example, suppose a genetically-based trait were found in all the members of a species, such as the unique genetic code of lemons that Putnam (1975) speculates is the essence of lemons. The forces of non-adaptive causes of evolution such as mutation and genetic drift can cause the disappearance of that trait in a future member of the species. Furthermore, as Ereshefsky observes, even if a trait occurred in all the members of a species, that trait would be the *essence* of a species only if it were unique to that species. But organisms of different species often have common traits because they inherit similar genes and developmental resources from common ancestors. Therefore, given the requirements of essentialism and the forces of evolution, essentialism about biological kinds has been widely rejected.[7]

If biological kinds are not amenable to conceptualization as natural kinds, then what chance do psychiatric kinds stand of successfully being characterized as such? Zachar (2000) argues that conceptualizing psychiatric disorders as bounded entities in nature is inconsistent with evolutionary biology's understanding of species. Indeed, as Nick Haslam (2014, p. 11) notes, psychiatric classification would be a great deal easier if its diagnostic entities were like biological species, since, while the process of demarcating biological taxa rests on the scientifically impeccable confidence that naturally occurring biological kinds exist, the taxonomic situation in psychiatry is very different, as mental disorders do not pick out distinct, reproductively isolated, spatially concentrated populations. Moreover, while biological species are "indifferent", at least some mental disorders seem to be "interactive kinds" (Hacking, 1999), since those who are classified are often aware of being labeled and may come to change their behavior and self-experience in consequence of such awareness, thus producing a "looping effect" whereby the labels may change in virtue of their subjects changing (Hacking, 2007).

Furthermore, in stark contrast to their biological counterparts, psychiatric kinds (and *kinds of people* more generally) tend to be at least partly shaped by social processes and normative concerns. These considerations are the motivating force behind the anti-essentialist argument in philosophy of psychiatry. As we will see, the cogency of this argument will depend on how exactly one should understand 'essence,' as essentialism about natural kinds has been challenged in recent years (Boyd, 1991). Also, it will depend on the plausibility of the repudiation of pluralism—the view that different psychiatric kinds differ in how much they fail to meet the criteria for natural-kindhood (Haslam, 2002)—the acceptance of which would in principle keep open the possibility that at least *some* mental disorders might have essences. For now, however, I will assume that the general argument is cogent in order to consider what may be proposed instead to properly capture the features of psychiatric kinds, noting that by assuming that they are not natural kinds one is not immediately committed to the view that they are non-kinds (*pace* Szasz). Following a nuanced classification of kinds of kinds, such as that offered by Haslam (2014), will go a long way toward disabusing one of the notion that distinctions proper must be essential or fail to be real distinctions at all. His schematic account is based on five kinds of kinds that satisfy increasingly stringent criteria, each successive kind of kind having to meet one more requirement, with proper natural kinds being on the top of the ladder.

In what follows, I will go over the different kinds of kinds that fall short of being distinguishable by a category essence: dimensions, practical kinds, fuzzy kinds, and discrete kinds. I will connect these notions to the discussion of natural kindhood in the philosophy of psychiatry, as well as to the more general discussion of the proper way to characterize natural kinds, within which the most widely adopted view states that natural kinds should not be conceptualized essentialistically, but in terms of property clusters sustained by complex, mutually reinforcing networks of causal mechanisms.

Non-essentialism

The first kind of kind and the least demanding structure in Haslam's classification is what he refers to as *dimensions* (strictly speaking a non-kind, since they do not define delim-

[6] From now on, I drop 'essentialistic' as always refer to natural kinds in the essentialistic sense unless otherwise noted. As we will see below, the term 'natural kind' has been re-appropriated by authors who believe that essentialism is too stringent, while believing that less stringent criteria can properly characterize kinds as 'natural' (Boyd, 1991).

[7] Three main views have been advanced in response to this: denying that species are natural kinds and looking elsewhere in biology for kinds with essences (Hull, 1978); arguing that species are indeed kinds with essences, but that their essences are of a non-traditional variety (Okasha, 2002); and, as we will see below, arguing that natural kinds do not require the sort of essences implied by essentialism (Boyd, 1999).

ited categories). The label comes from the standard categorical/dimensional distinction in psychopathology research and theory, motivated by the categories of personality disorder which, perhaps more than any other current DSM category, do not seem to be distinct species (Clark *et al.*, 1995; Livesley, 2003; Widiger and Sanderson, 1995). For instance, in the influential model introduced by John Livesley, once the pathological dimensions have been identified—which may include narcissism, impulsivity, anxiousness, social detachment, and hostility (Widiger *et al.*, 2009)—patients meeting criteria for a broad category called 'personality disorder' are distinguished from one another by their respective position on the dimensions. To qualify as a dimension, all that is required for a kind is that there be a set of correlated properties, such as symptoms. As Haslam puts it, "Individuals may differ by degree along a dimension by possessing greater or lesser numbers or degrees of these properties. Variation along a dimension is continuous and seamless, so there is no naturally occurring break separating individuals who are affected with a condition from those who are not" (2014, p. 14). In other words, if psychiatric kinds were dimensions, this would amount to there not being delimited conditions at all. A cutpoint would be defined on the dimension so that the quantitative variation would be simplified into a dichotomous diagnosis, but its placement would ultimately be arbitrary.

Thus, proponents of dimensional models of psychopathology hold that the distribution of variation on psychopathology-related dimensions is continuous in the same sense as what philosophers refer to as vague predicates. These models are devised in response to the limitations of the purely categorical approach, such as the failure to capture individual differences in disorder severity, and clinically significant features subsumed by other disorders or falling below conventional DSM thresholds (Brown and Barlow, 2005). Nevertheless, while rejecting the view that psychiatric kinds are natural kinds, Zachar (2000) argues that mental disorders pick out reasonably stable, non-arbitrary patterns that can be identified with varying levels of reliability and validity, and that the application of many of the distinctions of psychopathology is justified by its usefulness for clinical purposes, being demarcated on the basis of external considerations rather than on the basis of internal discontinuities. In keeping with these observations, Zachar proposes that mental disorders be conceptualized as *practical kinds*, the next rung in Haslam's ladder, which refers to the least demanding sort of non-arbitrary cutpoint—that of pragmatically-grounded distinctions.[8]

As an example from outside the field of psychiatry, Zachar (2014b, p. 154-155) alludes to the distinction between an adult and a child. Although the kinds 'adult' and 'child' are not in themselves sharply demarcated, the uses for which we deploy them will determine where their boundaries should be drawn. Consequently, many distinctions between adults and children are context-dependent. For example, if our aim is to decide who is able to vote, engage in consensual sex, get married, be sent to prison, drink alcohol, or enter into a legal contract, each of those considerations will result in different ways of demarcating adulthood (Horwitz and Wakefield, 2012, p. 53). As medical examples of non-arbitrary cutpoints on continuous dimensions, Haslam (2014, p. 14) points out blood pressure values for diagnosing hypertension and Body Mass Index values for diagnosing obesity—values that roughly correspond to levels at which health risks become more likely. When at some point along a dimension the severity of the relevant symptoms becomes clinically significant or a source of functional impairment, the existence of a non-arbitrary, pragmatic distinction is justified.

So practical kinds, while vaguer than natural kinds, are not open to the charge of arbitrariness as dimensions are (at least as these are conceptualized in Haslam's model). The classification of practical kinds requires balancing criteria that do change their values in different contexts depending on treatment goals, research priorities, and disciplinary standards of validity. As a consequence, practical kinds fall short of possessing the perfect reliability one may be justified to expect from natural kinds. Relating the practical kinds model to his claim that psychiatric nosology is inherently goal-oriented, Zachar has recently elaborated on the dynamics of classification within his model, observing that it emphasizes that discovery of fact contributes greatly to progress in classification, but that discovery alone cannot tell us how to classify.

For example, discovering that a mild form of cognitive disorganization (schizotypy) is common in families of people with schizophrenia was an important finding that highlighted an objective feature of the world. Should schizotypy, therefore, be classified as a mild manifestation of a unitary schizophrenic spectrum (a genetic grouping)? Another possibility is that it should be classified as a premorbid personality style that represents a vulnerability to the mental illness of schizophrenia. In which box should it be placed? (Zachar, 2014, p. 90). Zachar's point is that, apart from goals relating to classification and theory-building, neither demarcation is privileged in and of itself.

The presence of goal-oriented cutpoints raises the question of whether practical kinds are apt to count as scientifically relevant kinds, and this, in turn, raises the question of what the minimal criteria of scientifically-relevant kindhood should be. Zachar defers to Nelson Goodman, who did not advocate for natural kinds or scientific realism, but instead offered a theory of *relevant* kinds. With respect to the criteria for relevance, according to Goodman, good scientific kinds *support induction* (to a greater or lesser degree) or, as he would later put it, they have properties that are "projectible," meaning

[8] Though, as we will see later, Zachar's most recent proposal acknowledges the middle way between practical kinds and essentialism about natural kinds embodied in Richard Boyd's property-cluster approach, going so far as to state that Boyd's model is probably the most appropriate for conceptualizing most psychiatric disorders (Zachar, 2014a, p. 94).

that if we observe certain properties in a subset of a kind, we can infer that these properties will occur in other instances of the same kind, allowing us to confirm generalizations about that kind (Goodman, 1978, 1983). Let us assume, for the sake of the argument, that projectibility is a good enough criterion of relevance. Do psychiatric kinds support induction? Even though present classifications of mental disorders are highly variable with respect to validity, and in spite of diagnosis being presently based on polythetic categories, research on mental disorder has been able to produce many useful generalizations. The question is whether these generalizations are based on (at least some) psychiatric kinds being held together by shared *causal* mechanisms or if they are based solely on the shared surface features of such kinds (meaning that they are merely practical kinds).

The practical kinds model is implicit in the symptom-based nosologies of current diagnostic manuals which aim at grouping patients into useful classes that serve practical goals (such as predicting behavior, assessing genetic risk, or selecting a course of treatment). This grouping, effective as it may be, does not require that diagnoses be grounded in shared causal processes. On the other hand, the assumed causal heterogeneity of psychiatric kinds does not immediately imply that they cannot be causally classified. Note, however, that as the existence of shared causal mechanisms underlying mental disorders is currently an open question, assuming that a causal classification of psychiatric kinds is tenable is another instance of a black box approach (as with Wakefield's harmful dysfunction model. Nevertheless, as Kendler *et al.* (2011) argue, by focusing solely on the adjustments and compromises that actually occur in classification, the practical kinds model fails to suggest a way toward progress. In other words, the model is purely descriptive of the current state of psychiatric classifications. If progress is to be made, linking disorders to their etiology and underlying mechanisms is indubitably psychiatry's best bet. For this reason, psychiatry may profit from conceptualizing its kinds in a way that goes beyond the merely pragmatic and assumes internal (but not necessarily external) discontinuities. To this end, we may climb one more rung in Haslam's ladder, toward a more ambitious model.

Dimensions and practical kinds both represent forms of continuous variation. According to Haslam, such variation becomes categorical in a deeper sense when there exists some sort of internal discontinuity within a kind which cannot be accounted for by pragmatic considerations alone: 'Such a discontinuity involves a break on the underlying continuum, which produces a qualitative distinction between people who fall above the discontinuity and those who fall below it. An example is a threshold effect, in which a qualitative change of state occurs at a certain point on an underlying continuum (e.g., a liquid turning to a gas at a certain temperature, or a spring losing its tension beyond its elastic limit)' (Haslam, 2014, p. 15). When internal discontinuities within a kind are present but are not sharp, we have what Haslam calls *fuzzy kinds*. Within these, then, kind membership will not always be definite: there will be a penumbra of intermediate cases between those that are definitely members of the kind and those that are definitely not.

On the other hand, when internal discontinuities are sharp but no set of essential properties exists, we step up Haslam's ladder once again to find what he calls *discrete kinds*. In this kind of kind we have what may properly be called a category boundary. However, Haslam points out that discrete kinds may have a variety of possible causal underpinnings, as many types of causal explanation can yield category boundaries: 'These causal explanation types include sharp threshold effects (where the qualitative change of state is abrupt), dynamic interactions of multiple causal factors, and explanations that invoke centripetal tendencies within categories (e.g., conscious identification with a group or label) and/or differentiating tendencies' (2014, p. 15). This immediately makes discrete kinds excellent candidates for scientific respectability in the eyes of those who argue that scientific practice does not require an essence in the traditional sense of a micro-structural property that explains all the other properties of a kind while also being unique to that kind.

Indeed, both fuzzy and discrete kinds are candidates for natural kindhood if one refuses to accept that what makes a kind a natural kind is its possession of an essence, rather than its utility in induction and other scientific practices. Within the non-essentialist *kinds-in-science* tradition (Cooper, 2013), fuzzy, discrete, and essentialistic natural kinds are all proper subsets of inductively useful kinds.[9] Within this tradition, several accounts of kinds have been developed with the aim of explaining how it is that kinds like biological species—in which there simply are no essential properties to be found—can successfully ground explanations and inductive inferences. Insofar as the most ambitious sense in which psychiatric kinds might turn out to be natural is the same in which biological kinds are taken to be natural, such accounts of kindhood are of particular interest for the conceptualization of mental disorders as something belonging between practical kinds and kinds with essences.

John Dupré (1981, 1993) argues for *promiscuous realism*—the view that there are countless, yet legitimate ways of dividing up the world into kinds. He asks us to consider the entities of some domain mapped into a multidimensional space wherein the different dimensions map onto different properties, as in cluster analysis—a statistical method for grouping sets of objects based on their similarities, in such a way

[9] Though the history of natural kind thought is usually traced back to Locke's real essences (Boyd, 1991), Murphy (2006, p. 335, fn. 6) notes that, as a historical precedent for the kinds-in-science tradition, Hacking (1991) argues that the notion of natural kinds indubitably surfaces in Mill and Venn in the mid-nineteenth century in connection with induction—something which did not preoccupy philosophers before Hume.

that objects in the same cluster are more similar to each other than to those in other clusters. According to Dupré, biological species—as well as higher taxa such as families and kingdoms, and lower ranks such as subspecies and varieties—would be identified with some such clusters. His realism has to do with the fact that he accepts that the world possesses individuals which are objectively similar to each other, sharing properties and, thus, being identifiable as being of the same kind. The promiscuity of Dupré's realism, on the other hand, has to do with the fact that he denies that these properties are intrinsic properties of kinds and, in line with Haslam's concept of fuzzy kinds, he argues that natural kinds are not necessarily categorically distinct (i.e., they are not necessarily discrete kinds). Moreover, such taxonomic promiscuity is reflected on our classificatory practices both in the context of common sense and within science.

In the context of common sense, a (presumed) natural kind such as lilies is classified as a flower, although, in biology, species which are commonly referred to as lilies occur in numerous genera of the lily family (Liliaceae), including bulbs such as garlic and onions. However, as Dupré observes, to include the onions and garlics in the reference of the English word 'lily' would surely amount to a debasement of the term (1981, p. 74). The moral is that common sense and biology provide us with pluralistic ways of classifying lilies and each is equally legitimate depending on our interests. This is not to say that Dupré's kinds are merely practical—it means that his conception of natural kinds takes seriously the different classifications that arise from a variety of interests. Indeed, cross-classification sometimes occurs within the context of a single science, to which the countless ways of classifying species bear witness (Dupré, 1993, p. 38).

By denying that there is one unique way of demarcating the set of natural kinds, Richard Boyd (1991, 1999) endorses promiscuous realism. Furthermore, by emphasizing that members of a kind share properties for a reason, his *homeostatic property cluster* (HPC) account elaborates on Dupré's idea. In a near-consensus in recent philosophy of science, the HPC account has been widely seen not only as the most successful approach to make sense of the intuitive natural-kindhood of biological species, but as quite simply the best account of natural-kindhood (Samuels and Ferreira, 2010). The HPC model defers to the kinds-in-science tradition by stating that natural kinds are scientifically relevant kinds and that these are, at a minimum, fuzzy sets defined by homeostatic[10] mechanisms at multiple levels that act and interact to produce the key properties associated with the kind. These mechanisms are the reason why members of a kind are, and continue to be, alike. Importantly, they are also the reason why the clusters of phenomena identifiable as being of the same kind are similar enough to be subject to explanation in terms of the same underlying causal properties. Thus, Dominic Murphy (2006, p. 338) refers to Boyd's account as a refined form of essentialism, since homeostatic properties substitute and play the same role of what in "simple" essentialism constituted the essence of a kind (namely, micro-structural properties). By not insisting on necessary properties or a single, essential cause, and by not specifying that such a cause must be biological, the HPC account is clearly broader than simple essentialism and advances a much more liberal sense of natural-kindhood.

So Boyd's natural kinds are, minimally, fuzzy kinds. In cluster-analytic terms, if the members of different fuzzy kinds whose members share a certain number of properties are plotted in a multi-dimensional space, there will not always be a clear gap between them. As Haslam (2014, p. 18) notes, since homeostatic mechanisms merely produce correlations among properties and resemblance among entities that possess those properties, there is no reason to assume that similarity-generating mechanisms will always yield sharp discontinuities between entities that possess sufficient levels or numbers of those properties and entities that do not. This leads Carl Craver (2009) to conclude that HPC kinds have a *prototype* or *family-resemblance* structure. Note, however, that both discrete and essentialistic kinds are also proper subsets of the set of HPC kinds, so that Boyd's account accommodates the intuitively plausible possibility that there are different levels of natural-kindhood—in Haslam's five-tier classification, these levels comprise all kinds for which there are internal discontinuities independent of our interests. In this way, some scientifically relevant kinds may turn out to be fuzzy, others discrete, and still others may turn out to have essences. For example, membership in the kinds encompassed by chemical elements may be essentially defined by the number of protons found in the nucleus of an atom. This is part of the appeal of Boyd's account, since there is no reason to think that psychiatric disorders, biological species, and chemical elements must pertain to the same kind of kind, and, according to the kinds-in-science tradition, there is also no reason to deny natural-kind status to non-essentialistic kinds as a matter of principle.

The inductive potential of HPC kinds is underwritten by the fact that if properties are held together homeostatically, then we will be able to conclude on the basis of one property that others will typically occur with it. Boyd's focus on the underlying causal mechanisms that make homeostasis possible is important for the present investigation because it ties the HPC model to causal explanation and classification which, as we have seen, is absent from the practical kinds model—the main competing model of psychiatric kinds. As Samuels notes, for any homeostatic property cluster 'there is some set of empirically discoverable causal mechanisms, processes, structures, and constraints—a *causal essence*, if you will—that causally explains the co-variation of these various symptoms' (2009, p. 55). Therefore, kind-membership will be

[10] Homeostasis being the property of a system or mechanism by which variables are regulated so that internal conditions remain stable and relatively constant.

defined not by sets of co-occurring properties or symptoms, as mental disorders are presently demarcated in diagnostic manuals such as DSM-5, but by the set of causal mechanisms that make these properties occur together. On the other hand, psychiatric conditions could satisfy the requirements of an HPC kind even if the boundary separating the affected individuals from the unaffected was fundamentally ambiguous and the affected individuals fell on a gradient of prototypicality (Haslam, 2014, p. 18). Partly for this reason, philosophers of psychiatry increasingly endorse Boyd's as the appropriate concept of kindhood for psychiatric categories (Beebee and Sabbarton-Leary, 2010; Kendler *et al.*, 2011).

Along these lines, Samuels (2009) provides the first in-depth discussion of the natural kind status of delusion in particular. He argues for the view that delusion is a natural kind in the liberal HPC sense by skillfully answering various objections to this view and drawing positive morals from them. These objections focus on three characteristics of delusion that may be viewed as going against its natural kind status: the alleged continuity of delusion with normal experience (van Os *et al.*, 2009); the causal, neural, and cognitive heterogeneity of delusion (Freeman and Garety, 2006); and, finally, the mind-dependence of delusion as a kind (Murphy, 2006). Here I will confine myself to the mind-dependence objections. In the next section, I will set the stage for the discussion of the mind-dependence objections by presenting a model of our intuitive detection and attribution of mental disorder, and an extension of this model that aims at accounting for the detection and attribution of delusion in particular.

Mind-dependence

How do people detect and attribute mental disorders? How do culture-specific models of dysfunction influence these processes? And how do pan-specific features of human minds influence cultural models of detection and attribution? As Pascal Boyer (2011) notes, the actual cognitive processes engaged in when people think about mental disorder have eluded empirical research. He attributes this to the fact that such processes fall between the domains of two well-established disciplines, namely, cross-cultural psychiatry (which focuses on the cultural variation of disorders themselves) and anthropological ethnopsychiatry (which focuses on cultural models of sanity and madness). Recently, however, Haslam and colleagues have, in a series of theoretical and empirical papers, developed a social–cognitive model of laypeople's thinking about mental disorder—what they dub *folk psychiatry*—which shows promise as an organizing framework for a field that has lacked a clear theoretical basis.

Haslam's folk psychiatry model specifies four dimensions along which laypeople conceptualize mental disorders: *pathologizing*, that is, the extent to which the observed behavior is construed as abnormal or deviant, mainly on the basis of rarity, and as a result of the failure to explain the behavior; *moralizing*, the extent to which the observed behavior is under the subject's control and to which individuals are morally accountable for their abnormality; *medicalizing*, the extent to which the observed behavior has a somatic basis and is the direct result of an underlying organic condition; and *psychologizing*, the extent to which the observed behavior has a mental, non-intentional basis, and is the direct result of a psychological dysfunction which shifts the explanatory focus toward causes, not reasons, undermining moral judgment (Haslam, 2003, 2005; Haslam *et al.*, 2007).

Empirical support for the folk psychiatry model comes from a series of studies in which participants rate descriptions of mental disorders and other conditions on a number of items that assess features of the model. In the first study of this sort, Nick Haslam and Cezar Giosan (2002) interviewed American undergraduates who had no formal education in abnormal psychology. They were given the task of reading paragraph-length descriptions of 68 conditions, 47 of which corresponded to DSM-IV mental disorders. They were then asked to judge if the conditions were mental disorders and to rate them on 15 items addressing components of the concept of mental disorder proposed by several theorists. The authors found that American lay understandings understandings of 'mental disorder' showed moderate convergence with the DSM-IV concept of mental disorder. Then, in a follow-up study, Giosan *et al.* (2001) replicated the pilot study in student samples from Brazil and Romania using an identical research design and carefully translated versions of the original questionnaire. The most interesting departure from the American understanding of mental disorder was found among Brazilian participants, who did not represent moralizing and medicalizing as polar opposites, placing them on separate factors and thereby justifying the distinctness and irreducibility of these dimensions.

Besides mapping stable understandings of abnormality within and across cultures, the folk psychiatry model also illuminates shifts in these understandings. Since they found earlier that North American understandings of mental disorders tend to be more psychologized or "internalistic" than those of Brazilians, Glovsky and Haslam (2003) predicted that the longer the period of acculturation of Brazilian citizens living in the United States, the more psychologized their understandings of disorders would be compared to their less acculturated compatriots. Consistent with this prediction, more acculturated participants judged a larger proportion of the conditions to be mental disorders. Importantly, they also understood these conditions more as manifestations of emotional distress and intrapsychic dysfunction and showed a stronger tendency both to understand disorder as a violation of social expectations and to pathologize behavior in excess ('acting out'). Therefore, the concept of 'transtorno mental' they once shared with their Brazilian peers broadened and took on a more psychologizing cast among more "Americanized" Brazilian participants.

Note, however, that while these studies and the theoretical framework that emerges from them provide an elegant illustration of the cognitive processes of intuitive detection

at work, they do not address the equally important *why* and *how* questions about our intuitive detection of mental disorder—namely, why and how intuitive folk psychiatries emerge. Toward that end, Boyer forges a cognitive model that builds on the evidence provided by Haslam and colleagues, as well as on observations about the causal connections between pathology, cultural context, typical manifestations, popular categorization, and scholarly description. In the first stage of Boyer's account, dysfunction triggers behaviors, only some of which are detectable as violations of folk psychology—that is, the shared assumptions that are the basis of our ability to describe, interpret, and predict each other's behavior by attributing beliefs, desires, hopes, feelings, and other familiar mental states. (The ones that are not bounce off intuitive detection.) Importantly, sometimes causes other than dysfunction will trigger behaviors that will be interpreted as violations caused by dysfunction, and in these instances detection will have gone wrong. Detection of unexpected behavior will trigger explanatory causal models for the behavior, not all of which make it through cycles of acquisition and communication (unsuccessful models bounce off transmission). Finally, frequently activated models may have feedback effects. These affect the models themselves through the work of transmission biases whereby people are more likely to adopt and transmit representations that are already widespread (Boyd and Richerson, 1985). Moreover, they affect people's behaviors when subjects of classification become aware of being so classified. Such changes, in turn, may lead to revisions in the initial descriptions of mental disorders (Hacking, 1995).

For our purposes, what is especially important are the first stages in Boyer's account, which, in short, boil down to the claim that our intuitive detection of mental disorder involves judging that certain kinds of behavior are so different from our expectations that they are taken as evidence that the mental systems that produce them are dysfunctional. These are mental dispositions that form part of our shared cognitive architecture (Sperber, 1996). But just as 'narratives, scholarship, etiquette, politics, cuisine, musical traditions, or religious rituals' (Boyer, 2011, p. 112) are culture-specific, the manifestations of these dispositions to attribute dysfunction will also be culture-specific (by deriving from the sets of mental representations that constitute the models of what is wrong with people's behavior within specific contexts). While Boyer's theory is not a theory of mental disorder, but a theory of its attribution, his idea of mental disorder as a defeater of folk psychology may have an important impact on the project of uncovering natural psychiatric kinds, including the project of vindicating the natural kind status of delusion (Murphy, 2014).

In the context of a discussion about what he calls the 'counterintuitive biology' inherent in some religious and magical concepts, Boyer (2001) considers Wendy James's account of 'ebony divination,' a practice of the Uduk-speaking peoples that she encountered while carrying out fieldwork in the borderlands of Sudan's frontier with Ethiopia in the 1960s. The Uduk report that ebony trees can eavesdrop on conversations and that they 'know of the actions of the *arum* [souls, spirits, including people who were not given a proper burial] and of *dhatu* (witches) and other sources of psychic activity' (James, 1988, p. 303). According to James, diviners perform oracular consultation by burning ebony wood as a form of seeking personal healing and keeping foreign gods at bay. During the consultation, the ebony stick will produce specific smudges in the water which indicate not only the nature of the problem at hand but also a solution.

In contrast, consider the following case described by Murphy:

> *Ed was sleeping rough, and heard (or, had the experience of) a tree in a park tell him that the park was a good place to stay. So Ed settled down for the night in the park. But a little later, the sprinklers in the park erupted and Ed was drenched. Thereupon Ed heard the tree tell him that he (the tree) was very sorry: trees like to be watered, and the tree had not understood that Ed would not appreciate a good soaking. Ed accepted the tree's apology and went on his way (2013, p. 118).*

Why is it intuitive to attribute dysfunction in Ed's case, but not in the Uduk's case? In addition to characterizing delusion as a false belief based on incorrect inference that is firmly held despite what almost everyone else believes and despite being confronted by evidence to the contrary, the DSM's definition continues in the following way: 'The belief is not ordinarily accepted by other members of the person's culture or subculture (i.e., it is not an article of religious faith)' (American Psychiatric Association, 2013, p. 819). At first glance, this cultural exemption clause may appear to be a highly arbitrary, relativistic, and unscientific addition. As epistemology does not generally regard widespread cultural endorsement as a form of justification, this sort of exceptionalism may be dismissed as unwarranted and question-begging.

But the cultural exemption clause in the definition of delusion encodes the fact that *other causes* would be assumed rather than dysfunction in the latter case. Uduk people who believe that trees can hear conversations are members of a culture wherein trees are believed to have counterintuitive biological characteristics, whereas Ed is not. According to Samuels' interpretation of cultural exemption, in the case of the Uduk the causes of what might seem aberrant behavior for outsiders will, on close inspection, have to do with *testimony*: when we acknowledge that the belief that trees have counterintuitive biological characteristics is part of the Uduk culture and is acquired through testimony, the need to attribute dysfunction vanishes. In short, testimony explains the acquisition of strange beliefs. But what about Ed's case? Should we conversely interpret the intuitive pull to attribute dysfunction to him as being a result of Ed's not having the epistemic warrant that the Uduk have through testimony? As much as Samuels' observations about testimony make sense of cultural exemp-

tion in the detection and attribution of mental disorder, the converse interpretation in Ed's case makes the treatment of delusions implausible, as lack of testimonial warrant is too narrow a rationale to account for our intuitive attribution of delusion. For this reason, Murphy (2014, p. 114-115) argues that to explain the attribution of delusion we should think more broadly about reasoning, going beyond testimony.

In consonance with Boyer's cognitive account of detection and attribution, Ed's traffic with trees is readily taken as evidence of mental dysfunction in the absence of cultural exemption. While the description of Ed's experience is one of hallucination, the fact that he accepts this experience as true, inferring that trees can talk and letting his behavior be guided by this conviction, supports the attribution of an accompanying delusion. Murphy (2012, 2013, 2014) applies Boyer's framework to the case of delusion by hypothesizing that the psychiatric concept of delusion grows out of a widespread human tendency, which Boyer accounts for via cognitive science, to attribute mental disorder in cases where someone's behavior fails to accord with folk-psychological assumptions about how the mind works. More specifically, Murphy proposes that our practices of attribution suggest that a delusion is a belief that is acquired through a process that does not fit our folk theories of belief acquisition—which he dubs *folk epistemology*. Unlike the DSM definition, then, Murphy suggests that what is crucial to demarcating delusion from other kinds of aberrant beliefs is not the end product of reasoning but the process by which these beliefs are formed.

What is conceptually basic about delusion is the perversion of normal mechanisms of belief acquisition and revision, not just the weird beliefs that one ends up with through that perverted changing of one's mind. "Normal" here does not mean "according to our best scientific theory." It means that folk psychology, broadly construed, endorses some avenues of belief formation and rejects others. Delusional people are people who are hooked up to the world in ways that ... folk epistemology says are weird, in the sense of falling outside normal human expectations about other people's psychology. The weirdness of the ensuing belief is (defeasible) evidence for the abnormality of their reasoning mechanisms, but the weirdness itself is not the conceptually crucial element (Murphy, 2014, p. 115).

Thus, what makes delusions distinctive is not that they violate epistemic norms, *per se*. Instead, our folk-epistemological *expectations* are violated. All manner of beliefs that violate epistemic norms are part of our folk-epistemological expectations and can be accounted for by our folk-epistemological resources which, Murphy (2012, p. 22) elucidates, do not just include folk psychology in the narrow sense of theory of mind, but also beliefs and expectations about the role of "hot" cognition and personal interests in the formation and maintenance of belief, as well as the role of culture in shaping people's assumptions about what counts as legitimate evidence. In the case of self-deception, for example, though the belief is formed and maintained in the face of contradictory evidence, we as interpreters do not run out of explanatory resources and can readily come up with an explanation of how and why the belief came about. In other words, what is distinctive about delusion is the "explanatory gap" created by its observation, and closed by its attribution.

So how does Murphy's Boyer-inspired account of delusion attribution impact the status of delusion as a natural kind? Unlike biological taxa which, as we have seen, are prime examples of property clusters held together by homeostatic causal mechanisms, delusion (as well as other psychiatric categories) appear to be mind- or response-dependent in ways that put pressure on even the most liberal sense of natural-kindhood.

The first mind-dependence objection one may extract from the discussion of the attribution of delusion simply states that delusion is not a natural kind because it is an artifact of our folk psychology. As Murphy claims, 'whether or not something is a delusion is a matter of how it strikes us, and that depends on how well it comports with our understanding of what people are like, both in general terms and within our culture' (2006, p. 180). Note, however, that even if we follow Samuels and derive such an objection from Murphy's claim that delusion is a matter of how it strikes us, this objection could not be derived from the mere fact that delusions are a part of our folk conception of the world, since there is no immediate incompatibility between the naturalness of a kind and the fact that it maps onto our folk conceptions.

As Samuels notes, water is plausibly a natural kind, though 'water' and the concept it expresses are also part of our folk conceptions. Though one may have affinities for eliminativism concerning some of our folk concepts, there is, on the other hand, no principled reason to deny that at least some of our folk concepts do pick out natural kinds. What the present objection hinges on is the premise, attributed by Samuels to Murphy, that *what it is to be a delusion* is determined by how it strikes us. That is, the premise that all there is to being a delusion is to be a certain kind of response-dependent property. As we have seen, Samuels alludes to Page (2006)'s notion of individuative independence—the sense in which a class of things is circumscribed by boundaries that are totally independent of our taxonomic practices—as the relevant sense in which natural kinds must be response-independent. So the objection at hand can be seen as likening the individuation of abnormal psychological conditions into delusions to the individuation of the night sky into constellations: just as the existence of constellations is parasitic on the way we choose to categorize things, so is the existence of delusions. In other words, the task for those who wish to argue that delusion is a natural kind consists in showing that delusion as a kind is more akin to stars than to constellations.

Samuels' answer to the response-dependence objection consists in arguing that it conflates the metaphysics of delusion with its epistemology: 'The relevant metaphysical issue concerns the nature of delusions: roughly, what is it to be a delusion. The relevant epistemic question concerns the evidential basis for our judgements about delusion: roughly, the

sorts of evidence we invoke in judging that someone is deluded' (2009, p. 68-69). Samuels concedes that Murphy gets the epistemology of delusion right, and that not only everyday judgments about which mental states are delusions are made on the basis of commonsense psychological considerations, but the judgements of clinicians who diagnose delusions are also largely dependent on the same folk conceptions. Samuels' point, then, is that the fact that the detection and attribution of delusion is a matter of how it strikes us does not show that what it is to be a delusion is *exhausted* by how things strike us and, consequently, there is still a possibility that, in this case, our folk conception will be vindicated by, and map onto, a scientific understanding of delusion—what Murphy (2014, p. 119) aptly calls *the vindication project*.

The second mind-dependence objection to which Samuels refers is that which states that delusion is not a natural kind because delusion is context-sensitive. In fact, there are two senses in which delusion may be said to be culturally relative. The first sense expands on what has been just discussed, namely, the fact that the *attribution* of delusion derives from our folk conception of what is and isn't a healthy or normal state of mind. Whereas the previous objection concerns an allegedly universal feature of human folk psychology, a new objection may hinge on the claim that the attribution of delusion will also depend on what is considered a healthy or normal state of mind within one's cultural context, encoded in the cultural exemption clause in the definition of delusion given in the DSM-5. The clause makes sense of the intuition that the delusional individual *stands alone* in some sense (Leeser and O'Donohue, 1999, p. 692). The intuitive character of the cultural exemption clause can once again be seen by contemplating what we would judge as strange and even irrational beliefs which are nevertheless commonplace in cultures other than our own. For example, consider the following entry in Dan Sperber's field diary, from the period he conducted ethnographic fieldwork among the Dorze people of Southern Ethiopia between 1968 and 1974:

> *Saturday morning old Filate came to see me in a state of great excitement:*
> *"Three times I came to see you, and you weren't there!"*
> *"I was away in Konso."*
> *"I know. I was angry. I was glad. Do you want to do something?"*
> *"What?"*
> *"Keep quiet! If you do it, God will be pleased, the Government will be pleased. So?"*
> *"Well, if it is a good thingand if I can do it, I shall do it."*
> *"I have talked to no one about it: will you kill it?"*
> *"Kill? Kill what?"*
> *"Its heart is made of gold, it has one horn on the nape of its neck. It is golden all over. It does not live far, two days' walk at most. If you kill it, you will become a great man!" And so on… It turns out Filate wants me to kill a dragon. He is to come back this afternoon with someone who has seen it, and they will tell me more… (1982, p. 35).*

Commenting on this entry, Sperber goes on to express respect and affection for his Ethiopian friend. He is confident that the man was not senile at the time of the unusual request and, moreover, that he was too poor to drink. Consequently, Sperber is faced with a variation of a question that, undoubtedly, all of us ask ourselves of someone else at some point: how could a sound person believe *that*? 'That' being, in this case, that dragons exist, not "once upon a time," but there and then, within walking distance. What if Sperber had expressed doubts that such an animal even exists? What if he had pressed his friend on the issue of the dragon's heart being made of gold and the apparent impossibility of a gold heart *beating*? Sperber concludes that his friend was 'merely quoting what people who had killed these animals were reported to have said, and they knew better than any of us' (1982, p. 61). In line with Sperber's explanation, Samuels (2009, p. 69-70) argues that the cultural relativity of delusions tracks precisely the insensitivity of delusions to testimony—an important source of epistemic warrant and epistemic defeat. Because it is normal for one to form and maintain beliefs based on the testimony of peers and authorities from one's culture or subculture, resistance to testimony is viewed as a sign that something is wrong. And because one's source of testimony varies with one's culture and subculture, the cultural exemption clause is a necessary measure to avoid the hasty judgment that culture-bound beliefs are necessarily irrational and possibly even the product of pre-rational mental processes (Sperber, 1980). However, so long as the resistance to testimony that characterizes delusion is culturally *invariant*, the fact that delusions are resistant to testimony does not suffice to show that delusion is a response-dependent property and, thus, cannot be used to successfully object to the natural kind status of delusion.

The second sense in which delusion may be said to be culturally relative derives from the fact that the *content* of delusions is highly sensitive to social and cultural context. So, for example, Masato Tateyama and colleagues (1998) compared the schizophrenic delusions of 324 inpatients in Japan, 101 in Austria, and 150 in Germany, and found that themes of persecutory delusion (i.e., delusions of poisoning) and religious themes of guilt/sin were conspicuous in Europe, while amorphous delusions of reference (i.e. 'being slandered') were predominant in Japan. Another study conducted by Stompe *et al.* (1999) compared the schizophrenic delusions of 126 Austrian and 108 Pakistani patients, finding significantly higher frequencies of grandiose and religious delusions in Austrian patients, and persecutory delusions with political themes among male Pakistani patients. To these observations may be added the existence of culture-bound syndromes whose expression includes culture-specific symptoms, as in *koro*, most prevalent among Chinese ethnic groups, in which an individual

claims that his or her genitals are retracting and will disappear (Chowdhury, 1996).

Time is also a factor. Changes within one and the same culture have an impact on the diachronic variability of delusional content, as Škodlar *et al.* (2008) have found in a study of admission records of patients with schizophrenia in Slovenia from 1881 to 2000. The recent emergence of the so-called Truman Show delusion attests to the same fact—patients with 'Truman signs' claim that their lives are staged plays or reality television shows, as with the protagonist of the 1998 film *The Truman Show* (Fusar-Poli *et al.*, 2008; Gold and Gold, 2012). However, though the kinds of variability discussed above may suggest that delusion is response-dependent to the extent that what is a delusion depends on what beliefs are socially prevalent at a certain point in time, Samuels (2009, p. 69) notes that what the sensitivity of delusions to social context shows is only that the nature of delusion, as Karl Jaspers (1963 [1913]) long before observed, cannot be characterized, but can at best only be classified, in terms of its contents.

The vindication project

If Boyer and Murphy are correct, then the science of delusion is inextricably tied with its intuitive detection. Psychiatric elaborations of folk psychology give rise to the clinical concept of delusion, the extension of which is then subdivided according to surface features, most prominent among these its content (i.e., what it is about). But can delusion, being rooted in folk psychology, play the role of regimenting scientific inquiry?

By defending that delusion is a natural kind in the HPC sense, Samuels answers positively and wagers that scientific psychiatry will vindicate the folk concept of delusion—that is, if Samuels is correct, the folk concept of delusion picks out a causal signature that, once uncovered, will vindicate the reliability of this concept and show that delusion is, in fact, a homeostatic property cluster. Once the causal mechanisms that make the properties of delusion co-occur are discovered, causal classification may result in many current subtypes of delusion being excluded from its extension. But because the HPC conception of natural kindhood does not mandate that natural kinds have category essences or category boundaries, it is likely that a mature science of delusion informed by its causal mechanisms will not be able to give a simple yes or no answer to every question of the form 'Is X a delusion?.' Of more practical importance, however, is the fact that a causal understanding of the underlying mechanisms would suffice to yield powerful inductive generalizations regarding diagnosis, prevention, and management.

But how does the vindication project fare in view of the mind-dependence of the folk concept of delusion? As Samuels notes, this only hurts the chances of delusion being an HPC kind if we conflate the metaphysics and epistemology of delusion. As we have seen, Samuels argues that attention to the fact that our concept of delusion is a part of our folk psychology that has been incorporated into scientific psychology and psychiatry is not enough to show that it is not a natural kind: the folk-psychological kind may well track an underlying natural kind. Samuels (2009, p. 69) notes that, to support the mind-dependence objection, it would be necessary to show that in the case of delusion the metaphysical issues about the nature of the kind and the epistemic issues about how we know about instances of the kind *should* be collapsed. Showing that the clinical concept is built on folk conceptions of normality is not enough. Importantly, however, Samuels does not establish that delusion *is* a natural kind. In fact, he could not have established this on the basis of *a priori* speculation alone, as establishing natural kindhood is ultimately a matter of investigating the causal basis of the homeostasis of property clusters (assuming the HPC model). Samuels does skillfully argue against various objections to the status of delusion as a homeostatic property cluster, some of which I have discussed above. In doing so, Samuels establishes something very important, namely, that these objections are not sufficient to exclude the possibility that delusion is a natural kind. So what we are left with after Samuels' arguments is that the natural kind status of delusion is still an open question, i.e. that delusion is *possibly* a natural kind.

Although the argument from mind-dependence that derives from accepting the application of Boyer's theory to delusion is not enough to rule out the possibility that delusion is a natural kind, it does make Samuels' thesis implausible and gives him the burden of proof. This implausibility can be better seen if we compare generic folk kinds and generic scientific kinds. If Samuels is right, delusion would be a *generic* natural kind. Just like the kind metal subsumes many different subordinate kinds such as gold, copper, and magnesium, delusion will subsume subtypes which would themselves also be natural kinds. But Samuels' optimism regarding the vindication project is hardly justified by the observation of other generic folk concepts and how they relate to their scientific counterparts. For instance, what the folk concept of metal seemingly picks out is not a causal signature, but, as Murphy (2014, p. 121) notes, a variety of properties that directly relate to our interests, properties like being shiny, being malleable, etc., rather than a chemical element whose atoms readily lose electrons to form positive ions, etc. Likewise, the folk concept of lily, as Dupré (1981, p. 74) points out, does not accurately map onto the biological concept of lily, which includes garlics and onions, but is used to refer exclusively to a type of flower. If delusion picks out properties that relate to our interests, like being *weird* to varying degrees, then the burden of proof falls squarely on Samuels with respect to the likelihood of vindication.

Furthermore, as investigation into the causes of delusion is still in early stages, accepting the view that delusion constitutes an HPC kind is as much a "black-box" approach as Wakefield's, only more modest in its ambition. I have argued that as an ontological commitment, this approach is weak. As a *methodological* commitment, on the other hand—and this is

the sense in which Kendler *et al.* (2011) seem to accept that psychiatric categories in general are HPC kinds—there is still a case for viewing delusion as a generic natural kind with an eye toward progress in scientific psychiatry. Bearing in mind that what we are authorized to commit to (ontologically) at this moment is that delusion is a *practical* kind—as this coheres both with our knowledge of delusion in the clinic as well as with our best theory of detection and attribution of mental disorder (and delusion in particular)—if the possibility of natural kindhood is still open, assuming natural kindhood is a sound methodology inasmuch as it offers a way toward progress in causal classification. However, I maintain that this is neither the only, nor the best way toward progress.

Even if the *folk* concept of metal is not appropriate to play the role of regimenting scientific inquiry, chemistry did eventually arrive at the natural kind metal and many subspecies of our folk concept of metal, such as gold, silver, copper, etc. also turned out to be natural kinds. In this manner, despite delusion being a folk concept not so far mapped onto a rigorous scientific concept, many subtypes of delusion already recognized, such as clear-cut cases of monothematic delusions following brain damage (e.g. Capgras, mirrored-self misidentification, somatoparaphrenia, etc.), might still turn out to be natural kinds which are thrown in with similar conditions that strike us as weird into the set of phenomena described folk-psychologically (and clinically) as delusions. Our focus should be on uncovering the causal mechanisms underlying specific kinds of delusion rather than trying to impose a general causal explanation on a ragbag of different abnormalities that may or may not actually be of the same kind. Thus, I suggest a compromise between Zachar's earlier work and Samuels' defense of delusion as an HPC kind, drawing on Murphy's observations: delusion, as a kind rooted in folk psychology, is probably a practical kind, and it probably does not pick out a universal causal signature that makes the whole category be a natural kind, but it probably does pick out many subspecies which are themselves natural kinds. Hence, delusion is a not a natural kind, but some delusions are. Murphy uses weeds and vermin as similar concepts. While weeds and vermin are not themselves natural kinds, they are made up of natural kinds that can be explained empirically. Furthermore:

> *Whether something counts as a weed or a vermin depends on human interests in a way that allows the class to grow over time, or vary across projects… Concepts that are sensitive to human interests in this way are open-ended – things may fall into them (or drop out of them) as human interests change over time. Folk thinking does not determine in advance whether a species is a pest, nor does it make scientific investigation of a species of pest into a normative endeavor (2006, p. 98-99).*

So if the question were 'Is Capgras delusion a natural kind?,' or 'Is somatoparaphrenia a natural kind?,' being that these are stable clusters of properties with recognizably homogeneous neurological causes and which are not the product of generic folk intuitions but of rigorous clinical observation and investigation, the case for their natural kindhood would be much stronger and plausible. Thus, I suggest that the way to progress in the science of delusion lies in trying to vindicate the natural kind status of *subspecies* of delusions through the study of the causal mechanisms that make the relevant properties occur homeostatically, and not in trying to find a shared causal basis for every phenomena that *we* call delusion assuming beforehand that such a share causal basis is present. After the investigation into the causal mechanisms is done with multiple subtypes of delusion, a causal account of delusion in general will no doubt progressively suggest itself. But the set of delusion subtypes that will be found to share causal mechanisms in the sense that would authorize us to abstract from them a generic natural kind will be a *subset* of the set of all delusions—a set the intension of which depends on context-dependent folk-psychological intuitions and, hence, membership in such a set is tied to surface features (symptoms, not causes) detected with the tools of folk psychology.

Conclusion

In the preceding sections, I have attempted to elucidate some of the difficulties inherent in trying to claim that delusion is a natural kind. After delineating five different senses of kindhood and introducing a non-essentialist approach to natural kindhood—the HPC model—I have drawn on a cognitive model of the intuitive detection and attribution of mental disorder and its application to the case of delusion to flesh out the fact that the clinical category of delusion is rooted in folk-psychological expectations. Finally, being that the folk-psychological status of delusion does not immediately remove the possibility of this kind being vindicated as natural by scientific investigation, I have questioned the vindication project and formulated a working hypothesis that I claim is both ontologically and methodologically more sound. My hypothesis is that along with the general category of delusion, some delusions will be confined to practical kindhood, perhaps along with the bulk of mental symptoms and disorders, while some will turn out to be objective distinctions in nature. Importantly, this hypothesis and methodological suggestion bypasses what Samuels calls the *unity problem*: if many different subtypes of mechanism are responsible for delusions, why treat delusions *as such* as a natural kind? According to him, it must be because these mechanisms are themselves of the same kind. What I have tried to show in here is that assuming that a variety of mechanisms make subtypes of delusion subtypes of some general mechanism as opposed to a heterogeneous collection of different mechanisms the products of which share surface features is not only unwarranted, but methodologically flawed.

References

AMERICAN PSYCHIATRIC ASSOCIATION. 2013. *Diagnostic and Statistical Manual of Mental Disorders*. 5ª ed., Washington, American Psychiatric Association, 947 p.

BEEBEE, H.; SABBARTON-LEARY, N. 2010. Are psychiatric kinds "real"? *European Journal of Analytic Philosophy,* **6**(1):112-117.

BOLTON, D. 2008. *What is Mental Disorder? An Essay in Philosophy, Science, and Values*. Oxford, Oxford University Press, 303 p. https://doi.org/10.1093/med/9780198565925.001.0001

BOYD, R. 1991. Realism, anti-foundationalism and the enthusiasm for natural kinds. *Philosophical Studies,* **61**:127-148. https://doi.org/10.1007/BF00385837

BOYD, R. 1999. Homeostasis, species and higher taxa. *In:* R. WILSON (ed.), *Species: New Interdisciplinary Essays*. Cambridge, MIT Press, p. 141-185.

BOYD, R.; RICHERSON, P.J. 1985. *Culture and the evolutionary process*. Chicago, University of Chicago Press, 331 p.

BOYER, P. 2001. *Religion Explained: The Evolutionary Origins of Religious Thought*. New York, Basic Books, 375 p.

BOYER, P. 2011. Intuitive expectations and the detection of mental disorder: A cognitive background to folk-psychiatries. *Philosophical Psychology,* **24**(1):95-118. https://doi.org/10.1080/09515089.2010.529049

BROWN, T.A.; BARLOW, D.H. 2009. A Proposal for a Dimensional Classification System Based on the Shared Features of the DSM-IV Anxiety and Mood Disorders: Implications for Assessment and Treatment. *Psychological Assessment,* **21**(3):256-271. https://doi.org/10.1037/a0016608

CHOWDHURY, A.N. 1996. The definition and classification of Koro. *Culture, Medicine and Psychiatry,* **20**(1):41-65. https://doi.org/10.1007/BF00118750

CLARK, L.; WATSON, D.; REYNOLDS, S. 1995. Diagnosis and classification of psychopathology: Challenges to the current system and future directions. *Annual Review of Psychology,* **46**:121-153. https://doi.org/10.1146/annurev.ps.46.020195.001005

CLECKLEY, H. 1941. *The Mask of Sanity: An Attempt to Clarify Some Issues About the So-Called Psychopathic Personality*. Saint Louis, Mosby, 510 p.

COOPER, R. 2013. Natural Kinds. *In:* K.W.M. FULFORD; M. DAVIES; R.G.T. GIPPS; G. GRAHAM; J.Z. SADLER; G. STANGHELLINI; T. THORNTON (eds.), *The Oxford Handbook of Philosophy and Psychiatry*. Oxford, Oxford University Press, p. 950-965.

CRAVER, C. 2009. Mechanisms and natural kinds. *Philosophical Psychology,* **22**(5):575-594. https://doi.org/10.1080/09515080903238930

DAVIES, M.; COLTHEART, M. 2000. Introduction: Pathologies of Belief. *In:* M. COLTHEART; M. DAVIES (eds.), *Pathologies of Belief*. Oxford, Blackwell, p. 1-46. https://doi.org/10.1111/1468-0017.00122

DUPRE, J. 1981. Natural Kinds and Biological Taxa. *The Philosophical Review,* **90**(1):66-90. https://doi.org/10.2307/2184373

DUPRE, J. 1993. *The Disorder of Things: Metaphysical Foundations of the Disunity of Science*. Cambridge, Harvard University Press, 308 p.

ERESHEFSKY, M. 2001. *The Poverty of the Linnaean Hierarchy: A Philosophical Study of Biological Taxonomy*. Cambridge, Cambridge University Press, 316 p. https://doi.org/10.1017/CBO9780511498459

ERESHEFSKY, M. 2009. Natural kinds in biology. *In:* E. CRAIG (ed.), *Routledge Encyclopedia of Philosophy*. London, Routledge.

FREEMAN, D.; GARETY, P.A. 2006. Delusions. *In:* E. FISHER; W. O'DONOHUE (eds.), *Practitioner's Guide to Evidence-Based Psychotherapy*. New York, Springer Academic, p. 205-213. https://doi.org/10.1007/978-0-387-28370-8_20

FUSAR-POLI, P.; HOWES, O.; VALMAGGIA, L.; MCGUIRE, P. 2008. 'Truman' signs and vulnerability to psychosis. *British Journal of Psychiatry,* **193**(2):168. https://doi.org/10.1192/bjp.193.2.168

GIOSAN, C.; GLOVSKY, V.; HASLAM, N. 2001. The Lay Concept of 'Mental Disorder': A Cross-Cultural Study. *Transcultural Psychiatry,* **38**:317-332. https://doi.org/10.1177/136346150103800303

GLOVKSY, V.; HASLAM, N. 2003. Acculturation and changing concepts of mental disorder: Brazilians in the U.S.A. *Transcultural Psychiatry,* **40**:51-62.

GOLD, J.; GOLD, I. 2012. The "Truman Show" delusion: Psychosis in the global village. *Cognitive Neuropsychiatry,* **17**(6):455-472. https://doi.org/10.1080/13546805.2012.666113

GOODMAN, N. 1978. *Ways of Worldmaking*. Indianapolis, Hackett, 142 p.

GOODMAN, N. 1983. *Fact, Fiction, and Forecast*. Cambridge, Harvard University Press, 128 p.

HACKING, I. 1991. A tradition of natural kinds. *Philosophical Studies,* **61**:109-126. https://doi.org/10.1007/BF00385836

HACKING, I. 1995. The looping effects of human kinds. *In:* D. SPERBER; D. PREMACK; J.A. PREMACK (eds.), *Causal cognition: A multidisciplinary debate*. Oxford, Oxford University Press, p. 351-383.

HACKING, I. 1999. Kind Making: The Case of Child Abuse. *In:* I. HACKING, *The Social Construction of What?* Cambridge, Harvard University Press.

HACKING, I. 2007. Kinds of People: Moving Targets. *Proceedings of the British Academy,* **151**:285-318. https://doi.org/10.5871/bacad/9780197264249.003.0010

HASLAM, N. 2002. Kinds of kinds: A conceptual taxonomy of psychiatric categories. *Philosophy, Psychiatry, & Psychology,* **9**(3):203-217. https://doi.org/10.1353/ppp.2003.0043

HASLAM, N. 2003. Categorical vs. dimensional models of mental disorder: The taxometric evidence. *Australian and New Zealand Journal of Psychiatry,* **37**:696-704. https://doi.org/10.1080/j.1440-1614.2003.01258.x

HASLAM, N. 2005. Dimensions of folk psychiatry. *Review of General Psychology,* **9**:35-47. https://doi.org/10.1037/1089-2680.9.1.35

HASLAM, N. 2014. Natural Kinds in Psychiatry: Conceptually Implausible, Empirically Questionable, and Stigmatizing. *In:* H. KINCAID; J.S. SULLEVIN (eds.), *Classifying Psychopathology: Mental Kinds and Natural Kinds*. Cambridge, MIT Press, p. 11-28.

HASLAM, N.; BAN, L.; KAUFMANN, L. 2007. Lay conceptions of mental disorder: The folk psychiatry model. *Australian Psychologist,* **42**(2):129-137. https://doi.org/10.1080/00050060701280615

HASLAM, N.; GIOSAN, C. 2002. The lay concept of "mental disorder" among American undergraduates. *Journal of Clinical Psychology,* 58:479-485. https://doi.org/10.1002/jclp.1158

HORWITZ, A.V.; WAKEFIELD, J.C. 2012. *The Loss of Sadness. How Psychiatry Transformed Normal Sorrow into Depressive Disorder.* Oxford, Oxford University Press, 128 p.

HULL, D. 1978. A matter of individuality. *Philosophy of Science,* **45**:335-360. https://doi.org/10.1086/288811

JAMES, W. 1988. *The Listening Ebony: Moral Knowledge, Religion and Power among the Uduk of Sudan.* Oxford, Clarendon Press, 391 p.

JASPERS, K. 1963 [1913]. *General Psychopathology.* Manchester, Manchester University Press, 448 p.

JACKSON, A.; CAVANAGH, J.; SCOTT, J. 2003. A systematic review of manic and depressive prodromes. *Journal of Affective Disorders,* **74**(3):209-217. https://doi.org/10.1016/S0165-0327(02)00266-5

KANNER, L. 1935. *Child Psychiatry*. Springfield, Charles C. Thomas, 735 p. https://doi.org/10.1037/13306-000

KENDLER, K.; ZACHAR, P.; CRAVER, C. 2011. What kinds of things are psychiatric disorders. *Psychological Medicine,* **41**:1143-1150. https://doi.org/10.1017/S0033291710001844

LEESER, J.; O'DONOHUE, W. 1999. What is a delusion? Epistemological dimensions. *Journal of Abnormal Psychology,* **108**:687-694. https://doi.org/10.1037/0021-843X.108.4.687

LIVESLEY, W. 2003. Diagnostic dilemmas in classifying personality disorder. *In:* K. PHILLIPS; M. FIRST; H. PINCUS (eds.), *Advancing DSM: Dilemmas in Psychiatric Diagnosis*. Washington, American Psychiatric Association, p. 153-189.

MURPHY, D. 2006. *Psychiatry in the Scientific Image*. Cambridge, MIT Press, 422 p.

MURPHY, D. 2012. The Folk Epistemology of Delusions. *Neuroethics,* **5**(1):19-22. https://doi.org/10.1007/s12152-011-9125-5

MURPHY, D. 2013. Delusions, Modernist Epistemology and Irrational Belief. *Mind & Language,* **28**(1):113-124. https://doi.org/10.1111/mila.12012

MURPHY, D. 2014. Natural Kinds in Folk Psychology and in Psychiatry. *In:* H. KINCAID; J.S. SULLEVIN (eds.), *Classifying Psychopathology: Mental Kinds and Natural Kinds*. Cambridge, MIT Press, p. 105-122.

OKASHA, S. 2002. Darwinian Metaphysics: Species and the Question of Essentialism. *Synthese,* **131**:191-213. https://doi.org/10.1023/A:1015731831011

PAGE, S. 2006. Mind-independence disambiguated: separating the meat from the strawin the realism/anti-realism debate. *Ratio,* **19**(3):321-335. https://doi.org/10.1111/j.1467-9329.2006.00330.x

PORCHER, J.E. 2016. The classification, definition, and ontology of delusion. *Revista Latinoamericana de Psicopatologia Fundamental,* **19**(1):167-181. https://doi.org/10.1590/1415-4714.2016v19n1p167.12

PUTNAM, H. 1975. The meaning of 'meaning'. *Minnesota Studies in the Philosophy of Science,* **7**:131-193. https://doi.org/10.1017/cbo9780511625251.014

RADDEN, J. 2011. *On Delusion*. New York, Routledge, 160 p.

SAMUELS, R. 2009. Delusion as a Natural Kind. *In:* M. BROOME; L. BORTOLOTTI (eds.), *Psychiatry as Cognitive Neuroscience: Philosophical Perspectives*. Oxford, Oxford University Press, p. 49-79. https://doi.org/10.1093/med/9780199238033.003.0004

SAMUELS, R.; FERREIRA, M. 2010. Why don't concepts constitute a natural kind? *Behavioral and Brain Sciences,* **33**(2-3):222-223. https://doi.org/10.1017/S0140525X10000452

ŠKODLAR, B.; DERNOVŠEK, M.Z.; KOCMUR, M. 2008. Psychopathology of Schizophrenia inLjubljana (Slovenia) from 1881 to 2000: Changes in the Content of Delusions in Schizophrenia Patients Related to Various Sociopolitical, Technical and Scientific Changes. *International Journal of Social Psychiatry,* **54**(2):101-111. https://doi.org/10.1177/0020764007083875

SPERBER, D. 1980. Is Symbolic Thought Pre–rational? *In:* M. FOSTER; S. BRANDES (eds.), *Symbol as Sense*. New York, Academic Press, p. 25-44.

SPERBER, D. 1982. *On Anthropological Knowledge*. Cambridge, Cambridge University Press, 110 p.

SPERBER, D. 1996. *Explaining culture: A naturalistic approach*. Oxford, Blackwell, 175 p.

STOMPE, T.; FRIEDMAN, A.; ORTWEIN, G.; STROBL, R.; CHAUDHRY, H.R.; NAJAM, N.; CHAUDHRY, M.R. 1999. Comparison of delusions among schizophrenics in Austria and in Pakistan. *Psychopathology,* **32**(5):225-234. https://doi.org/10.1159/000029094

SZASZ, T. 1961. *The Myth of Mental Illness: Foundations of a Theory of Personal Conduct*. New York, Harper & Row, 337 p.

TATEYAMA, M.; ASAI, M.; HASHIMOTO, M.; BARTELS, M.; KASPER, S. 1998. Transcultural study of schizophrenic delusions. Tokyo versus Vienna and Tubingen (Germany). *Psychopathology,* **31**(2):59-68. https://doi.org/10.1159/000029025

VAN OS, J.; LINSCOTT, R.J.; MYIN-GERMEYS, I.; DELESPAUL, P.; KRABBENDAM, L. 2009. A systematic review and meta-analysis of the psychosis continuum: evidence for apsychosis proneness-persistence-impairment model of psychotic disorder. *Psychological Medicine,* 39:179-195. https://doi.org/10.1017/S0033291708003814

WAKEFIELD, J.C. 1992. Disorder as harmful dysfunction: a conceptual critique of DSM–III–R's definition of mental disorder. *Psychological Review,* **99**:232-247. https://doi.org/10.1037/0033-295X.99.2.232

WAKEFIELD, J.C. 2004. The myth of open concepts: Meehl's analysis of construct meaningversus black box essentialism. *Applied & Preventive Psychology,* **11**(1):77-82. https://doi.org/10.1016/j.appsy.2004.02.014

WIDIGER, T.; LIVESLEY, W.; CLARK, L. 2009. An integrative dimensional classification of personality disorder. *Psychological Assessment,* **21**(3):243-255. https://doi.org/10.1037/a0016606

WIDIGER, T.; SANDERSON, C. 1995. Toward a dimensional model of personality disorders. *In:* W. LIVESLEY (ed.), *The DSM–IV Personality Disorders*. New York, Guilford, p. 433-458.

ZACHAR, P. 2000. Psychiatric disorders are not natural kinds. *Philosophy, Psychiatry, & Psychology,* **7**(3):167-182.

ZACHAR, P. 2014a. Beyond natural kinds: Toward a relevant psychiatric taxonomy. *In:* H. KINCAID; J.S. SULLEVIN (eds.), *Classifying Psychopathology: Mental Kinds and Natural Kinds*. Cambridge, MIT Press, p. 75-104.

ZACHAR, P. 2014b. *A Metaphysics of Psychopathology*. Cambridge, MIT Press, 274 p. https://doi.org/10.7551/mitpress/9780262027045.001.0001

ZACHAR, P. 2015. Grief, depression, and the DSM-5: a review and reflections upon the debate. *Revista Latinoamericana de Psicopatologia Fundamental,* **18**(3):540-550. https://doi.org/10.1590/1415-4714.2015v18n3p540.9

Submitted on June 27, 2016

Accepted on October 4, 2016