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THE HUMAN CONSTRUCTION OF NATURE: IMPACTS ON URBAN RACCOON CONCEPTIONS AND MANAGEMENT STRATEGIES

The production of nature thesis suggests that nature is subject to distortion by human material utilization and understanding. From a political economy perspective, nature is constructed and then reconstructed through economic processes. In North American culture it can be quite obvious that nature has become conceptualized to become something much different than it is in reality. This is an odd phenomenon that is unique to humans where we can ultimately decide what we want to perceive as natural or not. Although we are a unique species, able to accommodate our populations with our own compositions of nature, creating our own environments, human populations are not in isolation within this created reality. As much as it seems we wish to depart from nature through organization and technology, entities that are not intended to be present by human populations still have presence and may be conceptualized as problematic. The solutions to these 'problems' therefore may be lacking embrace as a result of these initial conceptions.

This paper deals with the North American Raccoon problem. While responsibility for this conflict seems to be polarized to one species, it may be worthwhile here to consider both humans and raccoons as problematic. Here we have two species; one that's created an environment for itself and the other that finds success in niches opened in that created environment. Coexistence with this synanthropic species seems to be difficult considering the raccoons physical and behavioural characteristics. Most prominently in literature the raccoon is addressed as problematic for being a nuisance and disease vector. Discourses infused in literature dealing with this area of interest are within certain bounds and although it is difficult to isolate the following perspectives as in many instances when applied to raccoon conceptualizations we find overlapping perspectives, this paper will focus on the raccoon from a political ecology perspective while looking at how the raccoon problem is managed contemporarily. This paper will firstly delineate the current situation with raccoons to develop some context. Following the first section, the raccoon will be analyzed through 3 perspectives, governance, discursive framings, and socio-natures based on extensive research and derived from sources which are concerned with this species in several aspects.

CONTEXT

HISTORY

The scientific name for the raccoon species is called *Procyon lotor*. Throughout recorded history it has received mention in numerous historical documents (Zeveloff, 2002, p.1-4, p. 169). It has had several different names and associations from "rat that washes" to "small bear" to "wild cat" in numerous different dialects (Zeveloff, 2002, p.169). It has had some cultural significance in North American-European history, recently however this has changed. Within the last century, the raccoon has migrated

rapidly from South and Central America, north into the United States and Canada (Zeweloff, 2002, p.80-81). The predominant reasons for this migration as suggested in much of the literature on the topic are human caused. For example the elimination of wolves and coyotes in the United states in the prairies from 1915 to 1940 as they were a threat to agricultural and livestock production and rapid urban development are suggested as possible enabling factors of this rapid migration however it is not known exactly why (Zeweloff, 2002, p.15-20). By now several different variations of raccoon have branched off into different areas of North America specific to location and can now be found all the way to Alaska (Zeweloff, 2002 p 80-81; Ditchkoff, 2006; Lavriere 2004). Where human development is present, raccoons seem able to take advantage and radiate. Prior to this recent migration, in past centuries the raccoons cultural importance was much different (Zeweloff, 2002, p.1-20) and only within the last century has the species been understood as a serious problem.

PHYSIOLOGY

The raccoon is exemplary of species that are able to thrive in human created physical environments. From the perspective of raccoons, human centres are full of food and shelter resources to exploit. They are adaptable for three reasons which should answer why they may be so adaptable to human environments; They are nocturnal, and they are omnivores In their natural environment (Zeweloff, 2002 p.101). Additionally they are highly dexterous and their paws have a unique characteristic of being able to pick things up, open things and climb (Zeweloff, P.101). In terms of reproduction they breed once per year and have one to seven cubs (Zeweloff, P.126). In the rural environment, they are able to find shelter in trees while they may depend on human agriculture as a supply of food, in the urban environment, garbage and unoccupied spaces in buildings may make suitable resources to sustain life without much competition (Zeweloff p. 101).

CONFLICT

As raccoons have become populous under conditions provided by human settlement, there are more opportunities for inter-species contact. As a result of recent vaccinations to raccoon populations and urban development, populations have been able to boom (Zevaloff p.113). Although quite charismatic, especially in contrast to other species that do well among humans such as mice or cockroaches, the way the *procyon lotor* 'advertises' itself may be misleading. Prior to this research I even had even understood them to be in the same category as our common North American domesticated animals. Their size, and appearance are certainly misleading when put under the same light. This is in terms of both behaviour and function. While they may be appealing, the raccoon can carry many diseases and parasites while still being fully functional(, they can be a nuisance to homes, and in some cases even be violent although this behaviour is mostly attributed to having rabies (Zevaloff 2002, p.112; Suzanne, 1987). In North America they are a particular threat to children and pets (Slate, 2008; Park S). Their adaptability in this sense may be seen as extremely problematic. Much of the academic and scientific literature is motivated by the disease vector dimension of *procyon lotor*. Raccoons are difficult to manage and have recently become a public health, government, and conservation issue.

PERSPECTIVES

GOVERNANCE

Understanding who is responsible for the raccoon is somewhat complicated. The raccoon is a concern to many organizations with differing commitments and values. While federal and provincial funds are utilized for raccoon management, the raccoon is a concern from the perspective of public health, conservation as well as the public population. Ultimately strategies for managing raccoon populations are a product of several overlapping values.

The raccoons position is not unlike the grizzly bear in Jessica Dempsey(2010)'s scenario. Interestingly however, in this case the animal that is being managed under compromise from several different conflicting values is not a keystone species. Its ecological and human social function are much different. In this case, within the last century, human infrastructure has promoted raccoon populations invasive migration into the human environment spurring a variety of different genera (Zeweloff, 2002). While this case is surrounding an intolerance of raccoon populations to humans, strategies are geared toward elimination of populations of a particular species rather than in preserving as is in Dempsey's focus. The common solutions for elimination here are either to relocate, vaccinate or exterminate these species when they are problematic (Butterfly, 2013; Craven,1998; Gordon,2005; Heath-eves, 2003; Schwiff, 2013; Slate, 2008). It is not unexpected here that differing organizations would find some interest in these strategies, particularly when solutions border humane and ethical boundaries. For example in 2003 the Ontario Ministry of Natural resources was accused of killing at least 9000 raccoons and skunks as part of an experimental depopulation program. Wildlife protection advocates were not happy with this initiative and expressed their disagreement with this initiative suggesting a raccoon disease control program initiated in Ohio which was less costly and more humane(Heath-eves, 2003). While it could also be mentioned here again that vaccination programs have unexpectedly resulted in raccoon population booms in the past (Zeweloff, p.113), these contesting values seem to serve as a regulating force in how the raccoon is ultimately dealt with.

Referring to a part of Jessica Dempsey (2010)'s article, the raccoon, like the bear cannot represent itself and rather, the fate of this species would seem entirely determined by humans. Throughout the last century, whether conscious of this development or not, North American settlements, by providing an environment suitable for raccoons have permitted the rapid migration of raccoon populations northward. Rather than this being the result of human decisions directed at raccoons, the rapid migration was rather an implication of decisions related to human settlement and agriculture.

Interestingly, today the raccoon is the responsibility of provincial and federal governments, however again, the problem was historically generated in part by socio-cultural influences which had likely resulted in rapid urbanization, the elimination of predator species, and/or the spread of agriculture. Government solutions to the raccoon problem and how it is studied suggest the acceptance of human developments to date. Rather than seeking solutions outside those facilitative aspects of raccoon populations in North American society and culture, solutions are thought of within the frame of today's society, accepting that human developments to date are necessary and always will be present in their current state.

DISCURSIVE FRAMINGS

While many aspects concerning *Procyon lotor* and their implication on human populations seem to be covered in most of the academic literature (other than when they are considered historically), as mentioned above, how human population characteristics have generated and continue to effect raccoon populations seems to be a peripheral subject. The relationship is depicted as if human settlement characteristics do not have a reciprocal relationship with raccoon populations and rather, solutions suggested are dominantly applicatory to the situation (Suzanne, 1987; Schwiff, 2013; Page, 2008; Craven, 1998). These discourses neglect the fact that North American human socio-economic cultural infrastructure may literally be the primary reason populations of scavengers and parasites find opportunities near human establishment. I am suggesting here that the problem is that humans have organized to accept themselves as displaced from nature and that human socio economic culturally accepted urban environments do not promote biodiversity and that this could be negative. The result of this rejection of biodiversity is logically the introduction of species that are highly adaptable or find opportunity in dense human populations. Furthermore, better opportunities for synanthropic species to survive less proximate to human infrastructure have not been suggested in any of the literature I have so

far come across during this research. Many species find niche opportunities in human created environments. While reintroduction of species present prior to urbanization such as the coyote in the case of raccoons have been suggested (Zevloff, p.117), these solutions likely could not repair the socio-economic cultural value of species other than human, in the urban environment.

Initially I had thought it could be possible to 'utilize' raccoons in the same way that domesticate and livestock have been, however raccoons were realized to be different and thus that this would likely not be possible. As mentioned above, the raccoon is highly prone to disease and can be a nuisance. Regardless, the proximity of *Procyon lotor* to humans and its characteristic of not being of any particular use to humans open a potential for an alternative perspective of wildlife that has no direct use for humans, as positive. This could potentially promote biodiversity in environments that have experienced complete destruction by the concrete of mankind. The result of solutions derived from the conventional frame are under a particular frame and commonly under a capital budget and thus solutions may only be applied to a certain extent and thus serve to 'medicate' rather than 'cure' urban raccoon problems.

Implied in the way the raccoon is framed, understood, and studied, the species is depicted as external from human populations and accepting of the concept of present human development as permanent. As conflict ensues, these perspectives of humans as external from nature would assume the human populations directly affected to be passive in a solution. Many of my scientific and government references treat this matter as if the human populations affected would have little or no involvement in these issues other than to become victims. This may be materialized in the noticed leniency in wildlife laws concerning raccoons (Ontario, 2013). Rather than address reasons in human society and the coinciding urban infrastructure that do not facilitate raccoons, the frames approach the problem as if the solution is applicatory to the current dominant socio cultural state.

SOCIO NATURES

As mentioned above, government has the power to facilitate a type of social relation with the raccoon. It is also given the responsibility to deal with this problem. This is interesting because although governments may be able to influence policy, to directly dictate public opinions and understandings may seem undemocratic. Socio-cultural values of the public thus may be left vulnerable to distorted understandings of the raccoon. The ideas surrounding the raccoon in this case for example may be associated with humour as suggested by a source such as from popular media or news. An example of this could be the character Meeko in the Disney film 'Pocahontas'. While seemingly innocent, these uninformed depictions may function as a source of confusion among human populations. Simply put, the public may understand the raccoon without understanding why they are a serious problem and it might seem undemocratic for a government to regulate the exposition of seemingly harmless personal opinions, however these uninformed depictions to the public may prove to be problematic. While the raccoon problem becomes the knowledge and responsibility special organizations directly concerned with the matter, the population is kept distant from a proximate, coexisting species, and specialized groups and technological agents are used to deal with the problem for those populations.

Implied in all other sections of this paper, the concept of the raccoon as well as its fate is created almost entirely by humans. The raccoon problem is relatively new, developed within the last century. Domesticated and livestock animals may be agents of context in which the raccoon is conceptualized. Clearly in North American culture, the species is not preferable as meat, and just as well, human infrastructure is not suited for common raccoon behaviour. This is quite interesting since they don't seem to get such a negative portrayal in media. One might expect incompatibility with humans to result in highly negative portrayals (not to say that they are not, just not extensively).

In my own personal case, as I've mentioned I did not understand the propensity of raccoons as disease vectors before this research. One article I had come across covered an event in which raccoon meat was the main course in a community dinner. In this article, eating raccoon is portrayed as absurd however it does not mention why or how this is true. After further research, I could understand why, but it

is interesting how the raccoon, being a serious disease vector was not mentioned in the article for anything other than raccoon meat being abnormal. Interestingly the people eating the raccoon were simply regarded as odd. I think it is reasonable to say that there is some confusion when it comes to the raccoon on the public level, coming from their behaviour as a pest and sharing similar characteristics of domesticated animals. These confused conceptions on the public level may feed into discursive frames which would influence how the raccoon as a problem is ultimately governed.

On a governance level we could also see the raccoons migrations or population level behaviour as being influenced by strategies coming out of public understandings and discursive frames. As I've mentioned before strategies may calm raccoon populations and disease but never fully eliminate them. It could be possible that this is due to a cyclical relationship balanced between budget and common frames under which the raccoon is seen. One article I came across illustrates this relationship. In this article, a considered solution to a recent raccoon problem is addressed as to acquire the least in economic losses, however it doesn't suggest these problems could be fully eliminated (Shwiff, 2013). These types of strategies may be recreating the raccoon problem by being ineffective and limited under government budgets in addition to allowing the recreation of public conceptions of the raccoon, which may fuel back into government to enforce more ineffective initiatives. Ultimately it seems that the limitations set by seeing this issue in terms of economic benefit may be hindering effective developments which may be recreating environments which permit the redundancy of these ineffective initiatives.

DISCUSSION

Raccoon populations are an emergent problem, developing within the last century due to human induced circumstances. In my own opinion, to excessively tamper with the environment is not an effective solution to a problem generated as implicit in development. Interestingly, while an alteration to North American socio economic values may be the most effective solution, these are not addressed widely in literature surrounding *Procyon lotor*. This created circumstance is portrayed as if it always has

been and always will be. I'm unsure of the psychological reasoning behind this but most synanthropic species seem to trigger emotions of disgust. It could be possible that this is because of how unexpected, yet how common these types of species may be. Specifically, I am referring to species like cockroaches, mosquitoes, mice, and rats. The raccoon shares many characteristics of these species in being able to adapt however its conceptualization doesn't seem to be all that bad unless understood in terms of public health or as a nuisance. This may be due to their North American presence being fairly recent. One ecological study I came across finds that raccoons are more likely to have disease and parasites in the rural environment than in the urban environment (Page, 2008). Numerous other studies done on raccoons have utilized man made dens in their study. Considering their somewhat pleasant appearance, and the fact that human created environments can actually result in their better health, In the future, with relief from disease I think this species could be somewhat embraced. *Procyon lotor* is a species that has grown with humans without being displaced from their natural instincts through human contact. With this consideration in mind, it should not be forgotten that their becoming populous has been the result of human disfigurement to natural ecosystems. Biodiversity is something of value and there seems there could be room in North American socio-culture that would permit the conservation of species as implemented and local or proximate.

In contrast to conventional ways of dealing with nature, in my research I also came across the concept of community-based conservation. These projects employ people in communities proximate to threatened species and create value in communities for conservation initiatives (Young; Wildlife Conservation Society; Future Generations). I found some elements of this method of re-establishing relationships with the environment to be quite interesting. Broadly, it suggests the empowerment of communities in conservation activities. With regards to the raccoon, this essence of localized ways of dealing with problematic wildlife could potentially be built upon in the case of the raccoon. This is in contrast to conventional ways of dealing with problem raccoons that seem lacking in radical suggestions

and the fact that these issues are a matter of inter species conflict and not a matter of conflict between species and specialized groups within populations.

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