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"Human" as a Natural Kind

- a solution to the problem of marginal cases?

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A. Introduction and objectives

In this paper, I want to apply findings from work on laws of nature and, especially, natural kinds, to the assessment of a specific type of argument – the "natural kind argument" – which I have encountered in my work on the ethical debate of the moral status of human beings as compared to nonhuman sentient animals.

At the focus of this paper, however, are not the ethical questions themselves, but rather questions concerning the concept of "natural kind": can and should it be applied to the term "human"? How can we understand "natural kinds"? Are they useful in the area of distinction between beings we consider human[1] and nonhuman beings? What role does essentialism play in this field – are there "essentially human" properties, a "human essence"? If there is such a thing, is it to be defined in biological or in non-biological terms? Can a "human natural kind" be defined and understood in such a way that it, non-arbitrarily, includes all beings we commonly regard as human, while excluding all non-human beings? This leads to my central question: is a use of the concept "natural

[1] In the following, I will use "human" in a very loose sense, i.e. not in the sense of any artificial biological, theological or philosophical definition of the term. If not otherwise specified, the term should be understood in the way it is used in everyday speech.

kind" in regard to "human" at all conducive to the solution of the so called problem of marginal cases?

The latter is one of the central problems of the speciesism debate, i.e. the debate around the question whether humans should or can be assigned moral status that is fundamentally different from that of non-human animals. Speciesists[2] try to do so by naming a morally relevant property that sets humans apart from non-humans. Anti-speciesists claim that, however, there is no single property that all humans and only humans have in common. That is because there are “marginal” or “atypical” humans who do not exhibit the chosen property (be it rationality, language capacity, free will, or even sentience). The concept of a “natural kind ‘human’” (which would encompass even the most atypical of humans) has been used by speciesists in order to rebut this objection.

For a in-depth assessment of this approach, I will set out by describing the way "kind arguments" and "natural kind arguments" are used (and criticized) in the speciesism debate (B I). It will become clear that the notion of "human as natural kind" is quite common in philosophers' approaches (B II), and that one reason for this is that it (*prima facie*) it is a useful defense against the problem of marginal cases (B III).

In the course of discussing this assumption, I will present two basic ways of understanding the concept of "natural kind", namely, essentialistic and non-essentalistic interpretations (C I). I will also offer an explanation for this essentialist/non-essentialist divide (C II) which will, later on, serve as part of an explanation for the fact that most people are "human essentialists" (C III). We will see that the "natural kind arguments" that interest us depend on developing an essentialist (rather than non-essentialist) conception of the human natural kind.

I will then discuss different approaches at defining a "human essence" – biological ones, i.e. approaches based on "species membership" (D I), non-biological ones (D 2), and I will describe a strategy that relies on denying that we need to define human essence in order to be "human essentialists" (D III).

In my last chapter, I will present my conclusion regarding the question of whether "natural kind arguments" are useful for dissolving or circumventing the problem of

[2] The term “speciesism” was originally derived from an analogy to unsavory “-isms” and therefore used to have a decidedly deprecative connotation. Today, however, it is increasingly used in a neutral, descriptive manner (even by “speciesistis” themselves). My use of “speciesism” should be understood in the latter, neutral way, not as an analogy to racism or sexism.

marginal cases. Finally, I will try and offer an explanation of why "human essentialism" is still so very ubiquitous in a time where essentialism in general does not have many followers anymore (E).

B. From Kind Arguments to Human as a Natural Kind

I. Cohen's 'Kind' Arguments

'Kind arguments', as they have been dubbed by Nathan Nobis,[3] are used to assign a certain moral status to potential objects of morality, i.e. potential moral patients. They do so by stating that the individual potential moral patient (or a whole set of those beings) does have a certain moral status *in virtue of being of a certain kind*.

An exemplary case of this type of argument can be found in Carl Cohen's justifications of the assignment of rights to human beings, but not to nonhuman animals. He writes:

> *"Animals (…) lack this capacitiy for free moral judgment. They are not beings of a kind capable of exercising or responding to moral claims. Animals therefore have no rights, and they can have none."*[4]

And, regarding marginal or atypical cases:

> *"Persons who are unable (…) to perform the full moral functions natural to human beings are certainly not for that reason ejected from the moral community. The issue is one of kind. Humans are of such a kind that the may be the subjects of experiments only with their voluntary consent."*[5]

Nobis criticizes Cohen's argument very exhaustively, starting with the point that kinds do not have moral properties, as such (only their members have),[6] discussing what kind of "kind" Cohen could have had in mind (section 6), and (in section 9) comes up with a reconstruction or spelling-out of the general strategy or basic principle that, in his view, is behind Cohen's remarks. This, Nobis calls the "Getting a Property by Association Principle" which can be summarised as: *If an individual is a member of a kind the*

[3] Nobis (2004), "Carl Cohen's 'Kind' Arguments For Animal Rights and Against Human Rights", *Journal of Applied Philosophy* **21**(1), p. 78.
[4] Cohen (1986), "The Case For the Use of Animals in Biomedical Research", *The New England Journal of Medicine* **315**(14), p. 866.
[5] Ibid.
[6] Nobis (2004), "Carl Cohen's 'Kind' Arguments For Animal Rights and Against Human Rights", *Journal of Applied Philosophy* **21**(1), pp. 46-47.

majority of whose members have property x, and, on the basis of x, property y, then the individual has property y as well, even though he does not have property x.

In a reductio ad absurdum of this principle, Nobis gives the example of a class whose participants have done their work (property x) and, accordingly, pass the test (property y). One student does not have property x, i.e., has not done any homework or preparation for the final exam. Since the lazy student belongs to the kind "students taking this class", however, "the properties from the majority transfer(s)" to him and he passes, too. Similarly, the property "serving a life sentence" could rub off on an innocent visitor to a prison all of whose inhabitants share the property of "having committed a heinous crime."[7]

Interpreted this way, Cohen's argument certainly fails to persuade. Can his claim that something has a certain moral status just because it belongs to a certain "kind" be interpreted in a more charitable way?

II. Human as a natural kind

Levy, in a response to Nobis,[8] is trying to do exactly that. How is Cohen's reference to "kinds" to be understood? Nobis, critical of Cohen's approach, holds that every grouping of things into kinds is arbitrary. He writes:

> *"Making the issue 'one of kind' is highly problematic since humans and animals are all members of infinitely many kinds or classes: we are all 'tokens' of many 'types'. It is very difficult (if not impossible) to identify what **kind** one is in a non-arbitrary manner since no one group or kind can reasonably be said to be **'the'** group or kind that someone is a member of."*[9]

Levy contests this statement: he believes that "there is good reason to think that animals, including human beings, can be classified into kinds in ways that 'cut nature at its joints'."[10] He wants to rescue Cohen's arguments by reference to natural kinds.

Natural kinds, to give a very tentative and not very useful definition, are generally understood as *non-arbitrary categories of natural objects.* Levy accepts LaPorte's (more useful) definition, according to which a natural kind is a "kind with explanatory

[7] Ibid.
[8] Levy Ibid."Cohen and Kinds: A Response to Nathan Nobis".
[9] Nobis Ibid."Carl Cohen's 'Kind' Arguments For Animal Rights and Against Human Rights", **21**(1), p. 51.
[10] Levy Ibid."Cohen and Kinds: A Response to Nathan Nobis", p. 215.

value."[11] The "natural kind" is supposed to figure in natural laws which, in turn, deliver explanations for scientific purposes. (We will come to a more thorough discussion of what natural kinds are or could be below).

Having established non-arbitrariness in kinds, Levy takes the second hurdle of explaining why membership in the natural kind "human species" is morally relevant: firstly, he thinks that such a theory best suits our intuitions and therefore (according to Rawls) is a good normative theory (possible modifications and change of initial intuitions notwithstanding). Secondly, he believes that, since morality was shaped by the evolutionary process, we might have an internal bias to extend our "moral considerability to members of our own species, whatever their non-relational properties."[12]

Note that Levy's defense of the moral relevance of membership in the natural kind "human being" – though I find it to be not very convincing – is not at the focus of this paper; I will instead concentrate on discussing his primary claim: that there are natural kinds that can rightly be described as non-arbitrary, and that "human" or “member of the human species” is such a natural kind.

Levy is not the only philosopher to assume that “human” is a natural kind: Richard Gray, in a discussion of the question whether persons are members of a natural kind, assumes at the very outset of his inquiry that "Members of natural kinds, e.g. quarks, electrons, gold, molecules, viruses, human beings etc. form natural divisions in the fabric of the universe." [13] Similarly, David Wiggins, in a discussion of the problem of personal identity, remarks that "homo sapiens" is a "real essence", and, in general, seems to defend the view that, since species are natural kinds, the human species is one, too.[14]

Others, in a manner similar to Cohen, make use of “natural kind” arguments in order to make explicitly ethical points: Daniel Sulmasy, e.g., employs the concept of the "human as a natural kind" to explain the difference between intrinsic and extrinsic dignity. Human dignity (“Dignity”), in particular, is a type of intrinsic value (i.e. value "in itself") that human beings have "solely by virtue of [their] being the kind of thing that

[11] LaPorte (2004), *Natural Kinds And Conceptual Change*, Cambridge, Cambridge University Press, p. 19.
[12] Levy (2004), "Cohen and Kinds: A Response to Nathan Nobis", Journal of Applied Philosophy, p. 216.
[13] Gray (2002), "Are Persons Members of a Natural Kind" in: *Proceedings: Wittgenstein Symposium Kirchberg X*, edited by Kanzian,Quitterer and Runggaldier, Kirchberg am Wechsel.
[14] Wiggins (1976), "Locke, Butler, and the Stream of Consciousness: And Men as a Natural Kind" in: *The Identities of Persons*, edited by Rorty, Rorty, A.

[they are]", more specifically, it is the "highest level of intrinsic value that a natural kind can have."[15] "Natural kind", for Sulmasy, designates a "category of entities, all the members of which, by virtue of being brought under the extension of the kind, can be necessarily known to be that sort of thing (…). What is in the world is given – in a shapely, differentiated way."[16] Human beings, according to Sulmasy, are of a natural kind whose "kind-typical capacities" (among others language, rationality, love, free will) give them the special high value of "Dignity."

III. Natural Kinds – a solution to the problem of marginal cases?

We can see, in this formulation, that Sulmasy is making a move that is very similar to what Nobis described in his critique of Cohen as "Getting a Property by Association Principle": all beings that are in the "human natural kind" will be endowed with a property y ("having Dignity"), independently of whether they *actually* exhibit property x ("having the capacity to language, rationality, love…") – It is enough that they *belong to a kind* for which those capacities seem to be characteristic or typical (Sulmasy actually states that "individuals have intrinsic value only by virtue of being members of a particular kind"). Sulmasy seems to think that using the concept of "natural kind" (instead of just "kind") makes it permissible to come to such conclusions.

What Sulmasy's and Cohen's approaches, obviously, have in common, is a proposed solution to what in the speciesism debate is called the problem of marginal cases. To anyone who justifies the fundamentally different moral status of human beings (as opposed to non-human sentient beings) by refering to superior qualities of human beings, the fact that there are many beings who qualify as "human" but, for whatever reason, do not exhibit those superior qualities is a problem that needs to be considered. In Cohen's case, the superior qualities are "the capacity for free moral judgment (…), the capacity to comprehend rules of duty."[17] In Sulmasy's case, they are "capacities for language, rationality, love, free will, moral agency, creativity, and ability to grasp the finite and the infinite" and, surprisingly, even "aesthetic sensibility."[18] It seems quite clear that not everyone who is commonly considered a human being does meet these high standards. What Sulmasy and Cohen – and many others – have in mind when

[15] Sulmasy (2005), "Dignity and the human as a natural kind" in: *Health and Human Flourishing*, edited by Taylor and Dell'Oro, Georgetown University Press.
[16] Ibid.in: edited by, pp. 76-77.
[17] Cohen (1986), "The Case For the Use of Animals in Biomedical Research", *The New England Journal of Medicine* **315**(14), p. 866.
[18] Sulmasy (2005), "Dignity and the human as a natural kind" in: *Health and Human Flourishing*, edited by Taylor and Dell'Oro, Georgetown University Press, p. 78.

assigning the “natural kind” status to human beings is a circumvention of this basic problem: how can we assign uniquely high moral status to all humans (and, some emphasize, only to humans), even if not all of them have the qualities that makes the human natural kind special?

What I will focus on in the following inquiry is not whether the qualities picked by Sulmasy or Cohen are the right (morally relevant) ones, or whether it is suitable to aim at a solution that picks "only, and all" humans as opposed to other sentient animals, i.e., at speciesism – rather, I am interested in the question *whether the use of the concept "natural kinds" makes such a solution easier and/or more convincing than simply stating "humans have rights/Dignity – animals do not, and they cannot."* This will fundamentally depend on whether such an approach succeeds in picking out all (and only) human individuals in a convincingly non-arbitrary way.

In order to do so, we will have to have a concise look at the natural kind concept in general, and especially at the role of essentialism in this debate.

C. Essentialism and Natural Kinds

I. The essentialist/non-essentialist divide

Above, I described natural kinds as "non-arbitrary categories of natural objects." What else can be said about the concept of natural kinds? What is it that distinguishes a "natural kind" from other classes? There are different ways of answering this question.

"Natural Kind" is a term that – in the context of contemporary philosophy – was first brought up by W.V.O. Quine's seminal paper "Natural Kinds" (originally published in 1969).[19] Here, Quine used the distinction between natural kind terms and and other terms in order to explain projectibility of predicates, i.e. induction, and thereby the possibility of science. Natural kinds are kinds bound by special predicates.

Essentialist views, by contrast, state that kinds differ by their individual members' partaking in an *essence*. An essence is a property or set of properties that "make the kind what it is", i.e. a necessary defining characteristic, understood as intrinsic, indispensable, *essential* and – most importantly – not stemming from a conventional definition, but, so to speak, from nature itself. Essentialist views have influenced the natural kind concept – as Daniel Dennett puts it:

[19]Quine (1999), "Natural Kinds" in: *Metaphysics. An Anthology*, edited by Kim and Sosa, Malden, Oxford, Blackwell.

> *"(…) there is much discussion on philosophy these days about "natural kinds," an ancient term the Philosopher W.V.O. Quine (1969) quite cautiously resurrected for limited use in distinguishing good scientific categories from bad ones. But in the writings of other philosophers, "natural kinds" is often sheep's clothing for the wolf of real essence."*[20]

"Real essences" are usually contrasted to "nominal essences" – i.e. essences determined by the meaning of a term. In this sense, it is a necessary property of a bachelor that he is unmarried, precisely (and exclusively) because the definition of the term bachelor is "unmarried man." Essentialists, by contrast, believe that there is necessity that goes further than that. Regarding natural kinds, they believe that the members of these categories have more in common than their denotation.

The question of whether natural kinds are "real" (i.e. whether there are real essences) or conventional dates back to Locke's time. Locke believed that we had no way of accessing the "real essences" of things – they are determined by things' unobservable micro-qualities which we cannot find out about with empirical means. All we can do is use the observable qualities of things, try and find regularities and hypothesize about the real nature of things.

Modern essentialist concepts like Putnam's or Kripke's deviate from Locke's skepticism and claim that, in fact, we *can* link nominal essence to real essence. When we name a kind, we refer to all others that are the "same kind", even if we do not know the micro-qualities involved (Locke's "unobservables"). As Jasper Reid puts it: "Putnam's theory of naming is designed to give us a way to use microstructural properties without knowing what they are."[21]

As I have lined out, there are two ways of answering the question of what natural kinds are. One answer is that natural kind terms are terms that have a special relevance for science, and that natural kind predicates are projectible (while others are not). Another answer is that there are real kinds in nature whose members we can "pick out" successfully by using natural kind terms.

[20] Dennett (1995), *Darwin's Dangerous Idea*, London, Penguin Books, p. 39.
[21] Reid (2002), "Natural Kind Essentialism", *Australasian Journal of Philosophy* **80**(1), p. 67.

II. A linguistic interpretation of the essentialist/non-essentialist divide

Jasper Reid, in his paper "Natural Kind Essentialism", gives an insightful explanation of these fundamentally differing concepts of natural kind. Reid's interpretation of the issue is a linguistic one: he thinks that people have preferences for or against essentialism not primarily because of convictions regarding the "real" existence of kinds (in the metaphysical/ontological sense), rather, they tend to have essentialist or non-essentialist intuitions depending on what their *linguistic* preferences in this area are. Both essentialists and non-essentialists regarding natural kinds want to categorize. Categorization, Reid explains, has two aims: *stability* ("We do not want things to flit in and out of their extensions"[22]) and *recognizability* (i.e. when confronted with things, one should be able to easily classify them as either belonging to the natural kind or not). Unfortunately, there is a trade-off between the two objectives: one cannot have both. If stability is one's primary objective, one will do better with a concept of natural kind that ties the extension of the natural kind term to microscopic properties of things (i.e. atomic structure regarding the natural kind "water") – an essentialist system. This, according to Reid, is because microscopic properties of things are not easily alterable. If, on the other hand, one needs a categorisation system that makes recognizability a priority, one should rather, in a non-essentialist way, tie the extension to macroscopic properties – they are easy to ascertain. The advantages and drawbacks of these two systems are neatly illustrated by an analogy regarding the use of singular referring terms:

> *"Suppose there is a pair of identical twins, running about in a room, and one has been told their names but not which name goes with which child. One might want to refer to one of the children, and to know to which of them one is referring, in wich case one might use a definite description like 'the one near the door'. One would know to which child one was referring: but the cost would be that in a few moments (…) its reference would have switched to the other child. Suppose, then, that one wanted to refer to one of them in such a way that the reference would remain stable. Then one would use one of the names one had been given: but the cost would be that one could not identify which it was to whom one was referring."*[23]

[22] Ibid., p. 69.
[23] Ibid., p. 71.

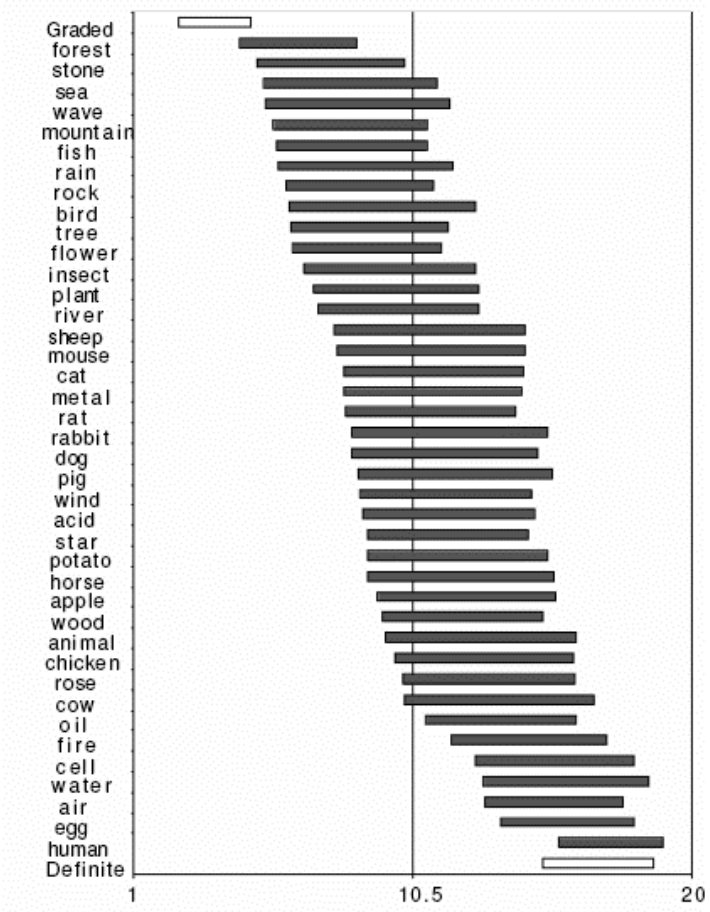
Reid closes with the observation that natural kinds are sometimes rightly understood in an essentialist way, while in other circumstances, a non-essentialist interpretation is required; and also with the comment that usually, it does not matter which one we choose, because problems caused by differing decisions regarding essentialism/non-essentialism only begin to emerge in contexts where "microscopic and macroscopic properties of things come significantly apart."[24]

This is, to come back to our original question, exactly what happens in the case of "marginal cases" of human beings: they – in theory – share microscopic properties with all other human beings, e.g. "species membership determined by genetic setup" (possible problems of such an approach will be discussed later on), but they might miss out on macroscopic properties like rationality, free will, language capacity, or, to take a less common, but especially plausible example, the property of "looking like a (typical) human being." While in "typical" humans, no problem will arise, in the case of "atypical" human beings (not fully developed, diseased or genetically abnormal individuals) these differing views will lead to the conflict anticipated by Reid for cases where microscopic and macroscopic properties "come significantly apart."

III. Prevalence of “Human Essentialism”

Such conflicts, however, are not common, because there is an overwhelming tendence of people to be "human essentialists". Empirical studies show that the term "human" is one that is predominantly understood in an essentialist way. Charles Kalish, in a general assessment of the prevalence of essentialism regarding natural kind terms, defines natural kind as "those categories of naturally occurring objects that are not clearly arbitrary or based on social/instrumental criteria", and aims at providing a "clear test of the hypothesis that people are essentialists about natural kind categories."[25] Essentialism was measured by two criteria: firstly, by the prevalence of the assumption of absolute rather than graded membership, secondly, by the prevalence of the belief that the categorization is determined objectively (rather than conventionally). I include Kalish's figure on essentialist attitudes regarding a multitude of terms because the term "human" definitely stands out here: the participants of the study gave it the most "essentialist" rating of all terms provided (even more essentialist then, e.g. "water"):

[24] Ibid., p. 74.
[25] Kalish (2002), "Essentialism to some degree: Beliefs about the structure of natural kind categories", *Memory & Cognition* **30**(3).



Ninety-five percent confidence intervals for essentialism scores, see Kalish (2002), p. 343.

The term "human" is apparently understood in an essentialistic way by most participants: they tend to think that there is no continuum between human and non-human (i.e. that no thing is "intermediate"), that human-ness is an absolute thing (even an atypical human is "100% human") and that the distinction between human and non-human is a matter of "discovered fact" (not of decided-upon convention). One could also interpret this as stating that *people believe that human is a real kind in nature.*

Why is there such a strong "human essentialist" conviction, not only regarding philsophers, but also ordinary people?

A central question for anyone who wants to understand the prevalence of "human essentialism" certainly is: What is the "human essence"? The probably most proximate answer to this question: human essence could be defined in terms of *biological species membership*. In the following Chapter, I will discuss whether that is a good idea and whether it helps the "human essentialist" to substantiate his deeply held conviction.

D. Looking for the "Human Essence"

I. Human essence, biologically defined

The human essentialist, as described above, is in need of a "human essence." In Jasper Reid's terminology, he must pick (or rather: discover) a stable microscopic property to tie his extension of the term "human" to.

The human essentialist – firstly – needs to find a property that all human beings, and only human beings, have (condition of *essence*). Secondly, said property must be non-arbitrary, i.e. reflect a genuine grouping existant in nature, independently of human convention (condition of *real* essence). A likely candidate for this is the *property of species membership*: all human beings – and only those – have in common that they belong to the species *homo sapiens*. And prima facie, the grouping of living beings into species seems anything but arbitrary. If anything is a "real" grouping that is present in nature, to a layman, it's species of living beings (and maybe chemical elements). Accordingly, the property of species membership seems like a good candidate to fulfil both the essence and the real essence condition and deliver the "human essence" the essentialist is looking for.

However, both points are not as evident as they seem. The fulfilment of both conditions depends on what concept of species one has and what one means when one says "x belongs to a species."

a. Species as essences

The most direct way species membership could deliver a "human essence" would be that of assuming that *species are essences*, themselves. Species have served as "paradigmatic examples of natural kinds with essences" since Aristotle's time, and they continue to do so in philosophical environments, as Marc Ereshefsky points out in a philosophical introduction to the term "species."[26] However, as he goes on to emphasize, the tenets of kind essentialism are, on a very fundamental level, not in tune with modern biological species categorization.

i. "Essential" morphological traits?

The essentialist looking for a visible feature or measurable characteristic that *all* members of the kind have will have a hard time in modern biology: according to

[26] Ereshefsky (2006), "Species", Stanford Encyclopedia of Philosophy, edited by Edward N. Zalta retrieved 2007/03/14, from http://plato.stanford.edu/entries/species/.

empirical science, *any* trait in a species can disappear over time because of mutation, recombination and random drift. Finding a trait that is "unique" to members of a species is just as challenging, if you take into account the workings of evolution. As Ereshefsky puts it:

> *"[I]f that trait is to be unique to that species, it cannot occur in any other species for the entire existence of life on this planet. (…) The occurrence of a biological trait in all and only the members of a species is an empirical possiblitiy. But given current biological theory, that possibility is unlikely."*[27]

This is quite plausible even to the biological layman: evolutionary theories are based on the fundamental assumption that traits of living beings can and do change: no evolution without variability of traits.

These are not the only difficulties with species essentialism. Essentialism makes it impossible to accomodate for "vague" or blurred species boundaries – it cuts straight lines – but in modern biology, because of the things we know about the gradual process of speciation, of hybridization and ring species, this seems to be a dubious way to approach species. Also, essentialism, if it has any use at all, would claim to be able to give good explanations and predictions (regarding the traits of the species) based on what essence it has. This, again, seems to be out of touch with modern (darwinian) biology, which offers much better explanations for intra-species variability by refering to genetics and evolutionary forces, i.e. genetic selection: we do not need to resort to essences to explain the workings within species. Accordingly, the view that species should be regarded as essences is not tenable anymore.

ii. "Essential" genes?

Conceding this, there often remains the belief that – even if we differ to a wide degree in macroscopic properties – *all humans at least share "human genes"* (and all other species' members share common "species genes", just like us: there are "dog genes", "fly genes", "rose genes"). This reflects the hope that modern biology has somehow succeeded in finding out about the "microscopic" (formerly unobservable) property that was behind the conspicious grouping of living beings, and, ultimately, that modern, darwinian biology is reconcilable with species essences after all. Looking into this

[27] Ibid.

essentialist assumption as applied to human beings, we get a somewhat disillusioning result:

> *"(…) it is not the case that there is a certain part of an individual's genome that is 99.9% identical with every other human's genome. Although human beings might share 99.9% commonality at the genetic level, there is nothing as yet identifiable as absolutely common to all human beings. According to current biology, there is no genetic lowest common denominator, no genetic essence, 'no single, standard, normal DNA sequence that we all share."*[28]

There is genetic similarity, and there is probably even bigger genetic similarity between, e.g., a human and another human than between a human and any non-human. However, there are no "genetic essences." This is simply because, just like any other trait, genetic sequences fall under the law of variability spelled out above. Accordingly, construing "human essence" from "human genes" is a project that is bound to fail.

Biological species cannot be defined by essence. Essentialist species concepts are useless or at least ill-applied for modern biology, thus, the direct way of extracting a "human essence" from biology is blocked.

b. Non-essentialist species concepts

However, one could still try to derive a "human essence" from other, non-essentialist species concepts. Species may not be essences, but they might be defined by other non-ambiguos criteria that cut nature at its joints (i.e. that are non-arbitrary).

One example of non-essentialist species concept is the Biological Species (introduced by Mayr[29] and now standard textbook definition) which defines species membership by potential interbreeding: a species is a group of interbreeding natural populations that is reproductively isolated from other such groups (i.e. cannot have fertile offspring with members of other groups). Another approach, the Phylogenetic (or Evolutionary) Species, assumes that a species is defined by the sharing of an ancestor (it is, so to speak, a branch on the evolutionary tree). The theory of Ecological Species, to give another example, assumes that species are defined by their adaptedness to a specific environmental niche. A concept that was standard in Linnaeus' time, but has become

[28] Robert and Baylis (2003), "Crossing Species Boundaries", *American Journal of Bioethics* **3**(3), p. 4.
[29] Mayr (1949), *Systematics and the origins of species*, New York, Columbia University Press; Mayr (1969), *Artbegriff und Evolution*, Berlin, Parey.

more or less obsolete today, is that of Typological Species (species as defined by phenotype).

All these concepts – and there are many more – are, however, fraught with problems or rather: their range of application is limited. The Biological Species Concept, for example, does not cover the vast majority of species that reproduce asexually; also, it is unclear whether actual or potential interbreeding should be the determining factor – both leads to somewhat couterintuitive results. The Evolutionary Species concept is helpful in species observation that goes over time, but is (by definition) vague or counterintuitive regarding the point of speciation and subspeciation (an ancestral line that develops very different traits without "splitting up" does not constitute a new species).

What should interest us here, rather than a general critique of species concepts, is whether there is a candidate for a species concept that makes it possible to:

> *1. unambigously pick out all and only those beings whom we usually regard as "human" as one species, and which*
>
> *2. does so in a non-conventional way.*

If a species concept could fulfil these two requirements, we could assume that "belonging to the species (homo sapiens)" (defined in the way the suitable species concept prescribes) is an essential property of human beings.

The species concepts I have described above, however, are not of much use in this respect: the evolutionary species concept is too vague to be suitable for unambigous sorting, and, in respect to its choice of where to "cut off" speciation branches, is arbitrary (it would be hard to justify putting human beings in a different genus from that of chimpanzees, for example). The Biological Species Concept has just as much vagueness when we understand it as using the notion of "potential interbreeding": some, for example, think that human beings and chimpanzees *could* interbreed (independently of whether they should).[30] On the other hand, the criterion of "actual interbreeding" would result in countless new human species (e.g. prisoners, religious groups, isolated ethnic groups, and what about people who choose not to reproduce altogether?).

[30]See e.g. Michael Schwibbe, Deutsches Primatenzentrum: "Es ist denkbar, dass Mensch und Schimpanse gemeinsame Nachfahren zeugen können (…) denn genetisch gesehen ist die Distanz zwischen Esel und Pferd größer als zwischen Mensch und Großem Menschenaffen."" Horaczek (2007), "Ein Affe will Rechte", Die Zeit, 2007/03/01.

Defining the human species by its ecological niche, finally, seems altogether impossible. In the limited range of species concepts I have looked into, I have not yet found one that is at all useful in the respects of unambiguos sorting and non-arbitrariness.

Generally, it seems to me that the extreme pluralism concerning species concepts – though it, of course, does not in any way *disprove* the real existence of species, independently of convention, in nature – *implies* that biological species concepts are conventional, "arbitrary" (in the sense that they do not "cut nature at its joints") attuned to the field of study and to the use they are intended for. Biologists are, primarily, interested in sorting living beings in a way that accords to their theories, not in the question of what categories are "real" (though, in some views, these two questions converge at some point). Ultimately, the usual biological species concepts are not suitable for deriving a "human essence" from them.

II. Human essence, non-biologically defined

As I pointed out above, a multitude of differing species concepts are in use in science as it is. It seems that whoever is in need of a species concept that fits his field of study can simply define one – taxonomists of differing specialisations, evolutionary scientists, geneticists, ethologists, ecologists. They naturally have differing interests regarding species concepts, and, consequently, differing species concepts.

In appreciation of this pluralistic tradition, the human essentialist could define a essentialist concept of "human" especially for his requirements (which would have nothing or not much to do with biological species concepts).

Many have tried to define and single out the trait (or traits) that pick out human beings from all other animals. Rationality, language capacity, moral agency or free will are the most common non-biological candidates for this position. However – and this is what makes the "problem of marginal cases" so vexing – none of these properties is, even prima facie, successful in picking out "all humans and only humans". They are either present only in a subset of human beings, leading to the exclusion of, e.g., toddlers, the mentally handicapped or comatose, or (if you lower the standards, e.g. for rationality) they are present not only in humans, but also in some non-human animals (like non-human primates, dolphins).

"Tuning" such a concept of human in order to include marginal cases, in my view, is not very successful, or, at least, an extremely complex task: especially since including multifarious concepts does add to the impression that one is justifying an arbitrary choice (i.e., that what we commonly regard as human deserves supreme moral consideration) rather than discovering what is there in nature (i.e. a "clear cut" between human and non-human).

One example of this is the proposal to found a concept of humankind on its members' general *genetic disposition* (in Reid's terminology, a micro-property) to exhibit human-typical properties (like rationality, language capacity, etc…).[31] While this is not necessarily at odds with our finding that there are no genetic essences associated with humans (a genetic disposition, e.g. for language capacity, could manifest itself in an infinite number of different combinations of genetic sequences), it is a sad fact that many beings whom we, as a matter of course, do recognize as human do not exhibit such a genetic disposition. Chromosomal abnormalities, for example, can cause profound mental retardation (IQ below 20) which makes high standards of rationality, language use or moral agency unattainable througout the life of the individual. Analogously, arguments from "potential" are problematic because e.g. "potential rationality" can be easily lost by undergoing brain damage. It remains altogether unclear why "disposition" or "potential" – rather than *actual* properties – should be relevant in this context, at all – why, then, do human sperm and eggs, or even their precursor cells, not count as "human beings"? The modus of "picking out" seems to become more or less arbitrary, deviating from anything we could possibly regard as a natural kind categorization.

A quite detailed and elaborate example for "tuned" (non-biological) species concepts can be found in Copland's and Gillet's proposal of an (essentialist) "bioethical species concept." [32] This concept is aimed at giving a metaphysical underpinning for the view that embryos, by and by, "take the form and associated ethical significance of a human being", i.e. gradualism. Copland and Gillet try to do this by introducing (or re-introducing) the concept of "form". The latter, they say, is *essential* to personal identity, and also to being human. What distinguishes human from non-human beings, most

[31] Johannes Hübner, in personal correspondence: "Es besteht ein moralisch relevanter Unterschied zwischen Lebewesen, die diese Fähigkeiten [in diesem Fall: Empfindungen zu haben oder Interessen zu haben, CH] nicht haben, und solchen, die sie *noch* nicht haben, in deren *spezifischen*, genetisch gestgelegten Lebenszyklus der Besitz dieser Fähigkeiten aber vorgesehen ist."
[32] Copland and Gillet (2003), "The Bioethical Structure of A Human Being", *Journal of Applied Philosophy* **20**(2).

importantly, is not genetic essence, but "human form." Form in general, in Copland and Gillet's account, is

> *"(…) not merely a function of synchronic structure as evident in a temporal slice of the object concerned but in fact has the fourth or temporal dimension as an essential aspect of any organism's characteristic function and configuration."*[33]

This supposedly not only applies to individual organisms, but also to kinds of organims (kinds of organisms share a form). I take Copland and Gillet to say that the "humanness" of form is not only determined by the bare physical facts (i.e. the intrinsic genetical structure of the being, e.g. its being genetically human), but also by a "telos", i.e. an aim the object is developing towards. Form, as Copland and Gillet put it, "drives development", and it is not reducable to genetic determination. This development-driving "human form" is what essentially distinguishes human from non-human beings. The view that natural kinds have a "natural teleology", and that, in turn, human beings are singled out because of their "natural tendency" or "disposition" (which is not to be reduced to genetics) to become "typical human beings", is also expressed (though in a less elaborate argument) by Sulmasy.[34]

What I find problematic about these views is, firstly, that a "natural tendency" to become a "typical human being" is, apparently, not present (or not present anymore) in all human beings. As I spelled out above concerning the "genetic disposition" and the "potentiality" view, there are human beings who, by natural endowment (not by accident or disease), will not and cannot possibly develop into rational, language-skilled beings. Secondly, whether we call it "human form", "natural tendency" or "disposition", all these formulations take the human essence to be highly elusive (how do we see "human form" in an organism if it is not to be reduced to genetic essence?) and, most importantly, not ascertainable.

III. "Essence Placeholder"-Tactics

Views like Copland and Gillet's, if applied to the human-non-human situation, would basically reduce our categorization of human and non-human to what it already is: we "know a human when we see one", but we cannot name the essential characteristic of all human beings. One can, in fact, accept this elusiveness of human essence without

[33] Ibid., p. 25.
[34] Sulmasy (2005), "Dignity and the human as a natural kind" in: *Health and Human Flourishing*, edited by Taylor and Dell'Oro, Georgetown University Press, p. 77.

giving up “human essentialism” – this is called operating with an "essence placeholder."[35] Essentialism regarding a term, after all, can be held without knowing exactly about the microscopic properties the natural kind shares. One can resort to stating that there is a "human essence" all humans have in common, no matter whether we can define it or find out about it or not.

The inadequacy of such approaches is usually not apparent – maybe with the exception of the early stages of human development – but it becomes so when we are confronted with current developments in biotechnology. Scientists today are working on the creation of beings that are human-animal chimeras (e.g. sheep with human livers, mice with brains that partly consist of human cells) or "cytoplasmic hybrids" (enucleated cow or rabbit eggs are implanted with human cell nuclei).[36] In these cases, talk of the "human form", of "natural tendency" or dispositions will probably not help us to determine whether the living objects or organisms concerned belong to the "natural kind human" or not – just as “I know a human when I see one” need not necessarily be true of novel chimeric or hybrid organisms (it probably already fails regarding human embryos, who seem undoubtedly human from conception on only to some).

E. "Natural Kind Arguments": The Verdict

But we need not resort to such drastic, exceptional cases. My aim in this paper, after all, is not to conclude that all essentialist views concerning the term human are necessarily mistaken, or that improving and refining the concept of a human natural kind by making use of "disposition", "form" or teleological approaches is fundamentally flawed. At the outset, the question was whether a "natural kind argument" concerning human beings is more convincing at solving the problem of marginal cases than simply stating that "all beings we commonly regard as "human beings" deserve outstanding moral consideration." I think our discussion so far has at least shown that "natural kind"-arguments have difficulties that are so severe that we should not readily accept them as a solution to the marginal cases problem.

For a recapitulation and deepening of this conclusion, let us look back at the steps of my discussion. I introduced "natural kind arguments" as a type of argument that tries to assure that atypical or "marginal" human beings are granted the same high moral status typical human beings. They do so by stating that atypical humans – though they do not

[35] Kalish (2002), "Essentialism to some degree: Beliefs about the structure of natural kind categories", *Memory & Cognition* **30**(3), p. 340.
[36] Robert and Baylis (2003), "Crossing Species Boundaries", *American Journal of Bioethics* **3**(3).

have the properties that are commonly used as justification for the vastly different status we assign non-human animals (e.g. rationality, language) – still have high moral status because they are *of a kind* for whom these properties are typical or specific. I then gave an account of Nobis' stark critique of such arguments, and in a more charitable approach following Cohen, pointed out that such arguments might work if one makes use of the concept of *natural kind*. I pointed out various philosophers who speak of human as a natural kind (be it in order to make use of a "natural kind argument" or in a more general context).

I then tried to shed light on the basic divide between essentialist and non-essentialist conceptions of natural kinds. It became clear that, should the notion of "human natural kind" be of any use for a dissolution or easing of the marginal cases problem, it would have to be in the form of an essentialist interpretation. I offered Jasper Reid's linguistic approach as a helpful pointer for understanding why there is an essentialism/non-essentialism-divide regarding natural, kinds, at all; and lastly commented that "human essentialism" is the prevailing attitude, also in non-philosophers, a fact which is backed by empirical studies.

After this chapter, I tried to give an account of what could possibly constitute a "human essence." Biology seemed to offer no solution to this riddle, since defining species as essences is at odds with darwinian biology, and defining them differently leaves us in a pluralism of species concepts that are either much too vague or seem more and more arbitrary. Outside of biology, however, descriptions of the "human essence" become even more vague, arbitrary and unascertainable – in the end, we are left with a human essentialism of "essence placeholders" that admits that the essence cannot be defined, but is insistent that there is one.

All in all, it seems that "natural kind arguments", and "human essentialism" (which is their basis) – though they both seem promising, clear-cut and intuitively appealing at the first look – bring with them an astonishing amount of problems (beginning with the question whether there are natural kinds at all, and whether – if yes – they can be identified in anything but the most abstract categories or smallest particles of nature, touching on the complex discussion of what a species is and whether species are real, and, finally, struggling with the search for a "human essential property"), and are thus not suited to cut short discussions about the problem of marginal cases.

One last question might be that of why, in a world where essentialism has become unfashionable and unusual, most people still are (intuitively, but also after much thought) "human essentialists." I have two explanations for this fact.

Firstly, I believe that the traditionally extremely high moral relevance of the term "human" also forms what in Reid's approach would be called linguistic preferences. Our treatment of other beings, in a very central way, depends on whether we regard them as human or not (at least in most systems of ethics). It is clear that – since we do not want that moral judgments we made yesterday suddenly become invalid – our priority in this field should be "stability" rather than "recognizability." This commits us to an essentialist understanding of "human", which leads us to tie the extention of the term to microscopic properties (e.g. species membership, capacity, disposition or potential to be a rational being, or the such), i.e. properties that cannot be changed or are as un-changeable as possible.

The second point of human essentialism, to me, seems to be the possibility to make use of the "placeholder strategy." It allows speciesists to evade the problem of marginal cases by assigning marginal humans supreme moral status while at the same time denying it even to those non-human animals who may have similar properties (in the fields of rationality, language-use etc.). However, as I think has become clear, this is not a solution, but rather an obfuscation of the original problem.

Bibliography:

Cohen, C. (1986). "The Case For the Use of Animals in Biomedical Research." The New England Journal of Medicine **315**(14).

Copland, P. and G. Gillet (2003). "The Bioethical Structure of a Human Being." Journal of Applied Philosophy **20**(2): 123-131.

Dennett, D. C. (1995). Darwin's Dangerous Idea. London, Penguin Books.

Ereshefsky, M. (2006). "Species." Stanford Encyclopedia of Philosophy, Zalta, Edward N. (ed.). Retrieved 2007/03/14, from http://plato.stanford.edu/entries/species/.

Gray, R. (2002). “Are Persons Members of a Natural Kind?” Proceedings: Wittgenstein Symposium Kirchberg X. Kanzian, C., Quitterer, J. and Runggaldier, E. (eds.). Kirchberg am Wechsel**:** 71-73.

Horaczek, N. (2007). „Ein Affe will Rechte.“ Die Zeit. Hamburg, 3.1.2007. Retrieved 2007/03/14, from http://www.zeit.de/online/2007/10/affe.

Kalish, C. W. (2002). "Essentialism to some degree: Beliefs about the structure of natural kind categories." Memory & Cognition **30**(3).

LaPorte, J. (2004). Natural Kinds And Conceptual Change. Cambridge, Cambridge University Press.

Levy, N. (2004). "Cohen and Kinds: A Response to Nathan Nobis." Journal of Applied Philosophy: 213-217.

Mayr, E. (1949). Systematics and the origins of species. New York, Columbia University Press.

Mayr, E. (1969). Artbegriff und Evolution. Berlin, Parey.

Nobis, N. (2004). "Carl Cohen's 'Kind' Arguments For Animal Rights and Against Human Rights." Journal of Applied Philosophy **21**(1): 43-59.

Quine, W. V. (1999). “Natural Kinds.” In: Metaphysics. An Anthology. Kim, J. and Sosa, E. (eds.). Malden, Oxford, Blackwell**:** 233-242.

Reid, J. (2002). "Natural Kind Essentialism." Australasian Journal of Philosophy **80**(1): 62.

Robert, J. S. and F. Baylis (2003). "Crossing Species Boundaries." American Journal of Bioethics **3**(3): 1-13.

Sulmasy (2005). “Dignity and the human as a natural kind.” In: Health and Human Flourishing. Taylor, C. R. and Dell'Oro, R. (eds.), Georgetown University Press.

Wiggins, D. (1976). “Locke, Butler, and the Stream of Consciousness: And Men as a Natural Kind.” In: The Identities of Persons. Rorty, A. (ed.), Los Angeles, University of California Press.