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Essay

CULTURE, HISTORY AND THE ONTOLOGICAL: EXAMINING THE RELATIONSHIP OF SCIENTIFIC KNOWLEDGE AND COMMUNITIES RESEARCHING RELICT HOMINOIDS IN NORTH AMERICA

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ABSTRACT. For the past 61 years, a community of researchers has been hunting for a hypothesized North American primate. Over that period, due to the historical context, the community has developed a complicated relationship with science and scientists, drawing upon scientific method and theories, while at the same time often defining themselves against the way in which science has been professionalized. This paper examines changes in the community's identity and representations of Bigfoot, arguing that the professionalization of science, the loss of the explorer, demographic changes in the United States, and the increasing availability of technology have influenced their development, while both Bigfoot and the researcher are also highly interconnected with the ontological through footprints, scat, hair and sightings—whether or not the creature exists.

KEYWORDS: science, cultural analysis, representation, history

INTRODUCTION

"Bigfoot is real."

In the HBO comedy-drama *Newsroom*, Neal Sampat, the producer of the show's blog and resident expert on the esoteric and darker portions of the web, spends an episode pitching a feature on the existence of an "unrecognized apex primate in North America" by repeating his hook: "Bigfoot is real." Coworkers meet his statements with groans and rolled-eyes, until the end of the episode when the protagonist Will McAvoy indicates a new openness to the topic, after he finds himself pressured to pronounce on air that Gabrielle Giffords had died, despite its being contrary to fact. McAvoy states, "When this is over, let me see the Bigfoot presentation…. I think I need some consulting on what's real and what's not" (Poul, 2012).

Despite the fact that 21% of Americans believe Bigfoot is real (Paranormal America 2018: Chapman University Survey of American Fears, 2018)—roughly the same percentage as those who believe the universe began with a big bang (Ingraham, 2014)—Bigfoot researchers inhabit a marginal space in U.S. culture, their claims being met with skepticism, particularly in the scientific community. Such a situation has had an influence on the Bigfoot research community itself, engendering a complicated relationship with science, one that has developed concomitantly with concept of Bigfoot[1] over the past 60

[1] The texts discussed in this article use a variety of names for what I generically term Bigfoot. The term is considered by some as being loaded with cultural

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years since Jerry Crew, a bulldozer operator, reported finding 15-inch tracks around a construction site. The present work will examine the development of the relationship between the concept of Bigfoot, the manners in which Bigfoot researchers represent themselves, and the way science inhabits the discourse surrounding the concept. My argument, however, is not simply that the concept and representation are connected, but rather that they influence the behaviors of the Bigfoot researchers through what Pierre Bourdieu has called habitus, "the durably installed generative principle of regulated improvisations" (Bourdieu, 1997). At the same time performativity, as defined by Judith Butler, provides a manner for Bigfoot researchers to change the discourse and their identities in a new context (Butler, 2010).

This work will examine the concept of Bigfoot partially as a cultural construct, as in Joshua Blu Buhs' *Bigfoot: The Life and Times of a Legend*. In fact, the work will draw on Blu Buh's historical analysis, but at the same time will question some of the Blu Buh's assumptions. He envisions Bigfoot as purely a cultural construct, which he indicates in outlining the difference between his book on Bigfoot and his first book *Fire Ant Wars*. In contrast to the challenge of his first book, in which he had to handle the agency of both the humans and the fire ants, he indicated that he began *Bigfoot: the Life and Times of a Legend* to discuss "human ideas about nature, how they come into being, the effect that they have," and "the intellectual history without also having to think about the ways that nature [had] changed." Bigfoot, he felt, offered the optimal method for doing this. He writes, "Here was a creature, I imagined then, that embodied various ideas about the natural world…but didn't exist. So I didn't have to worry about its agency, its ability to shape the story" (Blu Buhs, 2009).

My examination of Bigfoot and the Bigfoot research community views the concept of Bigfoot as an interaction between the cultural and the ontological, the constructed life-world of human beings and the natural world with which they interact. For understanding this idea, we might refer to the work of the French philosopher, anthropologist and sociologist Bruno Latour, who writes:

> Once you realize that scientific objects cannot be socially explained, then you realize too that the so-called weak objects, those that appear to be candidates for the accusation of antifetishism, were never mere projections on an empty screen either. They too act, they too do things, they too make you do things. It is not only the objects of science that resist, but all the others as well, those that were supposed to have been ground to dust by the powerful teeth of automated reflex-action deconstructors (Latour, 2004).[2]

baggage—often negative toward the Bigfoot research community. However, since this examination is of a cultural concept, it is more appropriate to use the term most prevalent in American culture. When entered into Google, the term Bigfoot returns more than 42 million entries, whereas Sasquatch returns roughly 15 million and Abominable Snowman only 3.5 million.

[2] I understand the irony of quoting Latour's "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern" here, since he was arguing that some scientific subjects are closed, and consensus has been established. However, at the same time, Latour's article provided the initial impetus to the ontological turn in which the topic of the ontological in critical analysis has been discussed in ways much more radical than my allowance that "things" act as agents in the study of Bigfoot. Martin Holbraad and Morten Axel Pedersen in *The Ontological Turn: An Anthropological Exposition* take the stance that "operating always as an adjective or adverb—never as a noun!—'the ontological' here is meant as a call to keep *open* the question of what phenomena might comprise a given ethnographic field and how anthropological concepts have to be modulated or transformed the better analytically to articulate them. To take the ontological turn is to ask ontological questions without taking ontology as an answer…. Instead of closing off the horizon of reflexivity in the name of some sort of ultimate reality that may ground it (an 'ontology' in the substantive sense), the ontological turn is the methodological

Therefore, whether or not Bigfoot exists, objects in the world—footprints, hair, scat, things/animals sighted in the forest—act upon the Bigfoot researchers and the people reporting sightings, and these objects must be viewed in the light of their being and status as actants, not simply as a part of a myth, a legend or just a cultural construct. Thus, the term "concept" as I am using it does not claim knowledge of Bigfoot's existence or non-existence. In fact, this paper maintains an agnostic position about the existence of Bigfoot, but examines the concept in a way that allows the concept of Bigfoot through the evidence to act on the environment and on the researchers themselves, thus making it "potent of meaning" (Musharbash and Presterudstven, 2014). I will also describe Bigfoot in a manner similar to that of W. Mitchel on the dinosaur in *The Last Dinosaur Book*, viewing the image not as being separated from biology and solely a cultural construct. This work will view the narratives and images as highly connected to the natural world. Mitchel explains, "The history of the dinosaur image, from its invention in the 1840s to its emergence as a media superstar in global popular culture at the end of the twentieth century, will have to be framed within a bare-bones outline of the story of modern culture from the Enlightenment through the Industrial Revolution to the postmodern era of biocybernetics reproduction" (Mitchell, 1998).

Similarly, the history of Bigfoot will contain within it the development of evolutionary theory, the taxonomy of the animal realm (particularly humans and apes), the movement from explorer/adventurer to scientific discovery, the professionalization of science, and the decentering of the creation of knowledge made possible by the Internet. Describing the entirety of this history would be too large for an examination such as this one, however. Therefore, I will narrow the discussion to look at the development of the concept of Bigfoot in the works of Ivan T. Sanderson, John Green, John Napier and Jeff Meldrum, only touching upon the documentaries in the 1970s and '80s that ultimately influence the representation of Bigfoot researchers in conferences. At the same time, I will frame the change of the discourse through the performativity of the new era of Bigfoot researchers and through a changing historical context. The discussion will revolve around five main subjects: the Bigfoot researchers, scientists/science, explorers, the theoretical structure into which Bigfoot has to be placed (i.e. evolutionary theory), and the representation of Bigfoot itself as a living being.

These five subjects will provide the structure of my examination. The structure of each section will not simply be historical, but rather will examine the texts as a web or network that is constantly referring to each other and utilizing pieces of the texts of their predecessors. Just as Roger Patterson had written in his book on Bigfoot "Without his effort [referring to Ivan T. Sanderson], this book would not have been written" (McLeod, 2009), all of the texts on Bigfoot have been so closely connected that they almost constitute a single oeuvre. Such a tight connection of the texts brings about the challenge of multivocality within a single work. Each of the texts discussed in this examination have a broad range of voices within a single narrative (through the various retellings of eyewitness accounts—sometimes from the original witness, to a newspaper reporter, to the writer of an early book and then to the writer of the book being analyzed). The method by which I will deal with this challenge is that I will look at the differences in the representation of the narratives (if they are not quoted wholesale) and the interpretations provided by the author prior or following the narratives of eyewitnesses—and how the narratives are fit into the broader natural history espoused by the writer.

injunction to keep this horizon perpetually open." (Pedersen, 2017)

BIGFOOT RESEARCHERS, SCIENCE & SCIENTISTS

The Scientists

To understand the representation of Bigfoot and the research community, it is important to look at the authors' representations of science and scientists. The concept of the Bigfoot researcher and its relationship with science and scientists developed within a cultural and historical context that extends for centuries, with sightings of a North American Wildman, the predecessor concept to Bigfoot, dating back to the 18th century.[3] Homo Ferens (wild man) appeared in Carolus Linnaeus's first taxonomic work, *Systema Naturae* in which Linnaeus depicted him as hairy, mute and walking on all fours. Throughout the 1800s sightings showed up around the United States in local newspapers. Wildmen were described often as half-man and half-bear, -ape or -gorilla. Most often the Wildmen were described in articles as over-sized, naked humans. However, the concept of an ape-man and descriptions of it as being like a gorilla found their way into the newspaper articles after the discoveries of these species are made. Native American tribes, particularly in the Pacific Northwest, had stories of creatures that were half-human and half-beast or of giant hairy people.

In the post-World War II period (1945–1961), Eric Shipton, one of the mountaineers who had been in the Himalayas attempting to summit Everest took a picture of a large footprint in the snow. The picture was picked up by newspapers in 1951 and distributed widely. The 1958 finding of the footprints in Bluff Creek, California thrust the North American Wildman into the worldwide public discourse, when the story and a picture of bulldozer operator Jerry Crew was picked up by wire services worldwide.

It is into this context that the scientific discussion of Bigfoot and the yeti begins. However, many scientists refused to engage in the discussion. Ivan T. Sanderson, trained as a biologist, but self-identifying as a reporter[4] wrote of the stance of scientists, "The scientific world had not been quite so circumspect. At the outset, it denounced the whole thing as, first, a fraud, and then a case of mistaken identity, and it stuck to this story: and it still in large part sticks to it today, even to the extent of deliberately ridiculing such men as Shipton and Kaulbach" (Sanderson 1961). Sanderson's representation of the scientific community is one that hangs over Bigfoot researchers today. Scientists are described as standing against the existence of Bigfoot or standing silently in a corner and unwilling to engage. Sanderson further divides the scientific community into two parts, those who are adventurous, open-minded, intellectually curious and those who are lazy, closed-minded, orthodox and non-travelling:

> True scientists there are aplenty, but most of them appear to be so cowed by the system and its self-appointed hierarchy—which, I regret to have to point out, is founded on a purely economic basis today—that they very seldom dare to speak out or give either their own or any truly scientific opinions. Then again, a not inconsiderable percentage of persons called or calling themselves scientists prove, on proper investigation, not to have any formal scientific training at all (Sanderson, 1961).

John Napier echoes Sanderson's stance in his *Bigfoot: The Yeti and Sasquatch in Myth*

[3] The concept dates back centuries, but our discussion—because we are focusing on the Bigfoot researcher, which is a very modern concept—will focus on the 20th and 21st centuries, particularly since 1958, which will offer us a periodization of Pre-World War II, Post-World War II to 1961, The Quiet Years (1962–1967), the Bigfoot Renaissance (1968–1995), and the Age of the Data Point (1995 to present).

[4] Sanderson identifies himself as a reporter 6 times throughout the text (Sanderson 1961, pp. 21, 24, 31, 51, 86, 285)

and Reality when talking about the supposed conspiracy of silence for which he puts the blame on caution rather than a desire to hush up the truth. He views scientists as not being "interested in investigating problems for which there is not sufficient evidence to justify launching an expensive time- and energy-consuming research project" (Napier, 1973). The concern that Sanderson and Napier have is not simply indicative of a disagreement about the existence of Bigfoot, but rather arises from the late nineteenth and twentieth centuries' professionalization of science. In the beginning of the 21st century, the role of professional scientist has become naturalized and seems ontologically enduring. However, the reality is that in nineteenth century America the idea of professional scientist did not exist (Lucier, 2009). The scientists in nineteenth century America were "crusading reformers" and "promoters of a purer science" (Lucier, 2009). Moreover, in the field of Victorian science, amateurs "could be counted within the scientific community" (Barton, 2003). Well into the twentieth century, scientific journals like *Nature* were not "strictly professional," prior to the development of the commercial journal. In the nineteenth century, no clear division existed "between professional and popular scientific journals, or between amateur and professional communities. Journals provided a space both for interaction and for self-definition, as established norms of scientific communication were gradually set in place" (Charnley, 2016).

Thus, Sanderson and Napier were not only concerned with the lack of interest that the scientific community showed toward the search for Bigfoot, but rather making a nod toward what they considered a broader issue in the recently separated field of professional scientists. In fact, although Sanderson had been a lecturer at Cambridge, he had distanced himself from his peers years earlier—despite working for museums and universities that had financed his scientific expeditions. Since John Green was a reporter, and outside the situation of Sanderson and Napier, his perspective on scientists stood apart from theirs. Although he is concerned by the lack of support from scientists for Bigfoot research—and even declares in his argument that he is not attempting to prove the existence of Bigfoot but to convince the scientific community that they need to investigate the phenomenon (Green, 1973)—he constantly refers to their authority as scientists when appealing to them about the physical evidence. The description of the scientific community, however, was not just an external matter. It was also a method of defining the Bigfoot researchers themselves. They became the antithesis of the lazy and closed-minded professional scientist. They had an openness to exploration and a deeper connection with previous incarnations of scientists. Napier sets up the connection to explorers and scientist of old when he writes:

> Sir Peter Medawar, F.R.S., has summed up the situation (in a separate context, let me hasten to add) in supremely simple terms: 'Good scientists study the most important problems they think they can solve. It is, after all, their professional business to solve problems, not merely to grapple with them. However, while admitting the aptness of Medawar's definition of research when matters at the shadowy end of the scientific scale like Bigfoot (or U.F.O.s, for that matter) are at issue, I am disturbed at its implication for research in general. It seems to me that the 'art of the soluble' is a cynical kind of philosophy and a stultifying directive. To establishment scientists obliged to toe the line drawn by the terms of the research grant or by the dictates of the teamwork of departmental policy, it must provide comforting reassurance, but as a clarion call for the venturesome it sounds dismally flat. Solubility is surely not the principle by which great discoveries have been

> made. Newton, Harvey, Faraday, Darwin, Mendel, and Einstein would never have tolerated the implied restrictions of such a definition and would scornfully have disassociated themselves from such an abysmal expression of low-key ambition …. The regimentation of scientists makes one long for the days when science was the hobby of the amateur, of the gentleman of leisure, when ethology and ecology were called natural history and when physicists and chemists were the uncommitted and unsalaried masters of their own adventurous minds (Napier, 1973).

Napier's text brings together all the issue's elements by indicating that the caution of scientists arises from their economic interests in maintaining research grants and their need to stick close to questions that are easily solved. At the same time, he draws a clear connection to himself and the scientists who made great discoveries in the past with his juxtaposition of the scientists of the day and the venturesome, which in the next few sentences he outlines are Newton, Harvey, Faraday, Darwin, Mendel and Einstein. In the final sentence, with the use of the words "uncommitted" and "unsalaried" he nods toward the era open much more to amateurs, a situation that the Bigfoot community has had to create because of its existence on the margins of society and as an outcast from scientific study.

The Explorers

Sanderson's discussion of scientists also contains three other groups, often counterposed to the scientists themselves: the press, the mountaineers and "The Searchers." After Shipton's picture found its way into the newspapers, several privately funded expeditions were sent to the Himalayas in search of proof of the Yeti. A dramatic interpretation of these trips was depicted in the 1957 *Abominable Snowman of the Himalayas*. The three groups figure prominently in these trips. The press is the first to jump on the search for the yeti, funding a number of expeditions. Sanderson imagines them under the sway of the scientific community, but the *Daily Mail*'s expedition, despite science's disagreement with the idea that ABSMs exist show, for him, "that the press was no longer overawed by what they had termed 'scientific opinion'…" (Sanderson, 1961).

The mountaineers are the people the press leaned on to lead the trips. And the searchers are those people most drawn to the hunt for information about the creature's existence. These are the ones who become the Bigfoot researchers as we go forward. One man among this group, Tom Slick, a Texas millionaire, funded some of the trips to the Himalayas, and after the discovery of the Bluff Creek footprints, to the Pacific Northwest in search of Bigfoot. In 1961, Edmond Hillary led an expedition into the Himalayas and after he returned, claimed he had debunked the legend of the yeti, finding rational explanations for the evidence. Blu Buhs explains that following Hillary's pronouncement, "There was no more debate over the beast in *Science* or *Nature*. In a Testament to Hillary's influence, American newspapers did not report on the Abominable Snowman for more than a decade" (Blu Buhs, 2009). He further indicates that the death of Slick in 1962 and Hillary's pronouncement played a role in the onset of the "quiet years," when the cultural presence of Bigfoot in the United States declined.

New life was breathed into the concept of Bigfoot in 1968 when Roger Patterson and Bob Gimlin filmed what was purported to be a Bigfoot in Willow Creek, California. Patterson and Gimlin's film renewed interest in the hunt for Bigfoot, and without the scientific community, a group defining itself differently led the way. Blu Buhs imagines this as harkening back to the age of explorers and a

desire to escape the plasticity of the current age. He writes, "The beast appealed to hunters for the same reason that the yeti had intrigued the British mountaineers: it was evidence that the world was not yet fully explored, that there was still room for a man to test his mettle, to touch the really real behind the false front of consumer goods and scientific arrogance" (Blu Buhs, 2009). By the middle of the twentieth century all areas of the world had already been explored, and most of what had been done in the early twentieth century were speculative and privately funded and often "put sensation above science" (Fernandez-Armesto, 2007). The Bigfoot researchers during this period sought to fill the role that the explorers had during the previous decades and centuries. They were adventurously exploring the unknown, despite the challenge and external opposition, which was ultimately a manner of defining themselves in opposition to the professional scientist as Sanderson and Napier had defined them.

This image of the Bigfoot researcher as explorer and against the technology fit well within the concerns of rural communities during the period, which led to an explosion of interest among rural populations. Because large movie studios dominated urban theaters, independents had to find ways to bring their films out to the public. They would rent out an entire theater in rural areas, and when no theaters were available, they would rent gymnasiums—in what is called fourwalling (Blu Buhs, 2009). Offerings were data driven, relying on surveys to understand the desires of the audience. Respondents did not like the sexuality and lack of morals in the Hollywood movies and wanted more films about the paranormal and nature. Bigfoot fit into this.

At the same time, the United States was rapidly changing around the rural audience. Millions were leaving rural areas for the city. The changes in rural communities left members ambivalent about the changes and unsure of their own identities (Fitchen, 1991). The Bigfoot researchers embodied a similar feeling as those of the rural communities. Their hunt, the fate of the Bigfoot and the concerns of the rural audiences became intertwined by the encroachment of late-industrial/post-industrial America—humans, their culture and their technology. We can see this most clearly in the words of Bigfoot researcher Ivan Marx in then the documentary *Bigfoot: Man or Beast*: "Time is our enemy. Most definitely time. The lumber industry is cutting into the forests. Man is moving in more: The snowmobiles, his trail bikes and four-wheel vehicles. The Bigfoot has to retreat. We're running a race against time. Definitely it's a very pressing, a very frightening thing. Time" (Crowley, 1972).

The Post-1992 Bigfoot Researcher

By 1992 and extending into the Present, the Bigfoot research community has tilted toward the usage of science and data analysis.[5] If urbanization played an important role in the previous depiction of Bigfoot in opposition to the plasticity of contemporary consumer culture and its depiction of the rural and adventurous element of the Bigfoot and Bigfoot hunter, the process of increased availability of education (Schmidt, 2018) (along with the increased availability of technologies[6]) played a significant role in developing the current era of the data point in researching Bigfoot and the second wave of the Bigfoot researcher. With the founding of the International Cryptozoological Society in 1982, and the Bigfoot Field Research Organ-ization (BFRO) in 1995, the concept of

[5] John Green found himself with enormous amounts of quantitative data, but without the skillset or the technology to crunch the numbers, something he admits and is concerned about (Green, 1973) and (Green, 1978).

[6] such as digital, night-vision and infrared cameras and the development in the area of information and communication technologies

Bigfoot Research began to change.[7] The BFRO's database of researchers suggests that, although the population of the community does not represent that of the general population in terms of population distribution,[8] the percentage of the community with higher education is 33.19% (in spite of incomplete data in the database), which does not differ significantly from the general population.[9]

The second wave of researchers, like Jeff Meldrum, Professor of Anatomy and Anthropology at Idaho State University, have a much more comfortable relationship with the system of professional science, having been raised in a culture where it is completely established. Although Meldrum, just as his predecessors, separates himself and his ilk from conservative or main stream scientists (Meldrum, 2006), he argues that a paradigm shift within science itself enables a more open-minded examination of Bigfoot. Meldrum's stance is that a change from the belief that only one species can inhabit a single niche at a time, what he terms the "Single Species Hypothesis" limited the scientists' ability to envision that Sasquatch or other wildmen were possible while Homo sapiens roamed.[10] However, with the increased number of findings of hominid fossils whose existences overlapped each other for thousands of years, Meldrum explains:

> Now our investigator encounters a shifting expanded paradigm, which due to additional data reveals a context for this concept of relict hominoids. A theoretical framework we might refer to as the "Persistent Multi-species Hypothesis" accommodates the proposition that lingering populations of the relict species could exist alongside Homo sapiens into the present… (Meldrum, 2016).

One indication of a change in the method of examining Bigfoot comes from the introduction of field guides, the first of which was published in 1992 by the International Society of Cryptozoology. Blu Buhs notes that the previous generation of writers had a more journalistic and juridical manner of assessing the evidence, which included many stories and eyewitness testimonies (Blu Buhs, 2009). The first field guide, *The Field Guide to the Sasquatch* represents a crossover text from the first wave authors, since the field guide still only dedicates 28% of the book to scientific evidence or hypotheses, and leaves the rest for discussion of eyewitness accounts (Gordon, 1992). For comparison, Meldrum published the *Sasquatch Field Guide* in 2013, which is 10 pages and is solely focused on the scientific examination of Bigfoot (Meldrum, 2013).[11]

The second wave of Bigfoot researchers

[7] Brian Regal suggests that the change began after 1989 with the research of Loren Coleman, and notes "By the turn of the century a new school of individual cryptozoology had emerged…." (Regal, 2011)

[8] Only 35% of the Bigfoot research community lives in cities with a population greater than 50,000, whereas 75% of the U.S population lives in cities of this large, and 16% of the community lives in areas with fewer than 2000 inhabitants, as opposed to 2% in the general population. (Information about the U.S. population is taken from the U.S. Census Bureau--https://www.census.gov/data/tables/2017/demo/popest/total-cities-and-towns.html, statistics from Canada taken from Statistics Canada--https://www12.statcan.gc.ca/, and statistics from the BFRO was made available to me by the Bigfoot Field Research Organization from their database--https://www.bfro.net/

[9] According to The Hill, 33.4% of the U.S. population has college degrees.

[10] This topic will be discussed more thoroughly further down in this paper.

[11] There is evidence of a third wave of Bigfoot researchers in a field guide published in 2018 in which there is evidence of a rift between the second and third waves, which may be connected to differences in knowledge of technology. The author writes, "With the dawning of the age of Facebook, many of the older researchers in the community have been pushed to the wayside by those who have positioned themselves as the ultimate expert. (Lee, 2018)

makes itself at home in a newer venue for the sharing of knowledge, the Bigfoot Conference. Since the Bigfoot Symposium in 2003 in Humboldt County, several conferences on the subject have been created by the BFRO and other similar organizations. The idea of a conference itself suggests a more professionalized culture for the group, one that now has all of the markers of an academic discipline—the establishment of a canon, the determination of some members as experts, the publication of training manuals in field guides, and venues for passing on knowledge and research. Some of the speakers at the conferences even tout their academic credentials. Dr. S Webb Sentell is often introduced as a neuropsychologist with a PhD from Vanderbuilt University, who was co-author of a 1987 article on "Effects of Intranasal ZnSO4 Irrigation are Mitigated by the Presence of Untreated Littermates." Sentell also wears his white lab coat as a semiotic reminder that he is qualified to speak authoritatively on the subject. Sentell's presentations blend storytelling and ethological methods (Sentell, 2016) and employ statistical analysis to make the case for his behavioral assessment of Bigfoot.[12] Another speaker, Scott Nelson, who was trained in the Navy as a cryptological-linguist examines phonemes in a popular 1970s recording of vocalizations. Nelson claims in his presentation that he has determined the sounds to be a language of something that was not human (Nelson, 2009). He walks the audience through the process of slowing down the recording and analyzing it for features of a language. Nelson's reference to phonemes and the usage of technology to analyze the vocalizations represent a more rigorous manner of examination, but his presentation lacks the qualifiers and the caution of academic work. His pronouncements tend to be more certain as opposed to simply possible. Meldrum, who has also presented at several of the conferences, can be differentiated from the amateur speakers in that his talks utilize qualifiers and a greater amount of academic rigor. However, overall, there is a clear movement among the researchers, even the amateur researchers, toward the use of more academic language, and scientific (or at least codified) methodologies in the study. They also focus much more on the discussion of data than on eyewitness accounts.

Each of these contribute to an era of data-driven Bigfoot research. We might also take a quick look at the Olympic Project, which was started as a camera trap project in an effort to document as much evidence as possible and develop patterns to work toward predictability. The project's focus is on gathering enough data to encourage more scientific investigation of the subject (Breedlove, 2019).

The second wave of Bigfoot researchers, then, are much more focused on the usage of data and acceptance of the phenomenon by science. Their levels of education, and their ability to use technology (as well as its greater availability) make the bigfoot researchers much more apt to draw on the analysis of data to understand Bigfoot. Green admitted in his works that he had a large amount of data in his hands, but did not have the ability to analyze it to the extent that was needed. The creation of the BFRO's database, the Olympic Project's efforts and the present technology and data analytical methods make it more possible to gain insight from such information, which may be why—as will be seen in the next section—that Bigfoot begins to be described much more in terms of data and statistical analysis, rather than in observed attributes.

THEORETICAL GROUNDING

Evolution

In the twentieth and twenty-first centuries,

[12] The author of this paper attended the Honobia Bigfoot Conference in 2014, where Sentell brought forth this argument.

because of the prevalence of the theory, to define and describe Bigfoot in a naturalistic manner, the researchers need to place the creature within evolutionary theory. However, given the fact that science has not accepted the existence of Bigfoot, the theory might need to be re-envisioned or at least reinterpreted to include the animal. Sanderson talks about a view of evolution as a succession species but appears to disagree with this way of conceiving of the theory. He writes, "There are those among anthropologists today who maintain that the entire tropical and the whole of both the north and the south temperate belts of the Old World were inhabited in succession by, first, sub-hominids, then Australopithecine forms, then Pithecanthropines, then Neanderthalers, and finally (either contemporaneous with the last or following them) by Modern Man" (Sanderson, 1961). Meldrum describes the issue as the "single species hypothesis," which arises from the Principle of Competitive Exclusion, defined in 1934 by Georgy Gause, a Russian microbiologist. According to the single species hypothesis, species inhabiting the same niche are unable to do so at the same time. Meldrum explains that in the 1960s because of the sparsity of fossils and expanding field of paleoanthropology:

> The Principle of Competitive Exclusion was applied to the interpretations of hominin fossils. After all, the hominin niche was perceived as a rather singular one, defined in its simplest terms by traits such as bipedalism, braininess and above all culture (Meldrum, 2016).

The narrow niche and the Principle of Competitive Exclusion led ultimately to the development of the single species hypothesis. Sanderson took the stance on the subject that too little was known of primate evolution to take a firm position. Moreover, he determined that the information about human evolution that was coming in more recently suggested a problem with the idea of succession. He notes, "While the existence of modern-type Man himself has been pushed far back, the continuing existence of sub-humans[13] and even of sub-hominid creatures has crept steadily forward in time" (Sanderson, 1961). Sanderson fits his ABSMs within the open spaces of scientific knowledge. He notes the overlap between ABSM eyewitness accounts and the fossil record, pointing out that the location of ABSMs correlates with findings of various hominid fossils.

Sanderson places each of the ABSMs in a group with others arising from the probable ancestors. The North American Bigfoot he situates among the Neo-Giants along with the Dzu-The and the Mapinguary. Among the descriptions of this group are the facts that their feet are humanoid, that they have no language, but have a high-pitched whistling call. He also notes that they are sub-men, branching off at the Neanderthals before the development of ancient humans (Sanderson, 1961).

Green's does not support his argument for Bigfoot through an updated version human evolution, rather he simply notes the presence of a discussion of hominid evolution in the nineteenth century (Green, 1978). He also notes the possible connection of Bigfoot to *Gigantopithecus* (Green, 1978).

When Napier began writing his book in the 1970s, many more discoveries had been made about human evolution. He describes three schools of thought about the moment when the "human stock" separated from the "ape stock." He indicates that the early school of thought believed this happened between 15 and 20 million years ago, the early-early school believed it happened 25 to 30 million years ago and the late school maintained that it happened less than 5 million years ago.

[13] Sanderson explains his usage of the words sub-human and sub-hominid as follows: "By 'sub-human' I mean hominids that are not evolved into a form we can call *Homo sapiens*: by 'sub-hominid' I mean species of hominids of genera other than *Homo*" (Sanderson, 1961).

Napier aligns with the early school. He draws on his understanding of evolution to estimate that the most probable candidates for ancestors of the North American Bigfoot are *Homo erectus* and *Homo sapiens neanderthalensis*. Although he concludes that "*Homo erectus* and Neanderthal Man are altogether too advanced towards the sapiens grade to merit serious consideration as antecedents…" (Napier, 1973). His conclusion stands at odds with that of Sanderson, who suggests that Bigfoot is (though not a Neanderthal) is on the same evolutionary position as the Neanderthals. Napier's inability to place Bigfoot into the evolutionary tree may have led to his non-committal conclusion that "something" exists in the forests of North America and is leaving tracks.

By the time we reach the works of Meldrum, the number of fossil finds have exploded. Meldrum talks about the change in paradigms regarding the single species hypothesis, pointing out that with this explosion of fossils, many of which moved the timeline of the existence of other hominids closer to the present day, made it difficult to maintain the old idea. Such a change in paradigm leads to what he calls the persistent multi-species hypothesis. With this new outlook on human prehistory, it is much easier to place a relict hominoid, a human-like "species that has survived from an earlier period, or in a primitive form; a remnant of a formerly widespread species that persists in an isolated area" (Meldrum, 2016), within the bushy tree that is the current view of human evolution.

Through these views of evolution, the evidence (in the form of eyewitness accounts, footprints, hair, scat, vocalizations and photographs) is interpreted and the representtation of Bigfoot is developed. The next section will reflect such interpretations and representations.

REPRESENTING BIGFOOT

Any great monster movie waits until the latest possible moment to bring out the titular creature. This article does the same. The manners in which the authors bring forth the subject of Bigfoot representations are interrelated with their conception of themselves, their interaction with science and their theoretical understanding of the natural world, at the same time tied to the ontological through the presence of physical evidence (hair, footprints, scat, and objects sighted). In many cases, the first manner by which these representations show up in the texts are in the redaction of Bigfoot stories. Although many of the authors include some of the same stories in their works, they do not always copy them word for word. Rather the authors' attitudes, hypotheses, beliefs and professional community find their way into the texts. This part of the article will cover how the stories differ through the redaction of the authors and how that influences the way Bigfoot is represented. The last element of the representation of Bigfoot that I will bring forward is the way the authors describe Bigfoot in their own words.

Bigfoot Redacted

Bigfoot is described not simply as an entity—in terms of its height, weight, length of hair, size of foot, hair color etc., but as a history, particularly since eyewitness accounts play such a large role in the examinations of the phenomenon. In many of the texts, the history, the context that surrounds the creature is given more space in the text than the description of the animal or the physical evidence. Many of the incidents in which Bigfoot was sighted are repeated in the various books. Each of these retellings provides insight into the way the author envisions Bigfoot.

As an example of how the authors handle the retellings, we will examine how each of

the authors wrote about the incident that brought Bigfoot to the world stage: the incident in Bluff Creek in 1958. All of the writers include the finding of the tracks near construction equipment and the incident later in which a 55-pound oil drum was found at the bottom of a steep bank.

Sanderson describes the presence of the bulldozers and crawlers in the forest in a manner that imagines them almost as an invading species: "The great dozers and crawlers clank and roar in the hot summer sunlight as they gnaw their relentless way into this timeless land. The great trees seem to recoil a little from their mechanical jangling and screeching, but day by day these bright yellow and red monsters munch away ever deeper into one of the last of America's real wildernesses" (Sanderson, 1961). The lines recall to mind the words of Ivan Marx in which he describes the Bigfoot researchers' battle against time and the progress of man into the forests. Here too, Bigfoot's first encounter with man on the world stage is due to the invading species of "dozers and crawlers."

Bigfoot is described, however, not as a weak animal, but rather as a strong adversary for the dozers and crawlers. Sanderson's wording depicts an intelligent being that "inspected" Jerry Crew's bulldozer "thoroughly" (Sanderson, 1961). He further describes the prints of the naked feet as being "of distinctly human shape and proportions," but emphasizing that they were 17 inches long—ending the sentence with an exclamation mark rather than a period. The use of the exclamation mark takes the book out of the genre of science and into that of emotion or sensation, which is to be expected, since Sanderson has repeatedly reminded the reader that he is a journalist. Continuing to emphasize the proportion, Sanderson notes, "The stride was enormous and proved on measurement to be from 46 to 60 inches and to average about 50 inches or almost twice that of his own"—referring to Jerry Crew's strides (Sanderson 1961). Sanderson further focuses on Bigfoot's size inferring (and implying) that Bigfoot had lifted a 55-gallon oil drum and thrown it down a steep bank where it ended up 175 feet from the road (Sanderson, 1961). Sanderson continues by mentioning that an 18-inch galvanized steel culvert was at the bottom of a bank a distance away and that a 700-pound wheel for an earth-mover was rolled a quarter of a mile down the road and thrown into a ravine.

Green, more interested in his own story than the incident itself, turns the Bluff Creek encounter into a travel narrative, spending less time on the tracks discovered by Jerry Crew than on ones he found a few days later during his trip to the area. Setting the same stage for the story about Bigfoot's encounter with Crew's dozer, Green's narrative does not resonate with Sanderson's stance on the machines' encroachment. He simply contrasts the Bluff Creek road with the existing roads, which he describes as being "little more than a one-lane road, unpaved, but there were several forest access roads running north and west from it," whereas "The Bluff Creek road was to be different from the others, wider, with better grades, staying in the bottom of the valley" but entering "an area completely wild, completely buried in closed-canopy forest and completely uninhabited" (Green, 1978). The idea of encroachment is still present, but mostly on a descriptive level, not on an emotional one. Likewise, the description of the evidence of Bigfoot's encounter with the road does not take the emotional wording found in Sanderson's work. Green simply notes:

> At the end of August, 1958, when the construction crew was roughing out a roadbed some 20 miles north of Klamath, big tracks started appearing in the dirt overnight. They usually came down from the hillside and crossed the road, going towards the creek. Sometimes they

> followed the road for a distance and passed close to the parked earth-moving equipment. The prints were like those of a flat-footed human, but huge—16 inches long, seven inches wide at the ball of the foot and only two inches narrower at the heel. Average stride was over four feet (Green, 1978, p. 66).

Green uses the emphatic word "huge," but he refrains from using exclamation marks in his text. The wording itself is subdued and depicts an animal, though large and human-like, not necessarily giving it characteristics of purpose or intelligence—a fact that might be explained by his later conclusions that Bigfoot is just an animal.[14] The difference between Green and Sanderson here may stem from the fact that Green is more interested in narrating the situation and his own adventures, whereas Sanderson is seeking to convince the reader not only that the animal exists, but also that it is a hominid.

John Napier spends much less space on the Bluff Creek incident, and rather than using it for a statement on the loss of wilderness, uses it to lead into a case for a discussion of the appropriateness of the environment in the Pacific Northwest for a population of Sasquatch, and the abundance of circumstantial evidence for Bigfoot. Napier describes the tracks simply as "very big," noting that they were 16 inches long and seven inches wide, and that they were "all over the place" (Napier, 1973). The description also openly states something that Sanderson hints at: the angle of descent and ascent of the tracks make it difficult to conclude that a hoaxer had made them. Napier's lack of focus on the story of the incident, or its surrounding context and emphasis on the tracks as evidence, clearly indicates what his conclusion is at the end of the book: His emphasis on the use of the word "something," when saying, "There must be something in north-west America that needs explaining and that something leaves man-like footprints" (Napier, 1973) indicates Napier's closer connection to academia with its reticence to make absolutist claims with little evidence. Napier provides a generalized description of Bigfoot based on the forty-three detailed sightings he had available to him:

> The Sasquatch is upright-walking and, although some reports describe its gait as a shuffle and others as a slow, rocking walk, the consensus is that it just 'walks', from which one might reasonably infer the qualification 'just like a man does'. The Sasquatch is covered in reddish-brown or auburn hair; the head hair is often said to be as long as 5 in.–7 in., falling over the forehead in a 'bang' or a Japanese-doll fringe. The breasts of the female are described as hairy except in the region of the nipples (as in Patterson's film, see below) …. The face is described as monkey- or ape-like, with a backward sloping forehead, a flattened nose and a slit-like, lipless mouth. A cone shaped head has also been remarked upon (Napier, 1973).

However, Napier indicates that a portion of the sightings may be lying, a portion may have over-active imaginations and a portion may simply not be able to identify mammals correctly, but he appeals to probability in saying, "…there must be *some* observers who are honest, detached and well-informed" (Napier, 1973). Despite this fact, Napier concludes that there is no way of proving such observers exist and thus physical evidence should be the focus of any investigation of Bigfoot. In this way, Napier is the forerunner to the researchers in the age of the data point.

For Jeff Meldrum the Bluff Creek incident is a chance to argue against claims that not just the Bluff Creek prints but also the other significant footprint evidence were hoaxes. Meldrum introduces the situation by indicating, "enormous humanlike footprints began turning up intermittently at the construction

[14] See the section of this paper **Bigfoot: Man or Beast** for more on this topic.

site…" (Meldrum, 2006), but adds very little else from the story. The scene sets up Meldrum's main argument that Bigfoot cannot be dismissed simply as a hoax, but rather must be taken seriously and examined from the perspective of science and academic study. Meldrum concludes at the end of the book:

> Therefore, from a scientific standpoint I can say that a respectable portion of the evidence I have examined suggests, in an independent yet highly correlated manner, the existence of an unrecognized ape, known as sasquatch. This conclusion of necessity remains tentative and provisional since the interpretation of evidence, however persuasive it may be at this point, remains ultimately inconclusive (Meldrum, 2006).

It is evident from this text that the stories of the footprints or the description of the animal are not key in the argument. They are simply the ways of moving toward the case that scientific evidence must be evaluated.

Looking again at the number of pages spent on the construction site and the long description of how Wallace could not have created the Bluff Creek footprints, and how there is no credible claim that the Patterson-Gimlin film was a man in a monkey suit become more understandable. They are a manner for Meldrum to get beyond the unqualified skepticism of the reader, so he can focus on what he considers most important—the scientific evidence, the data that can be examined as a scientist would examine any phenomenon—seen or unseen. Meldrum wants us to look at Bigfoot as we would unidentified physical phenomena, such as a black hole, examining the data thoroughly and inferring its existence and essence from the ways the surroundings were affected. That is, he wants the reader to understand what is creating the imprints and causing the vocalizations, and to make a hypothesis has Meldrum has done, and thus describing the cause as "an unrecognized ape, known as sasquatch," but leaving that interpretation open as inconclusive.

Meldrum's conclusion brings us back to the disagreement that I have with Blu Buhs regarding the interpretation of Bigfoot as a cultural construct. There are clearly elements of cultural construct, which Napier points at when he states, "Few would deny that today the tales of the Sasquatch are subject to intense cultural reinforcement" (Napier, 1973), but at the same time Bigfoot researchers' interpretations are being influenced by the ontological. The footprints, the Skookum cast of what Meldrum describes as a reclining Bigfoot, the vocalizations, and the unclassifiable hair fibers all influence the construction of the concept of Bigfoot. Without these physical manifestations of the concept, it would possibly be less constant in its description. The ontological is the element of the concept that Meldrum considers the most important for the scientific examination of Bigfoot. Meldrum's final thoughts point to this:

> Where does the investigation go from here and what data are required to reach a definitive resolution? A body? DNA? The final answers to these questions will require a challenge to some preconceptions held by the scientific community, in which extreme skepticism is sometimes deemed a requirement for reputable membership. For me, it now seems more incredible to suggest this matter could all be dismissed as mere stories, misidentifications, and spurious hoaxes than it is to at least rationally entertain the well-founded suggestion that the legend of sasquatch possibly has its basis in a real animal and may eventually prove to be among the most astounding zoological discoveries ever (Meldrum, 2006).

Meldrum here turns the tables of rationality on his detractors, somewhat channeling Sanderson and Napier, but he appeals to the ontological, the element of physical evidence,

to say that dismissing the concept of Bigfoot wholesale is the equivalent of the strong claims of the amateur Bigfoot researcher. It is to neglect the requirement of science to research the natural world, and appeals—although tacitly—to the idea that "extreme skepticism" has become a paradigm (to use Thomas Kuhn's term) or a naturalized discourse (to use Foucault's), one that needs to be overcome for science to move toward great discoveries. Thus, the discussion of the Bluff Creek incident, in Meldrum's text, calls for the broader examination of the interaction of Bigfoot with the natural world, which we will see more in the next section.

Bigfoot: Man or Beast

The challenge in the section is that there is less unity in the description than there was with the image of science or the Bigfoot researchers themselves. Green and Sanderson are more willing to describe Bigfoot as an extant being. Although maintaining an element of the possible, they utilize being verbs in the present tense. Green for instance states, "[Sasquatches] are big, but they are nothing to be afraid of" (Green, 1978), and "Sasquatches are more mobile than chimpanzees" (Green, 1978). Sanderson writes, "Thus, my answer—and I do not mind how far out on however slim a limb I go in saying this—is that I think there are at least three main types of ultra-primitive men, and/or sub-men, and/or sub-hominids, still alive today. These I would say are, first, sundry pigmy types of very near-human or completely human composition; second, some remaining Neanderthaler types in eastern Eurasia; and, third, some very primitive and large creatures almost absolutely without any 'culture' in any sense of that term, in northwestern North and Central America, perhaps in South America, the eastern Sino-Tibetan uplands, and in Indo-China. Then, I am even more sure that there still remains something else" (Sanderson, 1961).

The statements by both Green and Sanderson take firm stances on Bigfoot's existence. Napier, on the other hand, shows a reluctance to describe Bigfoot in his own voice. Descriptions are put into the mouths of others and a skeptical tone is reserved by Napier's voice. This may come from his extreme skepticism toward most forms of evidence and his more ambiguous conclusion that "something" exists. The difference between Napier, and Sanderson and Green could also be connected to his identification with the scientific community. Napier worked as a scientist, Green was only trained as a reporter and Sanderson, despite being trained in the sciences, overwhelmingly identified as a reporter.

The reluctance to describe bigfoot by the use of more certain forms of being verbs can also be seen in the language of Meldrum, who rather than actually making a statement with a being verb or even using a modal verb of possibility, emphasizes descriptions of the evidence or develops a description through analogy. Meldrum intimates that a "hypothetical" North American ape could be adapted to particular environments similar to that of the *Gigantopithecus*, because of the possibility of the species' migration to the across a land bridge, or describes its behavior as analogical to those of primates that have been studied by science around the world. Meldrum's reluctance to describe Bigfoot directly may, like Napier's, stem from his position in academia. However, it is evident in the way Meldrum defends the evidence against criticism, that his skepticism is more methodological, fitting into scientific examination rather than a belief that the evidence itself is somehow fatally flawed. Although Meldrum and Napier handle the evidence in similar ways, the two only agree on the value of physical evidence. Napier believes all others are subjective, while Meldrum tends to defend the sightings and video evidence.

Not only do the authors disagree on the

certainty with which Bigfoot should be described, but as was evident in descriptions of the Bluff Creek incident, they also disagree about the nature of Bigfoot himself. Green tends to lean toward Bigfoot's being non-human and quite abundant (Green, 1978). He explains, "Lacking physical evidence, there is a question whether sasquatches exist at all, but if they do, we know a lot about them and all of it says one thing. They are all animal. Magnificent animals, completely self-sufficient on their physical endowments alone, but no more than animals. As higher primates and huge ones, sasquatches undoubtedly have bulky brains, but their smaller cousins acquired technology they never faced a challenge requiring that the big brain be used." (Green, 1978) From this he argues, "My contention, in brief, is that there is not the slightest possibility that sasquatches can be considered human or near human, neither are they an endangered species, and no other reason is known giving them any unique claim to total protection" (Green, 1978). His stance is that to prove Bigfoot's existence the community needs to emphasize the animal status (rather than human) of the creature to bring forth a specimen, even if one has to kill it.

Sanderson leans, on the other hand, toward a different understanding of Bigfoot as a member of the ABSM group. He states, "It is simply that ABSMs are Hominids or, just as every benighted native has always asserted, human rather than animal, and thus are endowed in one degree or another with human attributes, and most notably their powers of survival, their adaptability, their toughness, and their acuteness" (Sanderson, 1961). Sanderson further divides up the ABSMs into subgroups, as noted earlier. Bigfoot, then, is a part of the Neanderthaler type, stemming from that species of sub-human, as he terms them, which he describes as:

> Taller than average man by at least a foot or two; much bulkier, with enormous barrel torso and no neck; head small, practically no forehead; heavy brow-ridge and continuous upcurled fringe of hair right across same; head-hair not differentiated from body hair and all comparatively short; dark gray to black when young, turning reddish or ocher-brown, and getting silvered in old age; face light when young, black when adult; prognathous face and very wide mouth but no lip eversion; eyes small, round, very dark and directed straight forward; feet very humanoid but for double pad under first toes, and indication of complete webbing to base of last joints; has no language but a high-pitched whistling call; nocturnal; does not have any tools; mostly vegetarian, but takes some large animals and cracks bones; retiring and very alert, wily, and afraid of man but will attack if cornered, molested, or scared. Indication that they try to kidnap human females for breeding purposes. Food collectors; make beds in open or in caves. Drink by sucking (Sanderson 1961).

The text above indicates that for Sanderson everything is clearly available from the evidence: description and taxonomy.

Napier's inconclusive stance makes it impossible for him to describe Bigfoot in any way. Meldrum, though less conclusive than Green and Sanderson tends to lean toward the idea that Bigfoot is possibly related to *Gigantopithecus*, which Meldrum (agreeing with the bulk of scientists today and disagreeing with Sanderson) places as a cousin of the apes rather than humans. Using Bigfoot's hypothesized connection to *Gigantopithecus*, Meldrum suggests it is possible that Bigfoot's generalized diet would make it possible for it to inhabit the more difficult climes of the Pacific Northwest and that its migration may have been a gradual expanding of its habitat into North America across the land bridge. Its size could be due to

Bergmann's rule[15] and bipedalism could be an outgrowth of its adaptation to a mountainous environment. However, Meldrum's academic caution makes an appearance when he states, "Although it is certainly tempting to connect the dots, this can only be suggested in a qualified manner, based upon the incomplete evidence at hand—of sasquatch, of the natural history of *Gigantopithecus*, and of the overall biogeographical history of hominoid evolution and dispersal. Nevertheless, the possibility is certainly sound and the plausibility is quite reasoned" (Meldrum, 2006).

The only times we see this caution drop—even for an instant and still only slightly—is when he writes, "The sasquatch knuckles combined measure over 5 inches across, comparable in size to the disproportionately large hand of a male mountain gorilla" (Meldrum, 2006). The statement directly connects the knuckles to a sasquatch, which breaks Meldrum's verbal distance between claims of Bigfoot qualities or actions in the text. However, he may have used the previously posed question as a method for establishing that distance ahead of time, when he writes, "had a sasquatch momentarily supported its weight on the backs of its fingers in a decidedly apelike fashion" (Meldrum, 2006), but still this is the most unguarded he has been to this point. Further down in the text Meldrum again decreases his distance from the actions of the Bigfoot by writing, "The sasquatch apparently sat down on the edge of an elevated bank and left a distinct imprint of its derriere, which Freeman cast" (Meldrum, 2006). However, rather than using the word "apparently" to mean that the action seems to have happened, Meldrum may be using it as a stand-in for the word "ostensibly" (which would have enabled him to maintain that verbal distance by describing the actions as simply plausible rather than demonstrably true) to make the language more palatable to a general audience. Then his statement later in describing the Skookum cast, in which he notes "sasquatch apparently leaned" toward an assortment of apples placed in an effort to attract the creature by a group of BFRO researchers (Meldrum, 2006) would actually mean "ostensibly, a bigfoot leaned for the apples." We can see the distance grow in this manner of writing, allowing for a more academic orientation. Given the placement of the word "apparently" throughout the text, this reading tends to explain them. A hint of this comes into the fact that he often uses "appears to be" in this manner of distancing, as in the following text also describing the Skookum cast: "The singular discovery in September 2000, of a partial body imprint of what *appears to be* [16]a large hairy animal was something of a sensation" (Meldrum, 2006).

The bulk of Meldrum's descriptions of Bigfoot, just like the use of analogy to *Gigantopithecus*, requires the reader to connect the dots between the physical evidence—often presented in statistical arguments against skeptics—and the hypothetical North American Ape.

CONCLUSION

This paper has examined the Bigfoot Research Community and the concept of Bigfoot through a historical, cultural and ontological lens. From this perspective, it is evident that the Bigfoot researcher and the concept of Bigfoot are not unchanging, but rather have themselves evolved with the cultural and historical context. At the same time, both are constrained by the ontological elements of the concept (i.e. the evidence) and are forced to draw on technology and the knowledge of science to interpret and possibly at times to reify the concept itself—even if the Bigfoot researcher has a complicated relationship with science and scientists. The research com-

[15] Bergmann's rule states that animals with larger body size tend to be found in colder climates and smaller body sizes in warmer climates.

[16] Italics are mine.

munity has grown through two—if not three waves—the first of which defined itself and Bigfoot against the plasticity of contemporary culture and the rigidness of science. The first wave's development was closely related to the loss of the explorer in the early to mid-twentieth century, the professionalization of science and the United States' increased urbanization. The second wave, which drew upon the ideas and methodologies of science to represent Bigfoot and interpret or gather data on the subject, is connected to the expansion of higher education, the solidifying of science as the strongest means of attaining knowledge about the natural world, the expansion of data analysis, and the growth in and decrease in price of technologies. The third wave, which might be currently developing and requires more examination than the footnote I have given it, could be setting itself apart, not necessarily through methodology, but rather through means of communicating with the broader society. Whether or not Bigfoot exists, the descriptions of Bigfoot by the researchers are inter-connected with the researchers' conceptions of self and stance related to science, genre in which they are writing, theoretical understanding and technology for analyzing the evidence.

These days it is common to think of the interest in Bigfoot as a backlash against the notion of experts and expertise among the broader population. However, it might be better to look at it through the lens of a problematized idea of the "professional scientist" or rather the professionalization of science in an era during which the creation of knowledge is being decentered greatly through the reach of the Internet, the increase in technology, the broad reach of higher education and the expansion of the open source movement.

Science is moving toward the idea of citizen scientists (an idea that had been much more prevalent in the 19th century). The movement might want to draw on those people in the Bigfoot research community who are already out in the field, and even possibly prepare them through training for the finding of Bigfoot itself, whether or not the scientific community believes that Bigfoot exists. In 2011, the CDC provided an online document about how to survive the zombie apocalypse (Preparedness 101: Zombie Apocalypse, 2011). The CDC did not necessarily see a chance that a zombie apocalypse would occur, but rather they seized upon the public interest in zombies, and used it as a moment to teach about disaster preparedness. Whether or not scientists believe Bigfoot's existence as a possibility, involvement in the search could have two possible outcomes, both useful for science education: 1) Bigfoot's existence is proven or shown to lack a solid basis—all done with the use of citizen scientists; 2) citizen scientists are trained and science education is enhanced through the outreach and possibly citizen scientists are brought toward assistance with topics that the scientific community could use large amounts of data collected in the field.

At the same time, the academic community in general would be well served to develop a more nuanced understanding of the Bigfoot community and their field of research. The present paper is simply a small sample of what could be done on the topic. Joshua Blu Buhs and Michael McLeod have made the first steps into this study, but more should be done, providing an examination of the community that would seek to understand their arguments through their own discourses and narratives rather than simply painting them with broad strokes. This paper has focused on one portion of the community, but others exist. A broad brush would miss the important differences in the groups and would neglect potentially significant influences.

We might conclude with the thought that although the concept of Bigfoot and the Bigfoot researcher, as well as the role of science in society, has served to engender the

performance of Bigfoot researchers in books, conferences and film. As Judith Butler notes that performative agency has the ability to overcome the naturalization of "processes that bring about ontological effects, that is that work to bring into being certain kinds of realities…," (Butler, 2010), the community is not simply acted upon by the outside, but rather also acts upon their culture and society. In the current environment of decentered knowledge creation, Bigfoot researchers have been able to extend their ideas through the media, a process that does not appear to be on the decline and appears analogical to processes going on in other fields. Understanding the process with regard to Bigfoot research would not only serve scientists, but also the broader academic community in addressing new voices in a changing media environment.

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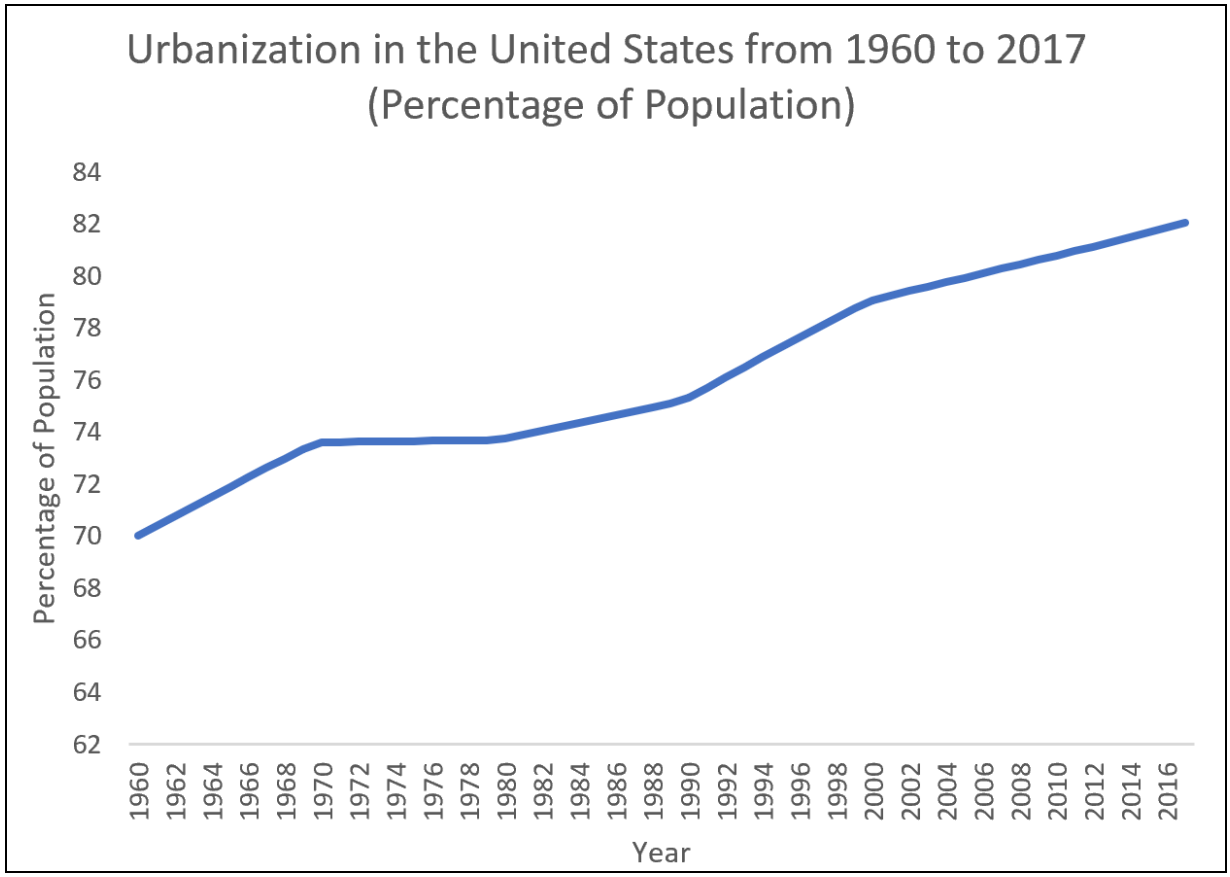

Figure 1. Level of urbanization in the United States between 1960 and 2017 as a percentage of population, based on the data from the World Development Indicators. (https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?end=2018&locations=US&start=1960)

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