

THOMAS REID ON INDUCTION AND NATURAL KINDS

ABSTRACT. I examine the views of Thomas Reid with respect to a certain version of the problem of induction: Why are inductions using natural kinds successful, and what justifies them? I argue that while both Reid holds a kind of conventionalist view about natural kinds, this conventionalism has a realistic component which allows him to answer both questions.

INTRODUCTION

There are (at least) two problems of induction.¹ The first we find in Hume.² Suppose that all pieces of bread up until now have been nourishing; how do I justify our inference that this one in front of me is as well? The two possible ways, by demonstrative argument or probable argument, are impossible and circular (respectively). So – whence the justification?³ The second is that due to, among others, Goodman (1983, 72ff). Some predicates seem to feature in successful or justified inductions (like green) and others don't (like grue). What explains this difference? One way of solving the second riddle is by appealing to natural kinds. According to this view, some properties feature in successful inductions because they pick out real divisions in nature. They are up to the task of “grounding legitimate *inductive inferences* concerning the members of the kind in question.”⁴

There are (at least) two sorts of views about natural kinds. The first is natural kind realism, according to which Nature does the clustering. The second is natural kind conventionalism. On this view, it we who do the clustering, not Nature.

1. Henceforth I will cite Reid's *Essays Concerning the Intellectual Powers of Man* as ER.[essay].[chapter] / [page in Reid (1969)]. I will cite Reid's *An Inquiry into the Human Mind* as I.[chapter].[section] / [page in Reid (1970)].

2. Actually there seem to be problems of induction which pre-date Hume; see Laudan (1981, Chapter 6). Laudan distinguishes between two types of problems, and argues that they were both present since before Hume.

3. Another strong formulation is given in Reichenbach (1938, §38), though it is couched in explicitly probabilistic terms.

4. Koslicki (2008, 790)

What makes a property cluster a natural kind or not is wholly dependent on the interests and practices of the people engaging in natural kind talk.

The natural kind realist has at least a potential answer to the second problem of induction. How about the conventionalist? If natural kinds simply reflect the practices of communities of language-users or scientists, then why do certain property clusters feature in spectacularly successful inductive inferences and others do not? Why are any successful at all, if they only reflect culturally and linguistically contingent practices of the community employing them?

In this paper, I will examine this question through the lens of the views of Thomas Reid. There are varying strengths of the conventionalist position. On a strong version, not only is the reference of natural kind names fixed by human convention, but the entities they pick out depend purely on human activity and convention. Reid's view is slightly more nuanced – or so I will argue. He thinks that the reference of natural kind terms is fixed by human convention. But Reid's view has a more realistic tinge to it. These conceptions are not *solely* the product of human linguistic or conventional activity, and do not arise simply through considerations of utility. Instead, they are constrained in an important way by nature. Reid's view is still a sort of conventionalism, then, but a conventionalism with more than a little bit of realism sprinkled in. Commentators (such as Lehrer (1985), Lehrer and McGee (1992), Nichols (2002), van Cleve (2015, 273-6), Folescu (2016)) have tended to focus on the anti-realist strains in Reid's philosophy (though there are some exceptions, such as Wolterstorff (2001, 71-4) and Wilson (2013)). I will be highlighting what I take to be an important and overlooked strand of a sort of quasi-realism espoused by Reid.⁵

5. I should note that I am massively oversimplifying a lively debate over the metaphysics of natural kinds when I refer to kinds as clusters of properties.⁶ I do not thereby intend to wade into the debate as to whether natural kinds are a type of universal (as in Lowe (2001, 180-1)), homeostatic property clusters (as in Boyd (1991)), sets of objects that share a natural property (as in Quine (1969a)), or something else. I speak of "property clusters" because that seems to me to match Reid's parlance fairly well, not because I adhere to this view on natural kinds.

1. CONVENTIONALISM

One can be a conventionalist about kinds in many ways. Here are two:

WEAK: The content of every kind-concept/conception/idea is fixed at least partially by human convention.

STRONG: The content of every kind-concept/conception/idea is fixed solely by human convention.⁷

One might think that this classification is both too strong and too weak. WEAK might be thought to be so mild that there is hardly any philosopher who'd reject it. STRONG, on the other hand, might be thought to be so strong that no philosopher at all would accept it. Hence, the classification might seem infelicitous.

Let me take up each question in turn. While WEAK might not seem objectionable to any philosopher, as a matter of history this is not so. Consider the tradition, going back at least to Plato, of innate ideas. A proponent of this position might hold that at least some kind-concepts ("extended object", say) have their contents fixed independently of human convention. The affixing of a particular sign to that idea may happen conventionally, but what we care about in WEAK is that the content of the idea not be fixed merely by convention. Or consider a variety of an Aristotelian view, upon which acquiring the form of a thing is (extremely roughly) a matter of having a particular kind of sense experience. On this position, it also seems plausible that one could reject WEAK.

There are potentially historical precedents for STRONG. For instance, it is sometimes argued that John Locke held a version of this position. While this reading is taken by some (e.g., Jones (2007, 2010), Crane (2003), Boyd (1991), Leary (2009), arguably Kaufman (2007)), it remains contentious (contested by, e.g., Anstey (2011), Lovejoy (2001), Stuart (1999)). Since this paper is not

7. There are of course other gradations of conventionalism, but this one will be useful for our purposes.

devoted to the debate on Locke's view of species, I will take no position on this question. I merely wish to highlight that STRONG is not a view so strong that no philosopher has been interpreted as assenting to it.

There are also contemporary philosophers who assent to something like STRONG. A particularly sophisticated version of a view very much like it is developed in Thomassen (2007), who seems to hold that the application conditions for the use of a sortal term *S* are themselves fixed by our conventions about the uses of such sortal terms. According to Thomassen,

it should be no greater surprise, nor any more implausible, that facts about proper language use are established stipulatively through human practice than that facts about the proper playing of baseball, proper behavior at formal functions, and so on, are so established.⁸

Other examples can be found. Tahko (2012, 406) calls something like STRONG “extreme conventionalism”, and characterizes it as the thesis that “there are no such mind-independent identity conditions [for objects and kinds] and that all our efforts to determine natural boundaries are subjective.” Crawford Elder puts the view this way: “‘Conventionalism’ is the thesis that sameness in kind... obtain[s] only in virtue of our conventions of individuation – that apart from us, mind-independently, there simply are no such samenesses.”⁹

Arguably, Varzi (2011) falls into this category. Varzi writes that some entities with boundaries that are to some extent artificial “only enjoy an individuality as a result of our cognitive and/or social practices”.¹⁰ He further writes that “the problem is not that there are no differences in the physical world; the problem is

8. Thomassen (2007, 61)

9. Elder (2007, 265)

10. Varzi (2011, 137)

that there are *too many* differences, and to privilege some over the others is to draw a *fiat* line.”¹¹

Examples may be multiplied further, but they needn't be. The point I have been trying to make is that the classification I have made is neither too weak nor too strong to do the job. It is not so weak that any philosophical position about natural kinds would fall under it, nor is it so strong that no philosopher in their right mind would assent to it.

2. REID ON GENERAL TERMS AND GENERAL CONCEPTIONS

In this and the next section I will present Reid's account of how we come to form conceptions of general terms. Other accounts of this process have been offered, for instance by Lehrer (1985, 1989a, 1989b) and Castagnetto (1992). Arguing against these and in favor of my own interpretation is beyond the scope of this paper. Nevertheless, I wish to flag the point that my interpretation is not uncontroversial; in particular, as we shall see, I differ from Lehrer's account in at least one crucial respect.

2.1. General terms. In Essay V of *Essays on the Intellectual Powers of Man*, Thomas Reid writes that all words of artificial languages comprise proper names and general words. Proper names signify exactly one individual thing. General words admit of a further subdivision into auxiliaries and general terms. The latter signify attributes of individuals – that is, universals. Among general words are what I will call “class terms”, terms like “dog” or “iodine” or “Frenchman”. These words are artificial signs which signify the cluster of attributes which serves as the definition of the term. The cluster of attributes to which the class term is meant to refer is formed in the following way: We observe that many individuals share certain reasonably well-demarcated clusters of attributes; we declare that

11. Varzi (2011, 141-2)

all individuals which share the cluster of attributes previously observed to belong to a single class; lastly, we affix to that class a single name, the class term. The use of a class term as a predicate of an individual serves to affirm of that individual the entire cluster of attributes to which the class term refers. Reid gives as examples of class terms words like “men” and “elephants”, and further elaborates that there are classes of vegetable and inanimate substances. (ER.V.i / 467)

2.2. General Conceptions. Reid divides general conceptions into three kinds: Attributes, species, and genera. He then passes (ER.V.iii / 479) to an account of the operations of the understanding which produce general conceptions. These are:

Abstraction: the operation of *resolving* or *analyzing* a subject into its known attributes.

Generalization: the operation of *observing* the same attribute common to many subjects.

Combination: the operation of *combining* into one whole a certain number of attributes and *naming* that combination.

The operations of **Abstraction** and **Generalization** are the operations whereby we form our conceptions of attributes (meant as general conceptions). Species and genera are formed by means of **Combination**, and we will now turn to a more thorough examination of Reid’s account of this process.

3. COMBINATION AND KIND-FORMATION

Almost immediately after introducing general conceptions, Reid offers a list of some of them. Next, he turns abruptly to a discussion of induction:

When we observe, that nature, in her animal, vegetable, and inanimate productions, has formed many individuals that agree in many

of their qualities and attributes, we are led by natural instinct to expect their agreement in other qualities, which we have not had occasion to perceive. Thus, a child who has once burnt his finger. . . expects the same event if he puts it in the flame of another candle, or in any flame, and is thereby led to think that the quality of burning belongs to all flame. This instinctive induction is not justified by the rules of logic, and it sometimes leads men into harmless mistakes, which experience may afterward correct; but it preserves us from destruction in innumerable dangers to which we are exposed. (ER.V.iv / 491)

He continues:

The reason of taking notice of this principle in human nature in this place is, that the distributions of the productions of nature into *genera* and *species* [italics in original] becomes, on account of this principle, more generally useful. (ER.V.iv / 491)

This digression marks a sharp and important divide between the general conceptions just discussed (mathematical figures, etc) and those of particular species or genera. Throughout the *Essays*, Reid uses “species”, “genera”, and “tribe” rather than “natural kind”, but he uses the former in a way which extends into the territory now occupied by “natural kind”. For instance, he writes in ER.V.iv / 502:

In the inanimate kingdom we have not the same means of dividing things into species, and therefore the limits of species seem to be more arbitrary. But from the progress already made, there is ground to hope, that even in this kingdom, as the knowledge of it advances, the various species may be so well distinguished and defined as to answer to every valuable purpose.

There are two motivations, one textual and one substantial, for the reading on which Reid makes a fine-grained distinction within the general category of general conceptions which amounts to a characterization of natural kinds. The substantial motivation will be explained in a subsequent section; I will now turn to the textual matter.

Jumping forward a bit, Reid writes the following:

I do not attempt a complete enumeration even of the classes of complex general conceptions. Those I have named as a specimen, I think, are mostly comprehended under what Mr. Locke calls mixed modes and relations; which...have names given to them in language, in preference to innumerable others that might be formed; *for this reason only* [emphasis mine], that they are useful for the purpose of communicating our thoughts by language.

(ER.V.iv / 499)

Which complex general conceptions are these? They are examples like “father”, “mother”, “son”, “daughter”, “eating”, “sleeping”, “running”, hunting implements, house- and clothing-related conceptions, agricultural and pastoral conceptions, civil and societal conceptions (“debtor”, “creditor”, “account”), anatomical or physiological conceptions, or terms of art in the sciences. (ER.V.iv / 497-9) These terms have entered into our lexicon because they are useful for communicating the general conceptions which arise from the course of our (largely social) lives, and for that reason alone. He writes: “It is convenient that we should be able to speak of what is common to [all occurrences of a similar sort]... This we can do with great ease, by giving a name to what is common to all those individual occurrences.” (ER.V.iv / 498) The name is given to the conception for the sake of more easily communicating it, and the conception is formed because such a conception has great social convenience.

By contrast, recall the passage on induction. In the description of the child's forming the general conception of "fire", Reid makes no appeal to the utility of this general conception in communication. He simply invokes an induction which preserves the child from further harm. Immediately after this, he also describes the experience of a hypothetical physician:

The physician expects, that the rhubarb which has never yet been tried will have like medical virtues with that which he has prescribed on former occasions. Two parcels of rhubarb agree in certain sensible qualities, from which agreement they are both called by the same general name *rhubarb*. Therefore it is expected that they will agree in their medical virtues. And as experience, has discovered certain virtues in one parcel, or in many parcels, we presume, without experience, that the same virtues belong to all parcels of rhubarb which shall be used. (ER.V.iv / 491-2)

There is no indication of the general term "rhubarb" being useful for communicating thoughts, nor is there any appeal to that conception's social utility as a justification for having it rather than any others. Rather, the physician's idiolect contains "rhubarb" because (or at least partly because) of the role it plays in inductive inferences. This gives some hints concerning the substantive reasons for the differentiation of simple mixed modes and natural kinds, but we will have to wait a little for a full treatment.¹²

An illustration might be useful. Consider Robinson Crusoe, stranded on his island. There are any number of general conceptions which he might come to form: that of certain kinds of animals and plants on his island, for example.

12. Here I place myself on the side of commentators such as Gallie (1993), who argues that utility is not the sole consideration in class-formation, and against such commentators as Lehrer (1989b, 191), who argue that it is; see also Lehrer (1985) and Lehrer (1987, 391-2). I will justify this view presently.

All of these will play roles in inductive inferences such as “this plant resembles others I have examined in its sensible properties, and all the other ones with these sensible properties were poisonous, so this one is also poisonous.” But Crusoe is not, at the time, a member of a particular community. He has no need of forming these conceptions for communication, as he has no one with whom to communicate. And yet he has them, irrespective of their utility in communication. What matters is their utility for daily life.

Reid thinks that kind-formation is constrained, in a way class-formation is not, by at least two factors:

Natural Clustering: certain individuals in nature agree consistently in both their obvious and their occult qualities in such a way that humans are invited to subsume them under a single general conception.

Occult Induction: the human mind is framed such that there is a natural expectation that when objects agree on their obvious qualities, they will agree on their occult ones as well.¹³ (ER.V.iv / 492)

According to Reid, the upshot of these two factors is that we have “a strong and rational inducement both to distribute natural substances into classes, genera and species, under general names; and to do this with all the accuracy and distinctness we are able.” (ER.V.iv / 492-3)

Notice the difference in kind between these two principles. **Occult Induction** is a statement about what the human mind naturally does, but by itself says nothing about why such inferences are justified. A similar point is made in Rysiew (2014) concerning Reid’s commitment to the principle that “in the phaenomena of nature, what is to be, will probably be like to what has been in similar circumstances” – the fact that this is a first principle does not assure the reliability of the inferences made. What will do that is the cooperation of nature

13. Compare this to Mill (1974b, 715) and Mill (1974a, 123)

in actually being that way.¹⁴ And that is precisely what **Natural Clustering** assures us: Nature is in fact structured to support this kind of inference.

This distinction between kind-formation and general class-formation has important implications, and is, I believe, one that other commentators have not made. Lehrer (1985, 1989a), for instance, holds that **Generalization** occurs solely according to considerations of utility.¹⁵ There is more to the story, however. Reid elsewhere writes:

It is utility, indeed, that leads us to give general names to the various species of natural substances; but, in combining the attributes which are included under the specific name, *we are more aided and directed by nature, than in forming other combinations of mixed modes and relations* [emphasis mine]. In the last, the ingredients are brought together in the occurrences of life, or in the actions or thoughts of men. But, in the first, *the ingredients are united by nature in many individual substances which God has made* [emphasis mine]. (ER.V.iv / 499)¹⁶

Now, if Lehrer’s reading is correct, and utility is the sole constraint on **Generalization**, then this passage is very peculiar. If he is right, then mixed modes and natural substances should be on the same footing as far as constraints on their formation. But Reid here appears to say that when it comes to the creation of the conceptions of natural substances, we are constrained by nature to carve

14. Rysiew (2014, 176)

15. Faurot (1978, 237) makes note of what I have called **Natural Clustering**, though his distinction between “arbitrary” and “empirical” notions tracks a slightly different distinction than the one I have made between class-formation and kind-formation.

16. Note that this also lends credence to the reading on which, when Reid uses “species” with respect to natural substances, he is tracking a notion roughly similar to that of “natural kind”.

it up in certain ways rather than others. My conclusion from this text, then, is that Lehrer is partially right – certain general conceptions are formed according to considerations of utility – and partially wrong – not all of them are. This strikes me as the most straightforward reading of the passage from ER.V.iv.

4. PROBLEMS OF SUCCESS AND INDUCTION

In this section, I will examine way that Reid’s accounts of natural kinds handles the second problem of induction; for our purposes:

(*Q*) Why is induction which involves some natural kind predicates stable?

Quine puts the question pointedly: “[W]hy does our innate subjective spacing of qualities accord so well with the functionally relevant groupings in nature as to make our inductions tend to come out right?” ¹⁷

What explains this? What answer, if any, can Reid give to (*Q*)? It is to this question that we now turn.

4.1. The STRONG answer. Suppose that STRONG is correct. Then natural kinds, including those which appear in scientific theories, are nothing but concepts or ideas which are formed from no natural guide except, perhaps, broad similarity. Any classification will reflect principles like convenience, ease of transmission, and human interests more generally. There will be no single canonical taxonomy, because any taxonomy produced has just about as good a right to be one as any other.

But the kinds which we do actually use seem to display remarkable inductive stability. For instance, inductive inferences like “the electrons we’ve experimented

17. Quine (1969a, 126)

on have a mass of about 0.511 MeV, so all electrons have that mass” tend to be very successful. And this poses a difficulty for the partisan of STRONG. On that view, kind-formation is something that goes on purely “in here”, whereas both inductive success and a rational basis for induction are things which, we might think, depend on how things are “out there”. There is, on the face of things, no good reason why we should expect nature to color inside lines that we have drawn more-or-less at will. Still less is there any reason why we should be *justified* in this expectation. (Here I am echoing a criticism by Richard Boyd (in Boyd (1991, 131)).)

4.2. Reid’s Answer. Given its conventionalist elements, Reid’s view could be vulnerable to similar criticisms. But I shall now try to show there are some distinctive features of Reid’s system which equip him to give a more satisfactory answer.

In his discussion of species and genera, Reid (implicitly) gives an almost evolutionary argument: one of the principal goods of induction is that inductive inferences are a rational inducement which “preserves us from destruction in innumerable dangers”. (ER.V.iv / 491) Kind-formation is made even more useful by its interaction with these inductions. Recall, too, the discussion of **Natural Clustering** and **Occult Induction**. According to Reid, nature is ordered in such a way that humans are both enabled and invited to carve it up in a certain way. Some classes of individuals agree both in their obvious and in their occult properties in a remarkably consistent way. Furthermore, the mind is constituted so as to infer the presence of the occult qualities upon being presented with the more obvious ones. And, he notes, “in this we are seldom disappointed”. (ER.V.iv / 492)

On a view like this, the success of natural kind induction is less surprising. We are aided both by nature and by our innate constitution to form certain general

conceptions of species or genera. When engaging in the scientific enterprise, then, we are following a thoroughly natural drive to form certain classes of things which are united in sharing a cluster of attributes. This enterprise is aided by nature, which has apportioned things so as to make such line-drawing not only natural but usually successful. Kornblith (1993, 42) puts the view which I interpret Reid as holding implicitly as follows: “Inductive inferences can only work, short of divine intervention, if there is something in nature binding together the properties which we use to identify kinds.” (Though, as we shall see, Reid is not so quick to dismiss the possibility of intervention by the Deity.)

Why does Reid officially think that induction in general is rational, or justified? Because it is an original principle of the human mind, a first principle of contingent proof, and thus has the same sort of justification as all of his other canons of common sense.¹⁸ They are not open to demonstration, and may admit of exceptions, but they need not be demonstrated. His summary of the principle is as follows in the *Essays*:

[I]n the phenomena of nature, what is to be, will probably be like to what has been in similar circumstances. (ER.VI.v / 643)

In *An Inquiry into the Human Mind*, it is discussed in this way:

All our knowledge of nature beyond our original perceptions, is got by experience, and consists in the interpretation of natural signs. The constancy of nature’s laws connects the sign with the thing signified, and, by the natural principle just now explained, we rely upon the continuance of the connections which experience hath discovered; and thus the appearance of the sign, is followed by the belief of the thing signified.

18. See for instance Anstey (1995) and Laudan (1981, 97-103).

Upon this principle of our constitution, not only acquired perception, but all inductive reasoning, and all our reasoning from analogy is grounded: and therefore, for want of another name, we shall beg leave to call it the *inductive principle*. (I.VI.xxiv / 245-6)

And elsewhere, he writes that:

[Inductive reasoning is f]ounded partly on Facts observed by our selves... [and] partly on Certain Maxims of common Sense by which we reason from such facts. The Maxims of Common Sense which we use in Reasoning from facts may I apprehend be all reduced to this One that Nature is governed by fixed Laws.¹⁹

But there is another, less explicit line of justification on offer.

Reid says that the naming of a species is made both easy and important by nature. In support of this he offers three considerations:

[F]irst, We perceive numbers of individual substances so like in their obvious qualities, that the most unimproved tribes of men consider them as of one species, and give them one common name.

Secondly, The more latent qualities of substances are generally the same in all the individuals of a species: so that what, by observation or experiment, is found in a few individuals of a species, is presumed, and commonly found to belong to the whole. *By this we are enabled, from particular facts, to draw general conclusions* [emphasis mine]. This kind of induction is indeed the master key to the knowledge of nature, without which we could form no general conclusions in that branch of philosophy.

19. Reid (2005, 183). See also pp. 173-4: “[induction relies upon] the presumption we naturally have of the uniformity of Nature and of its being governed by fixed laws.”

And, *thirdly*, By the very constitution of our nature, we are led, without reasoning, to ascribe to the whole species what we have found to belong to the individuals *It is thus we come to know that fire burns, and water drowns; that bodies gravitate, and bread nourishes* [emphasis mine]. (ER.V.iv / 501-2)

The second of these is an expression of both **Natural Clustering** and **Occult Induction**. The first consideration is, I think, meant to be a piece of evidence this kind-formation is a wide-spread phenomenon among humans, which is one of the considerations Reid thinks is crucial in order to declare a particular principle or practice part of the original constitution of human nature. And the third consideration is a broad principle of induction which explicitly involves reference to kinds or species (“fire”, “water”, &c.).²⁰

So we can piece together something like the following answer. Kind-induction is rational because it is a species of induction, which is among the principles of common sense. But there is also a series of complex interlocking justifications for it which go beyond mere appeal to the canons of common sense. For one thing, nature is constituted in such a way that one can defeasibly infer the occult attributes of a species from the presence of the obvious ones.

This helps to bring out an important feature of the justification we’re trying to reconstruct: On its own, the fact that induction is rational *is not enough* to answer the question of stability we’re entertaining. Consider, for instance, TwoNaBlue, the class of objects which share the attributes of being blue and of containing an even number of sodium atoms. Making an inference from “this thing is blue” to “this thing contains an even number of sodium atoms” can be unwarranted

20. One might object: “bread” is not a natural kind, so this passage doesn’t seem to have anything to do with natural kinds exclusively. I respond thus: Recall that earlier we saw textual evidence that when Reid says “species” he means something like natural kinds. Hence it doesn’t seem to matter that it doesn’t deal *exclusively* with natural kinds, so long as he *at least* deals with natural kinds in the passage.

even if inductive inferences are generally warranted. What guarantees that kind-inductions do not suffer from the same sort of lack of warrant? If all we have to go on is a general inductive principle, we may not have any guarantee of this.

This is where **Natural Clustering** comes into play. The reason that our kind-inductions are not open to the worries about lack of warrant that our TwoNaBlue-inductions are is that nature clusters kind-properties together in a way that it does not cluster TwoNaBlue properties together. The obvious properties of a species, or rather their co-presence, lead us naturally to the occult properties. This allows one defeasibly to infer, in any particular case, that the occult properties are present when the obvious properties are. On the other hand, being blue (we may presume) is not similarly a natural sign of having an even number of sodium atoms, and so the formation of the belief in the latter on the basis of the belief in the former is not warranted in the same way.

So here we get an answer both to (*Q*) and to the accompanying question of why these inferences are rational (these are related, but not identical). Kind-induction is stable (that is, it seems to come out right remarkably often) because nature has made the co-presence of the obvious properties of a species (or at least some number of them) a natural sign of the occult qualities. And it is rational both because induction in general is rational and because a belief in the presence of the sign warrants believing in the existence of the thing signified.

Reid does not use this language of sign and signified in his discussion of **Natural Clustering** in the *Essays*, but it is a fairly conservative extension both of what he says there and of what he says about natural signs in I.V.iii. It isn't immediately clear whether these signs should fall under the first or third class of natural signs (these are natural signs "whose connection with the thing signified is established by nature, but discovered only by experience", and natural signs

“which, though we never before had any notion or conception of the things signified, do suggest it, or conjure it up, as it were, by a natural kind of magic, and at once give us a conception, and create a belief in them” (I.V.iii / 66-7). The fact that we can make our conceptions of species and genera sharper through repeated experimentation and investigation suggests that they fall under the first class. The fact that we are supposedly invited to engage in these inductions simply from our constitution and the constitution of nature, prior to any rigorous investigation, suggests that they might belong on the third class. Were I compelled firmly to come down on one side, I would probably put them under the heading of the first class; these are, Reid says, the “basis for true philosophy” (I.V.iii / 68), and since natural kinds feature prominently in “true philosophy” (which is to say, natural philosophy), the classification seems straightforward. But the precise categorization is not as important as demonstrating that Reid’s system can in fact provide an answer to (Q) with only a very conservative extension of its principles.

Before moving on, a slight detour. I have been running together, implicitly, three separate kinds of inductive inferences. An example of the first is: a particular object has properties A, B, and C; this other object has properties A and B; therefore, this other object has property C. An example of the second kind is: these two objects have the same obvious properties, therefore they have the same occult qualities (this makes use of **Natural Clustering**). An example of the third is: this object has properties A, B, and C; the co-presence of properties A, B, and C are a natural sign of property D; therefore this object has property D. My official position is that these are all varieties of the same inference, in which we infer the presence of occult properties (read: properties that are not immediately obvious) from obvious properties, where the latter are a natural sign of the former. This can happen in a comparison of two objects (as in the case of

the first and second inferences) or in the case of a single object (as in the case of the third inference, provided one has antecedent knowledge of the natural signs of property D).

5. WAS REID A REALIST?

One final score should be settled here: Is Reid a realist about natural kinds?

On the one hand, he describes them using some language which sounds remarkably realist, and the answer to (Q) given immediately above has some strikingly realistic tinges. But, on the other hand, his militant anti-hypotheticalism seems to count against this position, since, while he thinks we have good reason to believe that we have general conceptions, natural kinds as something *other than* our general conceptions seem a great deal like a hypothesis, whose use Reid disdains.²¹ Further, he explicitly endorses the view that general conceptions in general, and therefore natural kinds in particular, have no real existence. He even goes so far as to write strongly conventionalist-sounding things like the following passage

From what original are [universals and kinds] formed? . . . It appears to me, that the original from which [universals or kinds] are copied, that is, the thing conceived, is the conception or meaning which other men who understand the language affix to the word.

Things are parcelled into kinds and sorts, not by nature, but by men. (ER.IV.i / 393)

This is taken to be a definitive statement against realism about universals, and hence natural kinds, by such commentators as Lehrer (1985) and Nichols (2002, 590-1). Apparently there is a compelling strand of species anti-realism in Reid's

21. See Ducheyne (2006, 177-182), McMullin (2001, 303-5), and Laudan (1981, 89-97) for a reading of Reid as anti-hypothetical. There has been some question as to whether he was consistent on this score; see for instance Dea (2005).

thought. If my interpretation is correct, what are we to make of this tension in his thought?

I do not claim that Reid was a realist about universals wholesale. I also do not claim that Reid was a classic Platonist, even though he endorses certain parts of the Platonic claims. I draw that inference in this way. He writes that “[t]he Pythagoreans and Platonists gave the name of *ideas* to such general objects of conception, and to nothing else.” (ER.V.v / 507) And he clearly thinks that (here I have to be careful) there are such general objects of conception, though they do not have the sort of real existence which individuals have. There is also this passage on Platonic ideas in Essay IV: “Take away [the attribute of existence], all the rest, however pompously expressed, are easily admitted and understood.” So he endorses much of the Platonist view of ideas. But as we saw above, Reid rejects the parts of the Platonist view upon which ideas are “eternal and self-existent, and that they have a more real existence than the things we see and feel.” (ER.V.v / 507) So he is in no way what we would call a Platonist.

However, Reid also appears to believe that general conceptions are “the patterns and exemplars according to which the Deity made everything that he made; for the work must be conceived by the artificer before it is made.” (ER V.v / 508) This seems to suggest a sort of “Platonism” after the mold of Augustine, in which universals are simply divine conceptions. This reading is also lent some support by looking at the part of the Platonist view which Reid rejects: that ideas are eternal, self-existent, and more real than the physical world. He writes:

Take away the attribute of existence, and suppose them not to be things that exist, but things that are barely conceived, and all the mystery is removed; all that remains is level to the human understanding. (ER.V.v / 507)

In Essay IV, Reid says some very similar things about the Platonists. He reasons that their error was to draw a false conclusion from a true premise. The true premise is that

Works of design and art must be distinctly conceived before they are made. The Deity, as an intelligent Being, about to execute a work of perfect beauty and regularity, must have had a distinct conception of his work before it was made. *This appears very rational.* [emphasis mine] (ER.IV.ii / 411-2)

The false conclusion is that

this conception, being the work of the Divine intellect, something must have existed as its object. (ER.IV.ii / 411-2)

He writes later on that

If those ancient philosophers had thought it possible that the Deity could operate without materials in the formation of the world, and that he could conceive the plan without a model, they could have seen no reason to make matter and ideas eternal and necessarily existent principles, as well as the Deity himself. (ER.IV.ii / 413)

And later he writes, as he does virtually word-for-word in Essay V:

The nature of every species, whether of substance, or quality, or of relation, and in general every thing which the ancients called a universal, answers to the description of a Platonic idea, *if in that description you leave out the attribute of existence.* [emphasis mine] (ER.IV.ii / 415)

By “attribute of existence”, it seems clear that what Reid has in mind is existence as a model for divine conceptions which pre-exists them. He thinks that conceptions generally do not enjoy real existence, though what precisely

this is supposed to mean is rather fuzzy. I will not attempt to enmesh myself in this debate, as that would be beyond the scope of this paper. My point is simply that, whatever the status of general conceptions, Reid thinks that (a) species are patterned after divine conceptions, and hence do not track merely arbitrary divisions in nature, and (b) whatever status as regards existence general conceptions enjoy is the same as these enjoy.

How are we to reconcile these passages with the conventionalist ones seen above? Here is one way to do it. Reid is a conventionalist in the sense of WEAK. He holds that the conceptions to which natural kind terms refer are set by competent language users. He writes:

That such general words may answer to their intention, all that is necessary is, that those who use them should affix the same meaning or notion – that is, the same conception to them. The common meaning is the standard by which some conceptions are formed, and they are said to be true or false according as they disagree with it. . . . that meaning is the conception affixed to it by those who best understand the language. (ER.IV.i / 393-4)

So we do not learn the meaning of general terms by means of accessing Platonic forms through memory, or anything of that variety. (I take it that this is the target of Reid's remarks about men, and not nature, parcelling things according to kinds.) We learn these meanings through our coming to know what "the men who best understand the language" take the word to mean. And that meaning is conventionally stipulated. Whether or not the claim "x is an electron" is true is, in at least the proximate sense, settled by convention.

But this view, by itself, does nothing to settle the claim of what led the language users to determine that a particular conception was the meaning of a word in the first place. It is here where, as I read Reid, he departs from STRONG. As we

saw in a previous section, he thinks that the constraints on the formation of general conceptions in the first place are not exhausted by utility. Instead, there is a certain amount of natural aid that we are given in the formation of certain conceptions. And since the operations of the mind, and the natural conditions of conception formation, are fairly uniform as regards conceptions answering to the natural world, it is plausible to think that the conception to which competent language users refers is set according to some standard not purely conventional.

This plausibility is strengthened by Reid's belief in divine creation. As we saw above, he thinks that God created the entities in the natural world as ectypes of certain general conceptions, which suggests that there are natural divisions which competent language-users can track. Once one couples this with Reid's doctrine of natural signs (which we have examined briefly above), Reid appears to have at least a coherent view on offer.

6. CONCLUSION

In this essay, I have tested the conventionalism of Reid against a certain kind of problem of induction. I have argued that, while some conventionalist views are ill-suited to handle the problem, Reid's view has some resources which allow him to give a more satisfying answer, such as his account of how we acquire kind-conceptions. This allows him to skirt the problem of arbitrariness from which the other conventionalist account suffered. I have also tried to argue that, contrary to some interpreters, Reid is a sort of quasi-realist about natural kinds. When these two positions are combined, he is able to provide a series of interlocking reasons which allow him to maintain both his conventionalism about kind-conceptions and his commitment to the success of kind-inductions without significant tension.

REFERENCES

- Anstey, Peter R. 1995. "Thomas Reid and the Justification of Induction." *History of Philosophy Quarterly* 12 (1): 77–93.
- . 2011. *John Locke and Natural Philosophy*. New York, NY: Oxford University Press.
- Bird, Alexander. 2018. "The metaphysics of natural kinds." *Synthese* 195:1397–1426.
- Boyd, Richard. 1991. "Realism, Anti-Foundationalism and the Enthusiasm for Natural Kinds." *Philosophical Studies* 61 (1/2): 127–148.
- Campbell, Joseph Kelm, Michael O'Rourke, and Matthew H. Slater, eds. 2011. *Carving Nature at its Joints: Natural Kinds in Metaphysics and Science*. Cambridge, MA: The MIT Press.
- Castagnetto, Susan. 1992. "Reid's Answer to Abstract Ideas." *Journal of Philosophical Research* 17:39–60.
- Crane, Judith. 2003. "Locke's Theory of Classification." *British Journal for the History of Philosophy* 11 (2): 259–259.
- Dea, Shannon. 2005. "Thomas Reid's Rigourised Anti-Hypotheticalism." *Journal of Scottish Philosophy* 3 (2): 123–138.
- Ducheyne, Steffen. 2006. "Reid's adaptation and radicalization of Newton's natural philosophy." *History of European Ideas* 32:173–189.
- Elder, Crawford L. 2007. "Conventionalism and the world as bare sense-data." *Australasian Journal of Philosophy* 85 (2): 261–275.
- Faurot, J. H. 1978. "Thomas Reid, On Intelligible Objects." *The Monist* 61 (2): 229–244.

- Folescu, Marina. 2016. "Thinking About Different Nonexistents of the Same Kind: Reid's Account of the Imagination and its Nonexistent Objects." *Philosophy and Phenomenological Research* 93 (3): 627–649.
- Gallie, Roger. 1993. "Lehrer on Reid on General Conceptions." *British Journal for the History of Philosophy* 1 (2): 125–138.
- Goodman, Nelson. 1983. *Fact, Fiction, and Forecast*. Cambridge: Harvard University Press.
- Jones, Jan-Erik. 2007. "Locke vs. Boyle: the real essence of corpuscular species." *British Journal for the History of Philosophy* 15 (4): 659–684.
- . 2010. "Locke on Real Essences, Intelligibility, and Natural Kinds." *Journal of Philosophical Research* 35:147–172.
- Kaufman, Dan. 2007. "Locke on Individuation and the Corpuscular Basis of Kinds." *Philosophy and Phenomenological Research* 75 (3): 499–534.
- Kornblith, Hilary. 1993. *Inductive Inference and Its Natural Ground: An Essay in Naturalistic Epistemology*. Cambridge, MA: MIT Press.
- Koslicki, Kathrin. 2008. "Natural Kinds and Natural Kind Terms." *Philosophy Compass* 3 (4): 789–802.
- Laudan, Larry. 1981. *Science and Hypothesis: Historical Essays on Scientific Methodology*. Dordrecht: Springer.
- Leary, Nigel. 2009. "How Essentialists Misunderstand Locke." *History of Philosophy Quarterly* 26 (3): 273–292.
- Lehrer, Keith. 1985. "Reid on Conception and Non-being." *Grazer Philosophische Studien* 25 (1): 573–583.

- . 1987. “Beyond Impressions and Ideas: Hume vs. Reid.” *The Monist* 70 (4): 383–397.
- . 1989a. “Conception without Representation – Justification without Inference: Reid’s Theory.” *Noûs* 23 (2): 145–154.
- . 1989b. *Thomas Reid*. 1989: Routledge.
- Lehrer, Keith, and Vann McGee. 1992. “Particulars, Individual Qualities, and Universals.” In Mulligan 1992, chap. 3.
- Lovejoy, Arthur O. 2001. *The Great Chain of Being*. Cambridge: Harvard University Press.
- Lowe, E. J. 2001. *The Possibility of Metaphysics: Substance, Identity, and Time*. Oxford: Oxford University Press.
- McMullin, Ernan. 2001. “The Impact of Newton’s *Principia* on the Philosophy of Science.” *Philosophy of Science* 68 (3): 279–310.
- Mill, John Stuart. 1974a. *A System of Logic Ratiocinative and Inductive*. Vol. 1. Toronto: University of Toronto Press.
- . 1974b. *A System of Logic Ratiocinative and Inductive*. Vol. 2. Toronto: University of Toronto Press.
- Mulligan, Kevin, ed. 1992. *Language, Truth, and Ontology*. Dordrecht: Kluwer Academic Publishers.
- Nichols, Ryan. 2002. “Reid on Fictional Objects and the Way of Ideas.” *The Philosophical Quarterly* 52 (209): 582–601.
- Quine, Willard V. O. 1969a. “Natural Kinds.” In Quine 1969b, 114–138.

- Quine, Willard V. O. 1969b. *Ontological Relativity and other essays*. New York: Columbia University Press.
- Reichenbach, Hans. 1938. *Experience and Prediction*. Chicago: University of Chicago Press.
- Reid, Thomas. 1969. *Essays on the Intellectual Powers of Man*. Cambridge, MA: The MIT Press.
- . 1970. *An Inquiry into the Human Mind*. Edited by Timothy J. Duggan. Chicago: The University of Chicago Press.
- . 2005. *Thomas Reid on Logic, Rhetoric, and the Fine Arts*. Edited by Alexander Broadie. Vol. 5. The Edinburgh Edition of Thomas Reid. University Park, PA: Pennsylvania State University Press.
- Rysiew, Patrick. 2014. “Reid’s First Principle #7.” *Canadian Journal of Philosophy* 41 (S1): 167–182.
- Stuart, Matthew. 1999. “Locke on Natural Kinds.” *History of Philosophy Quarterly* 16 (3): 277–296.
- Tahko, Tuomas E. 2012. “Boundaries in Reality.” *Ratio* XXV (4): 405–424.
- Thomassen, Amie L. 2007. *Ordinary Objects*. Oxford: Oxford University Press.
- Van Cleve, James. 2015. *Problems from Reid*. New York, NY: Oxford University Press.
- Varzi, Achille. 2011. “Boundaries, Conventions, and Realism.” In Campbell, O’Rourke, and Slater 2011, chap. 7.
- Wilson, Aaron. 2013. “Reid’s Account of Judgment and Missing Fourth Kind of Conception.” *Journal of Scottish Philosophy* 11 (1): 25–40.

Wolterstorff, Nicholas. 2001. *Thomas Reid and the Story of Epistemology*. Cambridge: Cambridge University Press.