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Nature and culture intertwined or redefined? On the challenges of cultural primatology and sociocultural anthropology[1]

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1 Introduction

1 The aim of this article is to analyze points of contact and possible fruitful interfaces between cultural primatology and sociocultural anthropology. The challenges faced by both fields surpass the question of finding appropriate definitions for culture, suggesting instead, the problem of different research agendas and conflicting paradigms.

2 *In the next section* 'the abyss between nature and culture', the nature-culture divide is explained, so as to introduce basic impasses encountered by these disciplines. *Section 3* 'the realms of primatology and anthropology' shall specify traditionally divergent points of departure between the fields, namely, monistic and dualistic views. It shall also bring to attention primatological and anthropological concerns with 'human beings' and with 'being human' (Ingold, 1994: 19). *Section 4* 'naturalizing or socializing culture' is dedicated to primatological and anthropological understandings of culture. It analyzes the pitfalls of studying culture through a "minimalist conception" (Lestel, 2003: 368) in which meaning is evaded or through an anthropocentric perspective in which culture becomes solely a human enterprise. *Section 5* 'developments in primatology and anthropology' discusses at length primatological notions of culture in regard to recent sociocultural anthropology. By means of selected examples, it illustrates the increasing focus on social learning in the literature (Perry, 2006: 176). It also points out some currents in

anthropology expected to provide rich contributions to the study of non-human animals. At last, *section 6* 'nature and culture revisited' intends to provoke a "perceptual switch" (Kuhn 1970: 114) by introducing ethnology of non-Western populations to advance the analytical understanding of the scientific and ethical debate on animal culture. Finally, it assesses the real challenge primatology should choose to accept, one it cannot accomplish without sociocultural anthropology. The *conclusion* shall remind the reader in a few words of future perspectives for both fields.

2 The abyss between nature and culture

3 Over the last decades, long-standing boundaries have faced careful scrutiny over the legitimacy of habitual distinctions, drawn not only by the public but also by sciences in general. Among others, clear cut frontiers between nature-culture and animality-humanity have been called into question. This tendency can be illustrated by relatively new domains such as cultural primatology, science studies and recent sociocultural anthropology. Even though several disciplines have contributed to this line of inquiry, the current analysis is going to focus on the possibilities of fruitful interaction among these fields and the challenges to be reckoned with in this pursuit. Given the phylogenetic proximity between humans and non-human primates, cultural primatology constitutes a privileged object of attention as mean to examine the logic of demarcation between what can be attributed to humans and to other primates.

4 The contrast between primatological and anthropological concerns should reveal what is at stake for both areas and should strengthen possible pathways of communication. If scientists and philosophers of science have engaged in "boundary work" (Gieryn, 1983: 781) in order to distinguish science from non-science, so have human and non-human cultures been subject to demarcation practices. The issue tackled in this case is not just an empirical one, as if one could roughly observe the presence or components of culture in animals. Neither is it solely a matter of finding the most appropriate operational definition for culture by means of which primatologists can carry out their studies. At the core of the animal culture debate lays the question of distinct frameworks of understanding and divergent research agendas. In order to fully grasp vital disciplinary issues discussed throughout this paper the Nature-Culture divide is going to be explained briefly.

5 What is conventionally referred to as Western thought cannot be considered as a "monolithic edifice" of homogenous currents (Ingold, 1994: xiii). However, its rich diversity of positions alludes to common patterns of reasoning that provide a key to the understanding of scientific and contemporary ideas. The so-called modern constitution has set Nature and Culture apart as two distinct ontological provinces, separating the pole of *human beings* and *culture* from the pole of *non-humans* and *nature* (Latour, 1993: 13). From the dichotomy between Nature and Culture other distinctions follow such as innate / acquired, object / subject, irrational / rational and so on. Belonging to the field known as science studies, the symmetrical anthropology proposed by Latour sustains that modern critical stance be characterized by two practices; one in which hybrids of nature and culture are created, and another in which nature and culture become crystallized as poles apart through the work of purification. On the other hand, these hybrids are not to be understood as a mixture of two pure forms as a case of two intertwined positions. They are at the same time neither social nor natural because they *redefine* Culture and Nature.

In other words, "Nature and Society are part of the problem, not part of the solution" (Latour, 1993: 95).

6 The critique advanced by symmetrical anthropology consists in questioning the refusal of modern thought to recognize its practice of hybridization, acknowledging only purified forms of nature or culture. Conversely, when hybrids are taken into account their role is emptied of relevance by being considered mere intermediaries of the two supposedly pre-existing poles (Latour, 1993: 77). What should be underlined is the inverse path, the one that commences with how hybrids of nature and culture came to be filtered and stabilized into distinct realms, creating a historical abyss.

3 The realms of primatology and anthropology: Monistic and Dualistic views

7 Most main currents in sociology and anthropology of the last century have been to greater or lesser extent founded by a commitment to anti-reductionism. The meanings of reduction have varied significantly within and across the literature of very diverse areas such as philosophy, cognitive sciences and social sciences. It suffices for our purposes to notice it has been contested that human social phenomena could be reduced to phenomena controlled by natural laws. Furthermore, the methodology, mode of explication and type of causality to which social sciences turn to, should deeply differ from resources employed by natural sciences (Wolff, 2010). The anti-reductionism of social sciences was mirrored by an anti-naturalism. Along with a "methodological anti-naturalism" (Wolff, 2010: 107) a tacit conception of man is to be observed; the man of social sciences is defined against animality, for he dwells not in nature but in the symbolic world (Wolff, 2010).Consequently, social sciences remained dualistic and strictly human.

8 On the other hand, life sciences have been established by a naturalistic ontology that posits a physical continuity between man and animals, and at the same time enhances the exceptionality of human interior attributes (Descola, 2005: 249). Discrepancies are to be understood as of being in degree, not in kind. The referred modern naturalism is well expressed in Darwin's book the *Descent of Man*: "We have seen [...] that man bears in his bodily structure clear traces of his descent from some lower form; but it may be urged that, as man differs so greatly in his mental power from all other animals, there must be some error in this conclusion. *No doubt the difference in this respect is enormous*, even if we *compare the mind* of one of the lowest savages, who has no words to express any number higher than four, and who uses no abstract terms for the commonest objects or affection, with that of the mostly highly organized ape. *The difference would, no doubt, still remain immense*, even if one of the higher apes had been improved or civilized as much as a dog has been in comparison with its parent-form, the wolf or jackal." (Darwin 1871: 34 my emphasis). And he adds "[m]y object [...] is solely to shew that there is no *fundamental* difference between man and the higher mammals in their mental faculties" (Darwin, 1871: 35 my emphasis).

9 Whereas the culturalist dualism represented by social sciences asserts a clear discontinuity between humans and non-humans, the naturalist monism of life sciences establishes a nuanced continuity through a fine gradation of increasing mental power. It has been noted by scholars (Descola, 2005: 25, Ingold, 1994: 22, Wolff, 2010: 226,) that

while most twentieth century social sciences postulated the explanation of 'the social by the social', the emerging cognitive sciences with which life sciences constantly interact aim at the scrutiny of the 'social by the cognitive' and this, in turn, by the neurological whenever possible. The endeavor of naturalization of the mind considers mind and brain as one in the sense that mental properties can or should be ultimately explained by the brain's physical activity. Moreover, the mind becomes synonym to cognition or information processing, allowing it to be studied by a vast array ranging from neurosciences to artificial intelligence (Miller, 2003: 143).Regarding this point, a cautionary reminder should be added. It might be fruitful to keep both programs in sight when analyzing several types of phenomena. Any type of reductionism that strives for the elimination of other levels of experience might indeed not be sensible at all. As Wolff (2010: 226) points out scientists do not doubt that, for instance, rural exodus and international relations are ultimately the act of men, who in turn possess brain and gene pool which are, accordingly, formed out of material properties such as molecules, mass, charges and so on. Nonetheless, no one would intend to predict the day in which the reductionist program could explain rural exodus and international relations according to wave function, charges, and so forth.

10 In the monism of life sciences *homo sapiens* are to be understood in comparison with non-humans so that not only apes, but also robots can contribute to our knowledge on human beings. On the other hand, in the dualism of anthropology, humans are to be studied through the human world. According to Ingold (1994: 19) posing the question of "[w]hat makes humans animals of a particular kind?" is not equivalent to asking "[w]hat makes humans different in kind from animals?". The first wonders *what human beings are*, while the latter inquires *what to be human means*. The distinction between *human being* and *being human* reveals diverse concerns, one with the membership of human species, the other with the expression of humanity. The existence of the *individual* as biological organism and the reality of the *person* as cultural subject nourish these two lines of investigation (Ingold, 1994: 23). However, any investigation on non-human animal cultures is caught amid the realm of biological individual and the realm of cultural person. Non-human cultural primates are hybrids par excellence.

11 For different reasons, some scholars have preferred to employ the word tradition instead of culture. Fragaszy and Perry (2003: 3), for instance, comment that "[t]his debate, regardless of its origins or purpose, is driven largely by anthropocentric, not biological concerns about the meanings of culture [...] we are interested in traditions as features of behavior in non-human animals without regard to whether these traditions meet any particular set of criteria for nomination as "cultural" ". The authors highlight an important point; after all, culture is an integral part to explanations of what being human means. However, if biology is to account for the complexity of modes of existence which animals are subject to, and if it aims at researching animals to the fullest of their social lives, then life sciences ought to feel part of discussions pertaining to animal personhood (see for instance, Ingold 1990).

4 Naturalizing or socializing culture? Culture in primatology and in anthropology

12 An epistemological advice should be taken into consideration in debates where traditional division of scientific labor is called into question. Concepts seem not to

traverse disciplines or fields intact, since it is through them that these concepts acquire meaning and value (Wolff, 2010: 345). They are embedded in the paradigms of each domain, i.e. in a field's theories, standards, permissible problems, methodological prohibitions and norms (Kuhn, 1970: 109). Even though the Kuhnian notion of paradigm has been criticized for its vagueness (see Kuhn, 1970 "Reflections on my Critics") it is fruitful to our purposes to remark that paradigms are able to influence large areas of experience (Kuhn, 1970: 129). But if scientific paradigms can act as worldviews, it does not necessarily follow from this observation that a concept used by different areas might be completely disparate, because practices to standardize interfaces between intersecting worlds can take place (Star *et al.* 1989: 413).

13 Cultural primatology was initially developed by Japanese researchers during the second half of the 20th century, but the growth of this field has been largely ignored by most Western scientists until the 1990s, when field researchers started to report remarkable intersite behavioral variations among chimpanzees (Perry, 2006: 172). According to Perry (2006: 173), a publication in Nature (Whiten *et al.* 1999) describing a list of 39 behavior patterns became the landmark of "cultural panthropology" (Whiten, 2003). Whiten *et al.* (1999: 682) inform that these behaviors were present in some communities but absent in others. Furthermore, ecological explanations have been ruled out. One of cultural primatologists' most cumbersome tasks has been to persuade anthropologists of the legitimacy of non-human primate cultures. In this journey, primatologists have narrowed ties with certain conceptions in anthropology that conveyed life sciences the most. This has, nonetheless, driven cultural primatology apart from many developments in sociocultural anthropology that begin to be gradually acknowledged by this relatively young field. Primatologists are correct in diagnosing the lack of a uniform definition for culture in anthropology. This hardship they come across mirrors the fact that "there is not one way of doing anthropology, but many" (Ingold, 1994: xiii). Consequently, multiple interfaces between both areas can be established, some more or less interesting given one's purpose. Not all subfields of anthropology can be dealt within the scope of this paper. However, some possibly productive interactions are going to be highlighted.

14 Perry (2006: 172) identifies that due to the difficulties of accessing the content of non-human primates' minds, cultural primatologists have favored the idea of culture as behavioral variation. This has exactly become a point of sharp dissent between the two disciplinary views. Ingold (1994: 329) traces some shifts in orientation that anthropology has undergone: culture was once considered to represent civilization, and in this view societies would differ according to their placement on a universal scale of progress, but the emerging commitment to the perspective of *relativism*, in which societies are to be understood according to their own point of view, incited the use in the plural of the word culture. Later on, anthropology went through a change in emphasis from "manifest patterns of behavior" to "structures of symbolic meaning", so that culture was opposed to behavior inasmuch as language to speech. Shared systems of concepts or mental representations would then stand for what culture is. This position holds esteem among anthropologists, but came to be nuanced by the idea of culture as "practice" rather than structure. On the other hand, it has been noted (Descola, 2005: 162) that despite the richness and contingency of the relations that can be illustrated by the practice, we ought to account for its regularities.

15 One general lesson from the tendencies described above should be learned: whether it emerges in structures or in relations, *meaning* is a crucial constant in anthropology and

one that primatologists should be aware of. Even analyses that completely blur the lines between subject-object or between what is inside-outside the head seem not to get away with the importance of meaning. For example, a symmetrical anthropology that stresses "the social life of things", pledging for the role of objects as actors in social cohesion (Latour, 1996: 238) certainly deemphasizes intentionality and consciousness (Latour, 1993: 58). Likewise, in Hutchins' (1995: 118) cognitive anthropology mental processes can occur in and outside the brain in an environmentally coupled way. They are taken in terms of "propagation of representational state across representational media". Even in these cases, meaning does not seem to be abolished but appears to become extended or distributed. Lestel (2003: 368) points out researchers must escape the two poles by which culture has been characterized. Social scientists have traditionally associated culture with such elaborate phenomena that the sole idea of animal cultures without human language becomes senseless. On the other hand, ethologists content themselves with a "minimalist conception of culture" informed solely by behavioral variations. The first position refers to what can be called a *super socialized culture* that ends up being essentially anthropocentric. The later alludes to an *over naturalized culture* that evades the potential comprehension of animal cultural phenomena to the fullest.

16 By and large, anthropology held *society* as the association of individuals and *culture* as the sum of their knowledge. This served for a long time as grounds for the division between social and cultural anthropology (Ingold, 1994: 738). Curiously, this distinction probably explains in part why ethologists have had no problem in studying animal societies of the most diverse classes, such as insects or mammals, without the need to ask whether social organization would not imply cultural capability. A more process oriented view in anthropology has highlighted the relationship between society and culture beyond form and content. "All culture, then, is social, in that its constituent meanings are drawn from the relational contexts of such mutual involvement; conversely all social life is cultural, since people's relationships with one another are informed by meaning" (Ingold, 1994: 738). This view could be criticized as leading to the position that "complex cognitive machinery" is needed to produce culture, which has been considered an anthropomorphic assumption (Perry, 2006: 174). Instead, this perspective should induce researchers to introduce culture as a line of inquiry whenever they deal with animal societies regardless of their class. The problem anthropologists see with the "coupling of culture and behavior" (Ingold, 1990: 220) is to leave meaning out of the analyses. Furthermore, this pairing leaves no space to intentional agency and consciousness (or awareness, as vigilant psychologists and philosophers would discern). Additionally, it might be productive to bear in mind that individual differences cannot always be reduced to behavior in terms of species and that animals possess a "biography" (Lestel *et al.* 2006: 171-172). Primatologists do reckon with these idiosyncrasies, but more often in order to guarantee that results can be generalized to the species rather than to individualize the subjects of the study.

17 That being said, scientific fields are not static and the advancement of certain stances within both areas allows for new points of convergence. The shift in research emphasis observed in primatology from "do species X have culture?" to "under which conditions should individuals engage in social learning?" (Perry, 2006: 176) is appropriate to establish a dialogue with an anthropology concerned with mental phenomena.

5 Developments in primatology and anthropology

18 The shift in focus cultural primatology has taken can be traced through concerns displayed by researchers in their studies. For instance, McGrew in 1992 searches for a suitable and fairly straightforward definition of culture, in order to argue for "chimpanzee material culture". He (McGrew, 1992: 77-82) finds in Kroeber six criteria that can be abstracted to recognize cultural acts, to which he adds two more. *Innovation*: new pattern originated through invention or modification of previous behavior; *Dissemination*: acquisition of a pattern by another from innovator; *Standardisation*: degree of stereotypy; *Durability*: occurrence of behavior in absence of demonstrators; *Diffusion*: spread of behavioral patterns across communities; *Tradition*: persistence of a pattern from one generation to the next. The two further conditions he includes are *Non-subsistence*: patterns that transcend subsistence activities and *Naturalness:* patterns in which human interference do not surpass levels exerted by human hunter-gatherers. McGrew (1992: 82) concludes that no particular population of chimpanzees satisfies all eight conditions, but that all criteria except perhaps diffusion are met by some chimpanzees in certain cases.

19 The author's endeavor to make a case for chimpanzee cultures is remarkable as much as the study presented is fascinating. The chimpanzee cultural model is going to be commented further on in this section, but for now the additional criteria joined by the author are worthy of being briefly examined. In the first criterion, *non-subsistence*, it is not clear why cultural processes should even have to conform to this principle, since much of human activity has been based on finding solutions to basic difficulties with which we are faced, including and maybe specially, subsistence. The cognitive anthropology developed by Hutchins (1995: 354), for instance, defines culture as "an adaptive process that accumulates partial solutions to frequently encountered problems". Therefore, the non-subsistence demand seems somewhat troublesome. The second condition, *naturalness*, is to a certain extent trickier than the former, because it unveils steady assumptions and methodological precepts on the part of ethologists and anthropologists.

20 Anthropology has for long time regarded cultures, particularly non-Western ones, as closed units isolated from outside influences. When contact was recognized as intense, they were said to be "acculturated", a word that frequently denoted the corruption of one culture by another (see for example, Gallois, 1994 for the concepts of isolation and authenticity in the representation of indigenous people in Brazil and their political implications). In fact, anthropologists dedicated to the study of contact between indigenous populations and "foreigners" have increasingly conveyed the idea that, first, these ethnic groups were not ultimately isolated as initially thought, and secondly, that they have never been mere passive recipients of external elements. Instead, they apprehend the contact situation through their categories of thought, "domesticating" what is considered outsider (see for instance Howard, 2002 on WaiWai strategies to domesticate the commodities of white people). The traditional issue of 'intact' and 'authentic' cultures is transmuted into the question of how to administer these encounters and under which circumstances contact will be established, so that groups have the choice of *whether* and *how* to interact. Violence, coercion and oppression do exist, but it should not follow that the oppressed is a mere passive receptor of foreign elements (see Scott, 1985 for the "weapons of the weak").

21 For conservationist purposes ethologists should indeed worry about human influences on the environment animals live in and its eventual destruction. Naturalness can then be mobilized as resource in the struggle for protection of these animals, but as an analytical category it is a concept we should doubt. Chimpanzees do not only interact with chimpanzees but with a vast variety of animals in a rich ecology which may or may not include humans. Non-human primates who experience increased contact with humans are not tainted by us, as if they would become less natural; they are in interaction with us. The conditions under which these relations take place is the matter subject to ethical examination, not the interaction *per se*. *Mutatis mutandis*, the natural animal is a myth as much as the noble savage. The myth of the state of nature permeates modern cosmology and it is only within Western ontology that there might be a state of nature to get out, or to get distanced from. This dilemma is going to be detailed in the next section.

22 When McGrew (1992: 79) states that in the *naturalness* criterion "indirect human influences do not exceed levels exerted by human gatherer-hunters" the assumptions behind this postulate become complex to understand. Are human hunter-gatherers more natural than Americans or Frenchmen? Or symmetrically, are hunter-gatherers *less cultural* than Westerners? Or is it their technology? When in a later part of the book he proceeds with a comparison between chimpanzees and foragers, the author (McGrew 1992: 123) is alert enough to add a cautionary note affirming that "simplistic views of hunter-gatherers as 'frozen in time', or 'living fossils', or 'windows on the past' are misguided". He observes that social and cultural anthropologists might not approve this enterprise for believing that the gap between human and non-human cultures is so broad as to be unbridgeable. He continues saying that no one will ever know if these comparisons are valuable unless we try. The author was right in identifying the anthropocentrism constitutive to most social sciences, which is accompanied by a dualistic view on humans and non-human animals. But he did not succeed in seeing his field's own ethnocentrism, which comes along with life sciences' monistic and gradualist view. McGrew (1992: 149) founds his comparison in the necessity to search for clues upon the hominisation process. If he acknowledges that neither is the African ecosystem intact, nor have chimpanzees and hunter-gatherers been studied in the same place by the time of his writing (McGrew, 1992: 123), this analysis may appear even more troublesome to social and cultural anthropologists. He carries on with a behavioral comparison of similarities and differences in diet, food acquisition and processing. Preferences of the Tasmanian human on the other side of the globe and the non-human African Tanzanian are entitled to model hominisation. As honorable as this venture can be, researchers should also take into account that these populations, both human and non-human, have a history and therefore synchronic data may not unveil straightforwardly the diachronic process that is attempted to be grasped.

23 Furthermore, Haslam *et al.* (2009: 341) underline that we should not assume extinct hominins were homogeneous in their material culture. Nor should we take for granted that emergence of a certain behavior will follow the organisms' relatedness. Taking tool use as an example, "[a]ppeals to phylogenetic proximity therefore posit the last common ancestor of chimpanzees and humans to have been a tool user. [...] However, recent recognition that wild South American bearded capuchin monkeys (*Cebus libidinosus*) also habitually use tools whereas wild bonobos (*Pan paniscus*, the chimpanzee's closest relative) rarely do, forces us to rethink the accepted roles of continuity and convergence in primate tool use. We may ask for example, how many extinct primate groups

independently "invented" tool use during the past several million years, and what circumstances permitted or prevented such discovery." (Haslam et al. 2009: 339)

24 If the hunter-gatherers and non-human primates are not studied in the same environment and concomitantly, as pointed out by McGrew, and if one recognizes that whatever preferences displayed by both in the present may as well be a result of an intricate and changing history, it is not crystal clear why these are the human populations to be chosen for comparison. Here it has been taken as an act of faith that these comparisons are not based on the alleged intermediary state of mental faculties that hunter-gatherers would come to represent between our ancestors and us. Because the consequence would be to believe that these populations are cognitively closer to non-human primates than a professor at Stanford (Descola, 2005: 252). This view would eliminate anthropocentric accounts but would install a gradation - not between other primates and humans - but between other primates and *some* humans, namely non-Western tribal societies. The anthropologist cannot help but wonder why certain populations seem more eligible to such an interface than others, and on which grounds. Modern naturalism (Darwin, 1871: 35) brings to light "there is a much wider interval in mental power between one of the lowest fishes, as a lamprey or lancelet, and one of the highest apes, than between an ape and man; yet this immense interval is filled up by numberless gradations". Notwithstanding, life sciences should be attentive to the fact that the battle of anthropology ever since its beginnings as an institutional discipline has been the struggle against ethnocentrism. Consequently, if anthropology has started to combat its anthropocentrism, primatologists ought to be very explicit about the assumptions under which they base their comparisons. Ingold (1994: 29) defends that the most serious dilemma faced by sciences is the pitfalls of *ethnocentrism* and *anthropocentrism*: in a scale from animality to humanity, cultural variation is regarded as a complexification in a trail from apes passing through "primitives" and leading to modern technological man. Conversely, having animality as substrate, humanity becomes an all-or-none condition.

25 Rightly recognizing the difficulties posed by this all-or-none perspective, Whiten *et al* (2003: 92) have dissected, as McGrew, different aspects of human culture in order to argue for the legitimacy of chimpanzee cultures. The contrasts are grouped in three aspects, namely, "patterns of behavioral variation", "mechanisms available for social transmission" and "cultural contents". The characteristics are: 1) *Multiple cultural variants* 2) *Communities differing in multiple ways* 3) *Cultural "core" clusters* 4) *Cumulative cultural evolution* 5) *Teaching* 6) *Imitative learning of complex tasks* 7) *Convergence and convention* 7) *Self-consciousness in adopting elements of culture* 8) *Selection for meaning* 10) *Cultural contents*. Each point cannot be discussed in detail here, but it suffices to notice the rising concern with topics on social transmission and cultural content. Boesch (2003: 83) for instance pins down basic concepts, discerning that culture is 1) "*learned from group members*" 2) "*is a distinctive collective practice*" 3) "*is based on shared meanings*". In a section dedicated to "cultural meaning" the author (Boesch, 2003: 86) presents cultural behaviors that possess not only form but also shared meaning. He proceeds giving an example of leaf clip, in which a leaf is bitten into pieces producing a ripping sound without the plant being eaten. Whereas in Gombe leaf clipping is absent, in Bossou it is responded by others as play, occasioning youngsters to attack or go after the leaf clipper with a play face. In Mahale on the other hand, this behavior communicates courtship so that sexually active females will respond to the leaf clipper.

26 The shift in emphasis to social learning can be exemplified in the two models of tradition compared by Fragaszy and Perry (2003 and Fragaszy, 2003). The *group contrast model*, also known as method of elimination or regional contrast (Fragaszy and Perry, 2003: 14) has served as basis for most discussions on traditions or cultures. The argument is summarized as follows (Fragaszy, 2003: 64): "1. Group X and Group Y are currently or were until very recently members of a single breeding population (that is, "genetically similar"). 2. Group X performs an action in one form and Group Y either does not perform it or performs it in a distinctively different form. 3. No obvious environmental difference limits the two groups from exhibiting the same form of behavior." Conceiving this model in a three-dimensional space, X axis would represent the *degree of behavioral similarity*, Y axis the *degree of genetic relatedness* and Z axis the *degree of environmental similarity* (Fragaszy, 2003: 66). An ideal candidate for tradition is then a behavior that would display strong differences across groups that are genetically alike and who live in similar environments. Fragaszy and Perry (2003: 14) identify that this model does not include an essential feature of tradition, that is, the dependence on social context for the acquisition of a behaviour.

27 They propose (Fragaszy and Perry, 2003) a *process model of tradition*. Tradition is consequently defined as "behavioral practice that is shared among members of a group, is performed repeatedly over a period of time (that is, it is enduring), and depends to a measurable degree on social contributions to individual learning for its appearance in new practitioners" (Fragaszy, 2003: 61). When depicted in a three-dimensional space, X axis would inform the *duration* of behavior in a group, Y axis the *proportion of population* performing the behavior, and Z axis the *contribution of social context* to its acquisition. Therefore, a prototypical tradition would be a long enduring behavior, present in most members of the group and highly dependent on social context. A broader definition of social learning considers it as "changes in the behavior of one individual that result, in part, from paying attention to the behavior of another" (Fragazsy and Perry 2003: 8 referring to Box). A more inclusive classification of social learning enables one to account for the variations in socially biased learning that Fragaszy and Visalberghi (2004: 33) point out to take place across species. For instance, learning can occur by enhancing the interest in a stimulus or stimuli, which in turn, makes manipulation and chance of solution more likely (Visalberghi, 1997: 820).

28 The emphasis on social learning in the study of non-human animals meets a demand in the sense that sociocultural anthropologists tend to conceptualize culture less as something that can be seen in the absence of other factors, and more as something that occurs in social contexts. As Fragaszy and Perry (2003:17) notice, the group contrast model fails to identify behaviors similar across groups but dependent on social learning. This is a perfectly understandable critique from the point of view of anthropology, especially taking into consideration the anthropological shift in focus from behavior patterns and neatly identified cultural capsules to the idea that "people live *culturally*" rather than "*in culture*" (Ingold, 1994: 330). The definitions discussed here were in fact only a few examples to illustrate the apparent increasing concern on the part of cultural primatology with issues central to contemporary anthropology. On the other hand, the question of the prerequisite of meaning was already present in McGrew's writings, but many issues raised could not be fully developed back then and much work is yet to be accomplished in the search for a non minimalist approach to animal culture. McGrew comments that Ingold, in personal communication with him, maintained that socio-

cultural anthropologists would be reluctant to attribute culture to apes unless these acts could be shown to have meaning to them. The author (McGrew, 1994: 89) even raises the problem of possible gender differences among chimpanzees, a question he considers not to be empirically sensible at that moment. Gender differences in non-human wild animals would certainly be the paradise for a non anthropocentric anthropology (for a critique on human gendered views in the study of primates see Haraway, 1989).

29 The critique of ethnocentrism and anthropocentrism points at the direction of productive influences between cultural primatology and sociocultural anthropology. These are large views of disciplinary experience scientists of both areas face and that have been called into question. Despite the increasing critical predisposition regarding these broader assumptions, methodological incongruities pose a hardship to any researcher aiming at an integrated understanding of firstly, the complex and meaningful world of non-human animals and secondly, of the multifaceted relationships established between humans and non-humans. To that extent, ape language research has produced one of the most interesting cases of interspecies communication and methodological crossing. Savage-Rumbaugh *et al.* (2005: 311) are accurate in arguing for "participant-based ethnographic studies of primate cognition". The discomfort some primatologists and psychologists may feel toward ethnographic approaches to animals is very likely to be grounded in deep rooted paradigmatic sets of interdictions and allowances displayed by each discipline.

30 To clarify the dilemma posed to life sciences and anthropology it is worth noticing two traditionally distinct proposals of both fields. Geertz (1973: 5), advocate of interpretivism in anthropology, affirms that "believing, with Max Weber, that man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretive one in search of meaning". The task of analyzing meaning is facilitated by an examination of what is being communicated in contexts. Reviewing the domain of biosemiotics, Lestel (2002: 40) observes on the one hand, the neglect of the semiotic dimension of animal cultures and on the other, how the idea of culture in animals is able to transform biosemiotics by focusing on the social aspect of communication. Lestel *et al.* (2006: 164) advance the idea of an integrated etho-ethnology and ethno-ethology in order to account for human / animal associations that occur in hybrid communities. Likewise, the proposal of an *anthropology of nature* (Descola 2005: 15) veers to a re-conceptualization of anthropology so as to include in its object the collectivities relegated to a minor role in the life of humans. In addition, the symmetric anthropology developed in the area of social studies of science has advocated a new conception of *anthropos* as a "weaver of morphisms" that cannot be allocated to any side of the Nature-Culture pole (Latour, 1993: 137). However, a more direct implication in the specific topic of animal / human relations has not yet been fully explored by this domain (but see Latour 1996 about the lessons of simian societies to theory building in sociology). Furthermore, the cognitive anthropology proposed by Hutchins in terms of distributed cognition has presented some attempts to deal with scientist / chimpanzee interaction in laboratory studies (Hutchins, 2008). Finally, oriented by a different project, but arguing along the same lines of redefinition of beings, Haraway (1991 for selected essays) criticizes primate behavior studies for engaging in practices of power over the discourse on human nature.

6 Nature and culture revisited

31 Up to now the debate presented has been anchored in the prospects of re-conceptualizing what has been separately allocated to Nature and to Culture. The line of inquiry on animal cultures provides grounds to blur boundaries about what is attributed to Nature and Culture. The matter is not that now primates and some other animals can be considered to have *jumped* from one extremity to the other or to have *moved towards* culture. In the all-or-none perspective, the border of culture could in theory be greatly enlarged to accommodate some animals. In the gradualist viewpoint, culture could be so decomposed as to show which characteristics and demands animals are able to meet. In the latter case, the idea expressed is that there is something in between intertwining Nature/Culture, that nonetheless remain as pure forms. The mixture does not affect the beginning nor the ending. On the contrary, the main point of this article has been that animal cultures do possess the potential to strike presuppositions that have grounded much of the debate on human and animals. The task is far from being integrally accomplished here or elsewhere but this goal would surely not be complete without analyzing non-Western conceptualizations of humans and non-human animals. As Ingold (1994: xvii) underlines, theoretical work in anthropology is a question of opening up concepts for examination. Its mission supersedes the demonstration that the apparently strange makes sense in a given context. Instead, through the contact with the unfamiliar it strikes and revisits the most basic Western assumptions.

32 Kuhn (1970: 114) observes that "perceptual switches" accompany paradigm changes. The proposal is then to introduce ethnology of non-Western populations to put in evidence the points of departure of most contemporary ideas on humans and animals and to advance an analytical understanding of paradigms in science. According to anthropology the question of animal cultures should lead to the question of meaning in non-human animals. Therefore, we are entitled to reflect upon their status as "subjects" (Lestel *et al.* 2006: 171), that is as "interpreting actors" or as "persons" (Ingold, 1990: 220), i.e. as a "conscious subject of social relations". It has been previously explained that in modern naturalism the differences between organisms are differences in degree connected by the finest gradations (Darwin 1871: 35). On the other hand, *animism* is regarded as the structural inversion of naturalism (Descola 2005 : 278). It represents the original state of metaphysical non-differentiation among beings in which the common condition between humans and animals is not animality but humanity (Descola 1998 : 28 and Viveiros de Castro 1998 : 472).

33 Viveiros de Castro brings forward the complementary notion of *perpectivism* based on references in Amazonian ethnographies to an indigenous theory according to which the way humans see animals and other beings of the universe is profoundly different from the manner these beings see themselves and humans (Viveiros de Castro, 1998: 470). He summarizes (Viveiros de Castro, 1998: 470) that typically, *humans* see humans as humans, animals as animals and spirits (in the case they see them) as spirits. *Predatory animals and spirits* see humans as prey animals, whereas *prey animals* see humans and spirits as predatory animals. However, animals and spirits do not see themselves as such, but as anthropomorphic beings, experiencing their habits and characteristics in cultural ways. Their social system is organized as human institutions, with shamans, feasts, rites, villages and so on. Bodily attributes, as for instance claws or furs, are perceived as body

decoration. Their food is regarded as human food, for example, a jaguar would see blood as manioc beer. He concludes that "animals are people, or see themselves as persons" (Viveiros de Castro, 1998: 470).

34 In animism humans and animals were once humans endowed with consciousness, agency and culture. However, if we do not see animals as humans, it is because the manifest form of a species is a merely a "clothing" that masks an internal human form, visible only to those with the same bodily disposition or to trans-specific beings such as shamans (Viveiros, 1998: 471 see Descola, 2005: 196-202 for a diverse assessment of perspectivism).On the other hand, the body as clothing must not be equated to a naked anatomy as the biological conception of body, but to a *habitus*, in other words, as an expression of their affections, of what they eat, how they move, where they live, how they communicate and so on (Viveiros de Castro, 1998: 478 and Descola 2005: 202). This body is "the origin of perspectives", establishing therefore how the other will be perceived (Viveiros de Castro, 1998: 478). In fact, there might not be an original state of nature, naturalness or animality, should we think of a world in which beings always commence living through culture. Modern *multiculturalism* founds one nature for a multiplicity of cultures whereas *multinaturalism* conceives one culture for multiple natures. Descola (2005: 175) tempers that binary oppositions do not constitute the source of the problem, but the belief that their content is universal. This position is in principle surprisingly not at odds with Latour's assertion (1993: 128) that we should invest in tracing the networks of hybrids and their further process of purification into distinct poles. Driving home the point, animal cultures are hybrids in the sense that they cannot be clearly allocated into any of the Nature / Culture poles, but more deeply because they put into question the very content of Nature/ Culture. This is a query to be explored in its fullest potential.

35 In modern naturalism the boundary work demarcating a being from another goes through gradual distinctions in what Descola (2005: 168) names interiority, a term that assembles what we sometimes call mind, subjectivity, consciousness or intentionality. It is through this framework that one realizes the importance of cognitive sciences for modern ontology. Indeed, it has been warned that similar overt behavior may be derived from different cognitive competences (De Lillo and Visalberghi, 1994: 276 and Perry, 2006: 185). Animism conceives culture and personhood as 'natural' interspecies attributes, positing a metaphysical continuity and a physical discontinuity. Modern naturalism conceptualizes a physical continuity across organisms and at the same time mobilizes mental faculties as resources to emphasize differences among living beings. The implication is such that naturalism can only grant personhood to animals phylogenetically close enough to humans to be theoretically or empirically capable of catching up with human cognitive complexity to a considerable extent. Descola (2005: 271) recalls that even the field of contemporary animal ethics seems to argue along predictable directions traced by naturalism. On the borders of our humanity lie non-human individuals with enough cognitive similarities to us to be eligible to occupy the status of persons. This is a challenge primatology should choose to accept and one it cannot accomplish without sociocultural anthropology.

7 Conclusions

36 Whereas the Nature-Culture divide has separated the pole of *human beings* and *culture* from the pole of *non-humans* and *nature*, primate cultures have become hybrids par

excellence. Animal cultures should not be conceived as an intertwined mixture of two fixed pure forms, but as genuine hybrids capable of redefining the content of crystallized Nature-Culture poles. However, for animal cultures to reveal their full potential, crossed concerns are required from primatology and anthropology. Life sciences ought to systematically include the question of meaning in its research agenda, while anthropology should strive for a non anthropocentric approach to culture. Furthermore, non-Western conceptualizations of human-animal relationships open up Western concepts for examination. In an ontology in which the original condition between humans and animals is culture, not nature, it is not to doubt animals are persons. Personhood as a characteristic of cultural beings is not automatically taken as a line of inquiry by cultural primatology when primate cultures are studied. Because modern naturalism differentiates beings in terms of cognitive capacities, animal personhood can only be granted to individuals with enough cognitive similarities to us to be eligible to occupy the status of persons. Primatology and anthropology should accept the challenge of assessing the deepest implications of the idea of animal culture. This pledges for a redefinition of the categories in which we have been grounding our understanding of humans and non-human animals.

BIBLIOGRAPHY

Boesch C (2003). Is culture a golden barrier between human and chimpanzee? *Evolutionary Anthropology: Issues, News, and Reviews* 12, 82–91.

Darwin C (1871). *The descent of man and selection in relation to sex. Vol I*. London: John Murray.

De Lilo C, Visalberghi E (1994). Transfer Index and mediational learning in tufted capuchins (Cebus apella). *International Journal of Primatology* 15, 275–287.

Descola P (2005). *Par-delà nature et culture*. Paris: Gallimard.

Fragaszy D (2003). Making space for traditions. *Evolutionary Anthropology: Issues, News, and Reviews* 12, 61–70.

Fragaszy DM, PerryS (2003). *The biology of traditions: Models and evidence*. Cambridge, UK, New York: Cambridge University Press.

Fragaszy D, Visalberghi E (2004). Socially biased learning in monkeys. *Learning and Behavior* 32, 24–35.

Gallois DT (1994). De arredios a isolados: perspectivas de autonomia para os povos indigenas recem-contatados. In *Índios no Brasil* (pp. 121–134) (de Chauí MS, Grupioni LDB, editors). São Paulo, SP: Ministério da Educação e do Desporto.

Geertz C (1973). *The interpretation of cultures: Selected essays*. New York: Basic.

Gieryn TF (1983). Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists. *American Sociological Review* 48, 781–795.

Haraway DJ (1989). *Primate visions: Gender, race, and nature in the world of modern science*. New York: Routledge.

Haraway DJ (1991). *Simians, cyborgs, and women: The reinvention of nature*. New York: Routledge.

Haslam M, Hernandez-Aguilar A, Ling V, Carvalho S, La Torre I. de DeStefano A, Du A, Hardy B, Harris J, Marchant L, Matsuzawa T, McGrew W, Mercader J, Mora R, Petraglia M, Roche H, Visalberghi E, Warren R (2009). Primate archaeology. *Nature* 460, 339–344.

Howard CV (2002). A domesticação das mercadorias: estratégias Waiwai. In *Pacificando o branco: Cosmologias do contato no Norte-Amazônico* (pp. 25–60) (Albert B, Ramos AR, editors). São Paulo: Editora UNESP.

Hutchins E (1995). *Cognition in the wild*. Cambridge, Mass: MIT Press.

Hutchins E (2008). The role of cultural practices in the emergence of modern human intelligence. *Philosophical Transactions of the Royal Society B: Biological Sciences* 363, 2011–2019.

Ingold T (1990). An anthropologist looks at biology. *Man* 25, 208–229.

Ingold T (1994). General introduction. In *Companion encyclopedia of anthropology: Humanity, culture and social life* (pp. xiii–xxxiv) (Ingold T, editor). London, New York: Routledge.

Ingold T (1994). Humanity and Animality. In *Companion encyclopedia of anthropology: Humanity, culture and social life* (pp. 14–32) (Ingold T, editor). London, New York: Routledge.

Ingold T (1994). Introduction to culture. In *Companion encyclopedia of anthropology: Humanity, culture and social life* (pp. 329–349) (Ingold T, editor). London, New York: Routledge.

Ingold T (1994). Introduction to social life. In *Companion encyclopedia of anthropology: Humanity, culture and social life* (pp. 737–782) (Ingold T, editor). London, New York: Routledge.

Kuhn TS (1970). Reflections on my critics. In I. Lakatos, & A. Musgrave (Eds.), *Criticism and the growth of knowledge: Proceedings of the International Colloquium in the Philosophy of Science, London, 1965* (pp. 231–278). Cambridge: University Press.

Kuhn TS (1970). *The structure of scientific revolutions.* (2nd ed.). Chicago: University of Chicago Press.

Latour B (1993). *We have never been modern*. Cambridge, Mass: Harvard University Press.

Latour B (1996). On interobjectivity. *Mind, Culture, and Activity* 3, 228–245.

Lestel D (2002). The Biosemiotics and Phylogenesis of Culture. *Social Science Information* 41, 35–68.

Lestel D, Brunois F, Gaunet F (2006). Etho-ethnology and ethno-ethology. *Social Science Information* 45, 155–177.

Lestel D (2003). *Les origines animales de la culture*. Paris: Flammarion.

McGrew WC (1992). *Chimpanzee material culture: Implications for human evolution*. Cambridge [England], New York, NY, USA: Cambridge University Press.

Miller GA (2003). The cognitive revolution: a historical perspective. *Trends in Cognitive Sciences* 7, 141–144.

Perry SE (2006). What Cultural Primatology Can Tell Anthropologists about the Evolution of Culture. *Annual Review of Anthropology* 35, 171–190.

Savage Rumbaugh S, Fields WM, Segerdahl P, Rumbaugh D (2005). Culture Prefigures Cognition in Pan/Homo Bonobos. *Theoria* 54, 311–328.

Scott JC (1985). *Weapons of the weak: Everyday forms of peasant resistance*. New Haven: Yale University Press.

Star SL, Griesemer JR (1989). Institutional Ecology, `Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science* 19, 387–420.

Visalberghi E (1997). Success and understanding in cognitive tasks: A comparison between Cebus apella and Pan troglodytes. *International Journal of Primatology* 18, 811–830.

Viveiros de Castro E (1998). Cosmological Deixis and Amerindian Perspectivism. *The Journal of the Royal Anthropological Institute* 4, 469–488.

Whiten A, Goodall J, McGrew WC, Nishida T, Reynolds V, Sugiyama Y, Tutin CEG, Wrangham RW, Boesch C (1999). Cultures in chimpanzees. *Nature*, *399*, 682–685.

Whiten A, Horner V, Marshall-Pescini S (2003). Cultural panthropology. *Evolutionary Anthropology* 12, 92–105.

Wolff F (2010). *Notre humanité: D'Aristote à l'homme neuronal*. Paris: Fayard.

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ABSTRACTS

The modern categorization also referred to as modern constitution has set Nature and Culture apart as two distinct ontological provinces, separating the pole of human beings and culture from the pole of non-humans and nature. Recent sociocultural anthropology and social studies of science have revisited the historical abyss between Nature and Culture and have shed light on the manifold conceptualizations of both terms across human cultures. For instance, non-Western indigenous relationships between humans and non-human animals have blurred the boundaries of continuity and discontinuity, supporting a hybridization of the modern Nature-Culture poles. Moreover, social studies of science have insisted that scientific practice is permeated by problems that are neither “natural” nor “social” because Nature and Culture become part of the inquiry, not the solution. If any interdisciplinary exchange is to be set in motion between cultural primatology and sociocultural anthropology a re-conceptualization of Nature and Culture should be called for. Whereas cultural primatology traditionally employs paradigms long abandoned by sociocultural anthropology, leading to a simplistic naturalization of culture in the eyes of anthropologists, it can be said that cultural anthropology remains reluctant to engage in dialogue with life sciences, alarmed it might be reduced to them. To this extent, primatological

models of culture that emphasize social learning over methods of elimination appear to meet a demand. Nature and Culture have become intertwined, but between an over naturalized culture of primatologists and a super socialized culture of anthropologists lays the challenge of redefining both Nature and Culture.

Une conception moderne, appelée aussi catégorisation moderne, fixe à part Nature et Culture en tant que deux domaines ontologiques distincts, séparant le pôle des *êtres humains* et la *culture*, du pôle des *non humains* et de la *nature*. L'anthropologie socioculturelle récente et les études sociales de la science ont revisité le fossé historique qui sépare Nature et Culture et ont mis en lumière les conceptualisations multiples de ces deux termes au travers des cultures humaines. Par exemple, les relations des indigènes non occidentaux entre humains et animaux brouillent les frontières entre continuité et discontinuité, car ils témoignent d'une hybridation des pôles Nature-Culture. De plus, des études sociales de la science ont insisté sur le fait que la pratique scientifique est imprégnée de problèmes qui ne sont ni « naturels » ni « sociaux » parce que Nature et Culture sont partie intégrante de leur questionnement, et non leur solution. Si un échange quelconque interdisciplinaire doit être engagé entre primatologie culturelle et anthropologie socioculturelle, une reconceptualisation de la Nature et de la Culture devrait être envisagée. Tandis que la primatologie culturelle utilise traditionnellement des paradigmes abandonnés depuis longtemps par l'anthropologie socioculturelle, conduisant à une naturalisation simpliste de la culture aux yeux des anthropologues, on peut dire que l'anthropologie culturelle demeure elle, réticente à s'engager dans un dialogue avec les sciences de la vie, effrayée qu'elle puisse s'y réduire. En ce sens, des modèles primatologiques de la culture qui privilégient l'apprentissage social au détriment de méthodes d'élimination semblent satisfaire une demande. Nature et Culture sont devenues étroitement liées, mais entre une culture sur-naturalisée de primatologues et une culture sur-socialisée d'anthropologues le défi reste de redéfinir à la fois Nature et Culture.

INDEX

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