Paleomythologies:

The Spiritual Persuasion of Evolution

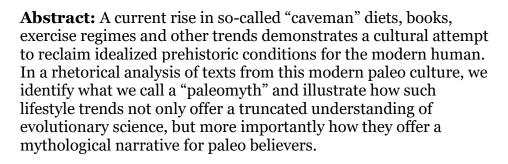
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A person who wants clean, definitive, global answers to the problems of life must search elsewhere, not in nature.

—Stephen Jay Gould, *Ever Since Darwin*

Introduction

While it remains politically controversial among some religious segments of the United States, the scientific theory of evolution has acquired a taken-for-granted status in many areas of public discourse. It is common to hear the enthymematic conclusion "Because we evolved that way" not only to explain a myriad of human traits and behaviors, but also to promote certain lifestyle changes. For example, appeals to evolution can be found in advice on dieting (the paleo diet), parenting (co-sleeping), exercise (barefoot running, crossfit), speech anxiety (Cain, 2012), marriage and multiple partners (Ryan and Jetha, 2010), standup desks, depression and other mental illnesses — and the list goes on. All of these examples rely on the same enthymematic formulation: Humans evolved under particular environmental conditions,



therefore we should behave in ways consistent with our evolutionary origins.

The widespread popularity of these arguments speaks to something broadly persuasive about the appeal to evolution, something we call its mythological character. In order to uncover how this shorthand functions mythologically, we examine a variety of texts about two of the most popular paleo trends: the paleo diet and barefoot running. Applying concepts from Joseph Campbell and Mircea Eliade, we argue that no matter whether these paleo trends get evolution right or wrong, they have recast evolution as a commonplace, pedagogical myth that tells us who we really are and how we should really act. This mythologized version of evolution in popular culture offers physical and spiritual fulfillment by providing a pseudoscientific dogma that situates humans and human life in a powerful cosmic narrative. Importantly, understanding this popular deployment of evolution in mythic terms illuminates the trope's success and its resistance to corrective information.

The Trends: The Paleo Diet and Barefoot Running

Before looking at existing literature and the primary texts representing these trends, we offer a brief background on the paleo diet and barefoot running. The paleo diet is one of the most popular and well known of these paleo trends and has gained increasing popularity in the last few years (even though the first text, *The* Stone Age Diet by Walter L. Voegtlin, was first published in the 1970s). At its core, the paleo diet maintains that human genetics have hardly changed in the last 20,000 years. Because of this, modern humans are actually more fit to consume a pre-agricultural diet of foraged foods and hunted meats than farmed products (like dairy and grains) or processed foods (like those with added sugar and salt). Popularizers of this diet argue that early hominids in the Paleolithic period were healthier overall, particularly in terms of their resistance to disease. Accordingly, diseases like obesity and diabetes are diseases of modernity, pervasive because we have strayed from our ancestral diets. While disputed in many ways by nutritionists and anthropologists, the paleo diet trend has nonetheless boomed in popularity. More recent texts include Ray Audette and Troy Gilchrist's NeanderThin: Eat Like a Caveman to Achieve a Lean, Strong, Healthy Body (Audette and Gilchrist, 2000). Mark Sisson and Jennifer Meier's The Primal Blueprint (Sisson and Meier, 2013), Loren Cordain's *The Paleo Diet* (Cordain, 2010), Robb Wolf's *The Paleo Solution* (Wolf, 2010), Nora T. Gedgaudas *Primal Body, Primal Mind* (Gedgaudas, 2011), Arthur De Vany's *The New Evolution Diet* (De Vany, 2011), Hank Shaw's *Hunt, Gather, Cook* (Shaw, 2012), and myriad cookbooks and dieting texts. Most of these authors argue that our existence in the Paleolithic period is how humans were "intended" to live. This time period embodies a nearly ideal state of existence where our species had not been corrupted by the advancements of modernity that keep us sitting at desks and eating doughnuts.

While perhaps not as ubiquitous as the Paleo diet, the barefoot running trend has also gained momentum. Widely popularized by Christopher McDougall's bestseller, Born to Run: A Hidden Tribe of Superathletes and the Greatest Race the World Has Never Seen, barefoot running has spawned an industry of how-to books, and refashioned a portion of the lucrative shoe market — Vibram's Five Fingers and Nike's Free are just two popular models (McDougall, 2009). The argument for barefoot running makes two complementary claims: our species evolved as long distance runners and we evolved to run those distances without shoes. By placing a barrier between her feet and the ground, the modern runner interrupts an ancient natural relationship, altering how the foot hits the ground, weakening the arch, and making it more likely the runner will experience injury. Remove their shoes, and runners naturally shorten their stride, land on the balls of their feet rather than the heel, and propel themselves farther faster with less effort and fewer injuries. In short, they begin to run the way they evolved to run (i.e., were intended to run), reaping the rewards of proper form. Recent books arguing for the barefoot approach include Jason Robillard's *The Barefoot Running Book* (Robillard, 2012), Michael Sandler's Barefoot Running (Sandler, 2011), Scott Douglas's Barefoot Running and Minimalism (Douglas, 2013), Ashish Mukharji's Run Barefoot, Run Healthy (Mukharji, 2011), and Ken Saxton and Roy Wallack's Barefoot Running Step by Step (Saxton and Wallack, 2011).

Well-Being, Diet, Exercise

A robust body of literature allows us better to understand how paleo trends like these function in modern society. We identify two distinct bodies of work – one which relates to diet and informs our understanding of the paleo diet in popular discourse and another that focuses on exercise and fitness and connects to our thinking about work on barefoot running.

In the most obvious of ways, our species has a peculiar relationship to diet, health and well-being that differs dramatically from any other animal. Health for us functions not simply as a means of survival, but as symbolic representation of our individual identities. Carole Bisogni, Margaret Connors, Carol Devine, and Jeffery Sobal demonstrate the multitude of identities present in food and diet discourse where individuals embrace identities from picky eaters to body-conscious eaters, underscoring the social and psychological aspects of our diets that are ultimately reflexive of our lives outside of food. They write, "A person brings identities from other parts of life to eating, and identities result from a person's food choices as the person compares herself/himself with various salient reference points" (Bisogni, et al., 2002, 135). We not only embody our health in our apparent levels of fitness, but in the observable choices we make about our diet, lifestyle, shopping habits, and more. One's choice to practice yoga or eat a gluten-free diet symbolically represents something about one's self to others. It thereby positions us in socioeconomic classes, subcultures and countercultures, and even political identities.

Meat eating vs. vegetarianism provides a clear example of the identity-driven aspects of our diet. The act of meat-eating, while almost a taken-for-granted aspect of diet in mainstream US culture, is itself a symbolic act that tells us something about who we are. As Heinz and Lee argue, the disconnect between slaughter houses and consumption "permits producers and consumers to associate meat with appealing connotations of food, meal, tradition, masculinity and health" (Heinz and Lee, 1998, 96). In contrast to status quo pro-meat culture, vegetarianism and veganism function as alternative symbolic choices some humans make in an effort to improve their well-being. Often they are directly connected to identity-formation rather than just health. In their Deluezian analysis of online vegetarian discourse, Nick Fox and Katie Ward illustrate that the choice to become vegetarian is not simply a dietary or ethical choice: "A practice such as vegetarianism, which may or may not be a 'health behaviour', is also a contributor to identity" (Fox and Ward, 2008, 2593). Kimberly Powell deconstructs these vegetarian identities in her analysis of how the Farm Animal Reform Movement works to "re-symbolize an ingrained element of culture" in a meat-eating world (Powell, 2002, 82). In her case, pro-vegetarian rhetoric has to combat status quo meat culture by stripping meat of its positive symbolic status and reassociating it with risky and unethical practices. Additionally, Patricia Malesh focuses on the power of personal narratives (either

of friends or in cookbooks) that allow listeners to consider an alternative paradigm and identity. As she puts it:

Because these narrators began their narratives as adherents to meat eating as a dominant culture of consumption and end with their transitions to vegetarianism, they embody - and by doing so offer and justify - an alternative to dominant cultural perceptions, making possible for others such a space to inhabit. Conversion narratives, then, are not only tales of becoming; they are tales that sponsor becoming (Malesh, 2009, 139).

As these scholars show, food and diet are inextricable from our identities; our practices can either affirm existing beliefs about ourselves or challenge us to embody new expressions or ourselves.

While diet commonly reflects something about our identities, fitness and exercise function in a similar way. Yoga in particular offers an interesting case study. As Mary Antony illustrates, yoga functions as a commodity in American culture. Through the processes of cultural appropriation and symbolic displacement "...yoga is divested of its religious connotations and discursively linked with an ambiguous yet expansive spirituality, which in turn makes it adaptable to individual philosophies and preferences" (Antony, 2014, 77). While both yoga and paleo practices are promoted in some circles today for their health benefits, in some senses the use of yoga in contemporary Western culture is the inverse of the reinvention of paleo culture: With yoga, its religious and spiritual elements are minimized and sanitized while paleo culture, as we show below, imbues a formerly non-spiritual way of life with a mythological framework.

While these works on food and fitness culture underscore the ways in which diet and exercise can function symbolically and persuasively, we find that paleo culture offers a new way of understanding the suasory power of arguments for changes in lifestyle and diet. In our case, we see that paleo culture functions as part of one's identity, but it also does much more than that. Paleo arguments function *mythologically* for proponents and practitioners. They not only allow believers to brand themselves in a particularly way, but also provide them with connection to the mysteries of the universe, a grander narrative of origins, a social order, and a code of conduct through what we call *paleo myths*.

What are Paleomyths?

In her popular book, *Paleofantasy: What Evolution Really Tells Us About Sex, Diet, and How We Live*, Marlene Zuk argues that recent lifestyle arguments that appeal to evolution too often simply get evolution wrong. Either they misrepresent how the theory works or their views are not supported by the data (Zuk, 2014). Zuk's appeal to scientific accuracy is a move to demythologize evolution, allowing her effectively to dissociate what evolution really tells us from the fantasies peddled by those misrepresenting evolutionary science. These fantasies include diet, exercise, love and sex, family dynamics, even many of the lessons offered by evolutionary psychology.¹ But her science literacy focus limits the value of her argument. Indeed, Zuk's attempt to shatter paleofantasies by explaining where they get evolution wrong falls short on two fronts.

First, few of the texts promoting these paleo trends invoke specific scientific arguments. Instead they rely on a general description of evolution, which makes their arguments agile and flexible. Consequently, efforts like Zuk's to clarify, correct, and explain do not fully hit their mark because they can never undermine the core of the paleomyth: namely, that we are a species that in fact evolved. In this way, the simplistic (and often wrong) evolutionary narrative deployed by paleomyths grants a kind of immunity to new information. Cutting edge scientific studies might waver on the conditions under which we evolved – eating mostly protein or mostly tubers -- but they won't vaccilate on the fact that we evolved in the first place. So where one study serves up evidence that might demystify paleomyths, the fallback to evolution provides a reliable and largely unassailable position from which to reassert a stable narrative. This what Thomas Lessl refers to as evolutionary science's "mythical potency," in which evolutionism serves to ground a belief system (Lessl, 2012, 243). The attention to the wrongheadedness of claims in paleo culture stops short of exploring the broader cultural commitments to paleo ideals. Lessl's identification of the ways in which evolutionary science is conflated

¹ Grounded in anthropology and evolutionary biology, evolutionary psychology traces our roots to the last period in which natural selection could affect adaptation: the Neolithic. Zuk recognizes that discerning psychological truths by examining the mismatch between our evolutionary conditions and our modern one remains a valuable strategy. She cautions, however, that evolutionary psychology gets evolution wrong if it confuses this "mismatch" concept with the idea that we are "stuck with" or trapped by our genes.

with evolutionism serves as a preferable starting point for us to explore how it is mythologized in paleo arguments.

Second, and more importantly, demythologization is itself a problematic rhetorical move. As Mircea Eliade and other theorists of myth note, "There is agreement today that the myth and the legend are 'true' in another sense than the 'truth' of, say, a historical [or scientific] reality" (Eliade, 1975, 119). That is to say, myths function as more than factual scientific stories. Demythologizing the way these modern stories deploy evolution fails to account for what makes those stories essential. As Eliade puts it: "It is only by taking this belief seriously, by trying to clarify all its cosmological, ritual, and social implications, that one succeeds in comprehending the existential situation of a man who believes he is at the Center of the World" (Eliade, 1975, 120). Because evolution's character remains persuasive even when paleo advocates misrepresent how evolution works, it is more useful to analyze these texts as paleomythologies. Eliade remarks, "Demystification does not serve hermeneutics" (Eliade, 1975, 121). As we will show, unpacking the mythological aspect of evolution better informs our understanding of how it grips the minds of the public so thoroughly.

The importance we place on myth in paleo texts is not entirely unique. In her recent utopian analysis of paleo culture, Adrienne Johnson argues the paleo diet "mixes myth and manual to create a new type of embodied utopia," in which the body functions as an avenue toward a utopian existence through modern restraint rather than medieval excess (Johnson, 2015, 103). Her mention of myth, however, primarily focuses on how the idealized paleo past informs the modern utopian vision of paleo diet advocates. While Zuk's work minimizes the power of myth, Johnson's work recognizes it but only tangentially. Our work pushes beyond both to illuminate the complexity of the myth in modern paleo culture.

Evolution as Myth

The move from Zuk's critique of the wrong-headed fantasies of our evolutionary past to our interest in the mythological aspects of evolution speaks to the social and cultural, and not simply epistemic, role of evolution in popular discourse. By re-focusing analyses of the paleo movement on the mythic qualities of evolution, we build on the prior work of several scholars who identify the "mythic contours" of evolutionary discourse (Condit, Lynch, and Winderman, 2012, 389). Like Davi Johnson, we assert

that viewing evolution as myth "does not refer to the falsehood of evolutionary doctrine, but defines its rhetorical function and form" (Johnson, 2006, 290). In her critique of Richard Dawkins's *The* Ancestor's Tale, Johnson illustrates how evolution has become a sacred origin story that both describes our intimate connection to our natural history and allows us to recover that connection by embracing our teleology, what we believe we were designed by evolution to do (in spite of the fact that the process of evolution actually has no intention or purpose). For Johnson, "Evolution, in this sense, is a myth because it is taken [...] as a 'true history' of human origins, dealing in realities, explaining a primordial event (the 'dawn' of life), and wielding considerable authority in contemporary culture" (Johnson, 2006, 291). However, unlike her focus on the grand, cosmic narrative of Earth's evolutionary history, the texts we examine use early human origins and tool-use as their site of an origins story, typically (though not always) from about 10,000 years ago. This shorter timeline inflects the way paleomyths function in distinctly different ways than their cosmic counterparts.

Our notion of paleomyths also relies upon Lessl's distinction between "evolutionary science" and the more problematic "evolutionism," where the latter "evokes a cluster of more intangible meanings at once emotive, ideological, perhaps even religious, that move in orbit round the notion of progress" (Lessl, 2012, xi). Lessl's interest lies in the way scientific community reinforces evolutionism. We extend this by examining how evolutionism, "the belief that concepts arising from evolutionary science apply to all human affairs," serves mythical, religious functions in paleo texts in popular culture (Lessl, 2012, 22). Lessl rightly points to the centrality of the notion of "progress" in evolutionism; our concern identifies quite the opposite: Rather than celebrate the always moving and upward nature of evolution as evolutionism does, paleomyths instead idealize and cling to the bygone life of early hominids. Lessl's work provides ground for us to explore how evolution infuses mythical elements into paleomyths and how they take a different form from evolutionism.

The Function of Myth

Assessing any discourse as mythical is a fraught move, since as we have noted above, it all too often serves the purpose of

demythologisation/demystification (Zuk, 2014) or it applies the label without respecting a term's diverse intellectual history (Levinovitz, 2015). As Robert Rowland argues, successful mythic criticism requires the critic to identify and articulate the text's mythic functions and formal mythic characteristics (Rowland, 1990). There is no universal agreement about these elements, but Rowland provides a usable framework that we embrace here. Broadly speaking, he argues that, "Myth serves as a means of helping humans deal with the crises of life...answering human problems that cannot be answered discoursively. The key point is that through myth we define the good society and solve problems" (Rowland, 1990, 102). This existential purpose is seen most clearly, perhaps, in its absence as described by Nietzsche: "The stupendous historical exigency of the unsatisfied modern culture, the gathering around one of the countless other cultures, the consuming desire for knowledge -- what does all this point to, if not to the loss of myth, the loss of the mythical home, the mythical source?" (Nietzsche, 1967, 136).

Because paleomyths address personal, lifestyle questions rather than Nietzsche's broadly existential ones, we argue that they serve to resolve Nietzsche's felt loss of myth. Science steps into this void with an authoritative source of meaning and direction. This authority is not without its frustrations, for science treats certainty as a moving target. In a neo-liberal, myth-less world where we are all responsible only for ourselves, science seems to serve as one of the best ways to know what to do. Lessl points out that "Throughout Western history, if not in all times and cultures, myth has sought to relate itself to science, simply because mythologies that are shown to comport with technical conceptualizations of nature will always carry greater force than those that do not" (Lessl, 2012, 213). So in an era in which overt mythology is shirked, such scientifically based myths are all the more alluring. For paleomyth proponents specifically, scientific truth might be contingent, but the historical fact of our evolution never is. It's a solid truth, no matter what the next report says about the health effects of red wine or red meat. Because the story of evolution provides the touchstone that answers these questions – who am I? what should I do? how should I live? – paleomyths depend on it to resolve this crisis of meaning and purpose.

To describe myth's existential role, Rowland points to Joseph Campbell's four functions of myth: The mystical function, or how myth taps into the mystery of existence; the cosmological function, or how myth narrates origins of this mystery; the sociological function, or how myth organizes groups and social order; and the pedagogical function, or how myth offers guidelines, models, and rules to live by (Campbell, 2004). Just as Lessl shows us "how evolutionism retains traditional religious meanings while seeming to advance scientific ones," paleomyths deploy the scientific *ethos* of evolution to carry out all four of Campbell's mythical functions (Lessl, 2012, 212).

The mystical function shows up as an individual's wonderment at both their recurring experience of improved well-being and the realization that they themselves – their bodies, their emotional reactions, their mental states – are connected to and can be understood through evolutionary history and a deep connection with Nature and the Earth. That origin story of human evolution – what we'll describe below as the factual "is" that drives the pedagogical "ought" – functions cosmologically within paleomythic narratives. It makes distant our human ancestors, setting them out of time and space, in a place Alan Levinowitz refers to as "paradise past" (Levinowitz, 2014, 3). While not in the planet's long evolutionary history but located in the narrower timeline of human evolution, paleomythic narratives are nevertheless embedded in a larger cosmic story, as Davi Johnson's mythical evaluation of Dawkins's longer evolutionary narratives indicates. Sociologically speaking, while paleomyths haven't yet restructured large swaths of society, the groups that have emerged and continued to organize around the paleo diet, barefoot running, crossfit, etc., are clear evidence that paleomyths have organized and continue to gamble people into passionate, normative, and often exclusive communities of believers and practitioners. Finally, the pedagogical side of paleomyths is perhaps their most obvious facet, for we encounter the myths through the flashy appeal of faster, pain free running or healthier weight loss. In this way, the mystical, cosmological, and even sociological functions are all put to work to promote, justify, and teach a specific behavior change.

Developed across books, articles, websites, blog posts, and forums, the paleomythic functions illustrate how evolution has become one of the most powerful *topoi* in modern culture, persuading people to adopt relatively radical lifestyle changes, whether the most recent research report supports those choices or not. Characterizing these stories as paleofantasies offers a limited view that illustrates how such stories get evolution wrong; characterizing them as paleomyths provides a richer picture of

evolutionism's cultural and rhetorical power. There is cosmological, mystical, sociological and pedagogical renewal in becoming reacquainted with your evolutionary heritage. Paleomyths show you how.

The Cosmological Function: Evolution as Grand Narrative

To begin to understand how paleo trends offer a myth to modern culture, we first must observe the ways in which they embody Campbell's cosmological function. As noted above, the presentation of evolution in paleo texts misrepresents the scientific theory of evolution rather significantly. As Zuk writes, "The paleofantasy is a fantasy in part because it supposes that we humans, or at least our protohuman forebears, were at some point perfectly adapted to our environments" (Zuk, 2014, 7). She rightly points out that paleo advocates are scientifically wrong on this front: Change is constant; there is no goal for evolution; it does not seek a perfect state for a species. Even more interesting for our purposes, however, is how the paleo version of evolution functions as a foundational, unassailable belief. Paleo proponents use evolution, even though they regularly misrepresent it, as a stable fixed backdrop against which the drama of human history plays out. As Campbell says, such cosmology frames "everything you come into contact with in the universe around you" (Campbell, 2004, 8). Campbell claims, though, that science in most cases looks different in this realm than in religion. He states, "The scientist knows that at any moment facts may be found that make the present theory obsolete; this is happening now constantly," and so it cannot have the same cosmological qualities as religion (Campbell, 2004, 9). In a bizarre way, however, paleo proponents frame evolution as a given constant and in doing so they get to have it both ways: they can distrust current science about human nutrition and health, indicating that such ideas are outdated, but simultaneously trust the science of evolution in the way that a person of faith trusts God. Evolution is rendered omnipotent and omnipresent – always there and always knowing what we should do. When authors repeatedly invoke arguments that begin (or end) with "because we evolved this way..." but refuse to address current scientific research on evolution, they reveal their cosmology. This cosmology is scientifically suspect, as Zuk points out:

But to assume that we evolved until we reached a particular point and now are unlikely to change for the rest of history, or to view ourselves as relics hampered by a self-inflicted mismatch between our environment and our genes, is to miss out on some of the most exciting new developments in evolutionary biology (Zuk, 2014, 13).

For example, in *The New Evolution Diet*, Arthur De Vany focuses on the mythic utility of Darwin: "His theory of evolution clears away a lot of the nonsense we hear these days about how to control our weight and get in shape. It also provides us with a powerful model for understanding why we gain weight and lose strength and vitality as we age. Understanding human evolution provides us with a path we can take to become healthier and happier," (De Vany, 2011, 1). By relying largely on the *ethos* and changing particulars of the mythic figure of Darwin and evolution in passages like this, De Vany brushes over the actual substance of this theory. Evolution becomes a concept for utilitarian purposes in our modern lives: Never mind the details; evolution can make us happy and healthy. Zuk highlights some of the problems of skipping over the central tenets of evolution in paleo arguments:

To think of ourselves as misfits in our own time and of our own making flatly contradicts what we now understand about the way evolution works—namely, that rate matters. That evolution can be fast, slow, or inbetween, and that understanding what makes the difference is far more enlightening, and exciting, than holding our flabby modern selves up against a vision—accurate or not—of our well-muscled and harmoniously adapted ancestors (Zuk, 2014, 6).

When authors like De Vany neglect to understand or explain important aspects of the theory such as the rate of evolution, they not only encourage misunderstandings of evolutionary theory in the public, but also abuse the taken-for-granted status of evolution in order to promote their allegedly scientific moral code. Instead of a thorough (or even cursory) discussion of modern evolutionary science, most popular writers of paleomyths are less comfortable with cosmology than they are with the mystical and pedagogical functions of the myth, quickly moving from science to personal experience to advocate behavior change. Lessl argues that evolutionism avoids being identifiable as a myth because it is "constantly folding itself back into evolutionary biology" (Lessl, 2012, xxii). Paleomyths function similarly to evolutionism in this

way: They present as evolution in their claims but are largely mythological at their core.

In the paleo world, in sum, the term "evolution" moves from describing processes of adaptation and development to Evolution-with-a-capital-E. It becomes the fallback, catch-all term that allows proponents to claim their ideas as natural and self-evident. It is against this cosmological backdrop that Campbell's three remaining dimensions of myth play out in paleo texts.

The Mystical Function: Narratives of Conversion, The Epic Pilgrimage, and Faith

While not a striking present element across all of our texts, we nonetheless see the recurrence of conversion stories – a common trope in mythological discourse, especially of the evangelical type – that involve a tale of fall and redemption. Texts such as St. Augustine's Confessions, John Bunyan's The Pilgrim's Progress, the hymn *Amazing Grace*, and the door-to-door evangelizing that many of us have experienced today all rely on a narrative in which the protagonist was in the dark but found salvation through an enlightening message. Even in other sorts of lifestyle advocacy books, conversion narratives are common. For example, Patricia Malesh, in the work noted above, identifies how such conversion narratives are commonly found in vegetarian and vegan cookbooks as a way to reconcile a past self with a new identity (Malesh, 2009). We identify this characteristic as part of Campbell's mystical function of myth, wherein individuals experience awe in the presence of the wonders of the universe. He writes:

Myth opens the world to the dimension of mystery, to the realization of the mystery that underlies all forms. If you lose that, you don't have a mythology. If mystery is manifest through all things, the universe becomes, as it were, a holy picture. You are always addressing the transcendent mystery through the conditions of your actual world (Campbell and Moyers, 1998, 38).

For the paleo advocates named below, their stories of conversion capture how they encounter and accept the mystical wonders of the universe. Ultimately, these narratives function to position the reader or listener in a place where they can see themselves as an evangelist for the cause. Ideally, for the evangelist, this leads to conversion again.

In the case of barefoot running, the story of the fall is often quite literal. Christopher McDougall's Born to Run, perhaps the best known of these mystical journeys, begins with a question: "Why does my foot hurt?" (McDougall, 2009, 6). His book is in many ways a narrative of McDougall's attempt to answer that question. His answer emerges in the form of an extended, epic pilgrimage to find the Taramuhara, an unknown tribe of minimalist runners who thrive in the Mexican desert. Michael Sandler begins his story with a rollerblading accident, after which he asks, "Why couldn't I run pain free?" (McDougall, 2009, 3). Jason Robillard, another barefoot running convert, faced a similar problem: "The journey started with a crushed dream. It was a hot, sticky day in late July, 2005. I was lying in a ditch surrounded by dried mud. Tiny gnats floated above my head and bristle-like grass poked at my skin. The sensation of lying there provided a brief reprieve from the pain shooting through my legs. Try as I might, I could not muster the strength to climb back to the road" (Robillard, 2012, xv). After discovering barefoot running on some obscure websites Robillard's life is changed.

With the paleo diet, the fall/injury typically involves health and weight issues. After describing how "this book can save your life," Rob Wolf goes on to describe a childhood in which his parents were perpetually ill, a fate he became determined to avoid (Wolf, 2010). Wolf narrates his journey through the exploration of lifestyle choices like vegetarianism, naturopathy, and yoga, all of which impacted his health negatively. Ultimately, his life turns around with the discovery of the Paleo Diet. It is his saving grace. In addition to Wolf's own story, he offers the "testimonials" of others who experienced similar conversion experiences in which the Paleo Diet is repeatedly characterized as life-changing. Wolf's conversion narrative follows the trope of many conversion narratives before him, as is clear with his section entitled "Their Story Becomes Your Story." Here, Wolf promises what he calls "a stunning return on investment" (Wolf, 2010, 29), which perhaps economizes the conversion narrative more than normal, but nonetheless focuses on the reward of conversion (typically salvation or enlightenment of some kind).

These intense life experiences relate directly to Campbell's identification of our responses to myths, specifically their affirmations. He writes, "Through the bitterness and pain, the primary experience at the core of life is a sweet, wonderful thing. The affirmative view comes pouring in on one through these terrific rites and myths" (Campbell, 2004, 4). Precisely so with the trying

experiences of these runners and dieters. Fall and pain ultimately lead to salvation, affirming one's commitment to the myth's power.

The barefoot running literature adds another feature to these stories – heroes – which relates directly to Dundes' and Eliade's discussions of sacred narratives above. These books are written by, include a forward from, or simply discuss (at length) larger-than-life paleo pioneers who serve as models and prophets of the barefoot running revolution. Besides McDougall's mysterious Tarahumara who live in seemingly inhospitable canyons of the Mexican desert, the barefoot literature is suffused with prophets or saints named Caballo Blanco, Barefoot Ken Bob, Barefoot Ken, Barefoot Ted, among others. The lives of these individuals and groups stand as evidence against all the scientists and skeptics. They embody the myth, their health and wisdom are objective examples of the truth and power that running barefoot can provide and they serve as the heroes of these narratives.

One final mystical feature of these stories is the faith needed to pursue their paleo activities against the advice of experts, coaches and doctors. McDougall, Sandler, and Robillard were all told they would never run again. Wolf describes the skepticism he encountered from individuals like his doctor who labeled the paleo diet a mere pseudo-science (Wolf, 2010, 21). Doing so required faith — not in science *per se*; then they would have listened to doctors — but in something bigger. Something mystical.

Barefoot runner Michael Sandler quite powerfully captures his mystical paleo-inspired healing process: "My perception of the world around me changed too, as I become one with my world, rather than one trying to conquer it. I became more peaceful and quiet, as the incessant chatter of the mind melted away. And my running transformed—from a run to a dance, a dance with nature, a dance with my surroundings, a dance to heal, and a dance of joy. I was running again, mile after effortless mile, without pain, fast, light, and free!" (Sandler, 2011, 4). Sandler's larger lesson, however, is about faith: "After all, we're all born barefoot. Where's the risk? We certainly wouldn't have told cavemen to stay indoors for lack of clean trails, clear paths, and protective shoes. And so I had faith, stepped off the cliff into the unknown, and there I found my true nature" (Sandler, 2011, 22). Further reflecting on a discussion he had with his running partner, Sandler writes: "Jessica once asked me, 'How did you know you'd be okay going barefoot?' It's a great question, but somehow I just knew this was the path for me"

(Sandler, 2011, 13). Robillard, again finding solace in obscurity, relates: "One day I stumbled across an obscure article in an academic journal where an author was making a case for barefoot running. The hypothesis was simple: running without shoes strengthens your feet and forces you to run with good form. It was an intriguing idea and ran polar opposite to every bit of information I had researched. For me, the selling point was simple—I used to run barefoot" (Robillard, 2012, xv). Distilled down, these stories and accounts capture the process by which faith in a paleo past reasserts its mystical nature. Subscribers to the paleo diet and barefoot running provide testimony that shows their humanity and prior ignorance. Once saved, paleo proponents can sell us their saints and their faith in a program that rejects a corrupt modern culture and replaces it with one that embraces nature and our intended place in it.

The Sociological Function: Physical Tribes and Online Communities

The move from personal experience to evangelized conversion narrative speaks to something deeply spiritual in these accounts. In short, the practices justified by paleomyths not only promote physical health, but also provide a holistic sense of spiritual oneness that connects members through the sociological dimension of myths that Campbell describes. As cosmological and mystical understandings are solidified, paleo proponents partake in "supporting and validating a certain social order" (Campbell and Moyers, 1988, 39). In doing this, paleo texts create a purposedriven narrative that connects practical advice to social laws and group unity of "the tribe."

This connection to the tribe is often quite literal. Many proponents of the Paleo Diet offer a strong conflation of early hominids with homo sapiens, where the genetic differences between humans and early Paleolithic hominids are strongly minimized. In *The Paleo Diet* Loren Cordain offers an example of this when he writes: "What do Paleolithic people have to do with us? Actually quite a lot. DNA evidence shows that basic human physiology has changed little in 40,000 years. Literally, we are Stone Agers living in the Space Age; our dietary needs are the same as theirs" (Cordain, 2010, 10). While Cordain minimizes the genetic differences between our Pleistocene relatives and modern humans, Zuk points out that, even though there is small percentage of genetic difference, it is what those genes contain that is "crucial"

(Zuk, 2014, 60). Even if percentages are small, genetic difference is still difference; and those differences may be significant in understanding how our species has developed more modern traits that allow us to inhabit our environment rather well. When Cordain and others conflate humans and early hominids and minimize such genetic differences, they provide a stepping-stone for proponents who argue that in addition to being genetically similar, we are spiritually connected as well and share a social order with our fellow *homo sapiens*.

Sandler's mystical barefoot running experience reflects this inference, for it reflects both a personal realization and his sense of connection to something larger: "Since the beginning, we've been in nature, not just foraging for food, not just to survive, but for our enjoyment and spiritual experiences as well. Organized religions give us scenes of Jesus in nature throughout the Bible and images of Buddha on his travels and path toward enlightenment. I contend that we've forgotten who we are spiritually" (Sandler, 2011, 16). Here, Sandler implies that our spiritual experiences are rooted in our deep history and that we must reconnect with our paleo tribe in order to better understand ourselves. *Paleo Magazine* provides a good example of the connection to tribe Sandler suggests:

Paleo offers us an exciting win-win and a cause for celebration. Not only does it promise to improve our physical health, it also offers something profoundly spiritual. In an age when people often feel isolated from each other and the world at large, Paleo stands as a reminder of our deep connection with tribe and the vast expanse of the biosphere around us. One of the great lessons of biology is the discovery that we are embedded in the very fabric of life; every time we "think Paleo," we are reminded of our heritage and our common predicament. There is a deep continuity and connection here (PMOADMIN, 2015).

Perhaps most powerfully, McDougall expresses the inherent sociological connection we have to our tribe through running:

That was the real secret of the Tarahumara: they'd never forgotten what it felt like to love running. They remembered that running was mankind's first fine art, our original act of inspired creation. Way before we were scratching pictures on caves or beating rhythms on

hollow trees, we were perfecting the art of combining our breath and mind and muscles into fluid self-propulsion over wild terrain. And when our ancestors finally did make their first cave paintings, what were the first designs? A downward slash, lightning bolts through the bottom and middle—behold, the Running Man (McDougall, 2009, 90).

The "tribe" today, though, inevitably looks much different and many paleo advocates are aware of it. No longer roaming the plains in packs, paleo proponents connect with one another online. Paleo Magazine views this as an opportunity in a world where paleo proponents are geographically spread out. In spite of distance, Kathy Gilbert maintains, "We all have something to offer each other, and connection is a powerful healer" (Gilbert, 2016, 59). The number of Facebook pages and other online forums, such as paleohacks.com, demonstrate the paleo world's desire to connect and maintain community. Community, however it happens, is identified as the "Fifth Pillar of Paleo" (Hawks, 2016, 76) in Paleo *Magazine*, indicating that it is more than a simple network. Rather, community is part of a code for paleo living. The need for tribe is so palpable to some that one paleo website even offers guidelines for creating in-person community in "How to Build a Local Primal/Paleo Community" (Barksdale, 2011).

Rather than explain evolution scientifically, these paleo advocates offer a mythology that relies on a version of evolutionary history that fails to recognize the genetic differences between modern humans and early hominids. In so doing, they commit the cardinal sin identified in Zuk's paleofantasy critique. Glossing over the difference between our hominid ancestors and ourselves, they point to a vague and arbitrary stopping point from which to assess our evolutionary heritage. But more generally, the appeal to the tribe carries out Campbell's sociological function by situating humans in a meaningful relationship with one another through social customs and practices. Paleomythologies offer an answer to us in terms of our purpose, our connection to the earth, and our bonds with our ancestors. Evolution, in this sense, intends for us to be spiritually grounded in our understanding of these things. In doing so, paleo proponents offer an anthropocentric view of nature and its processes in a way not entirely different from religious traditions (often Christian) that center humanity as the protagonist, the hero, and the purpose of creation. Such narratives provide answers about who we are. The paleomyth is no exception.

As evolutionary biologist Dennis Bramble concludes: "So simple [...] Just move your legs. Because if you don't think you were born to run, you're not only denying history. You're denying who you are" (cited in McDougall, 2009, 242).

The Pedagogical Function: Evolution as Naturalistic Shorthand

To some surprise, many of the paleo diet and barefoot running texts discuss evolution in little to no detail. In most cases our evolutionary tree is never explained. Rather, the theory functions enthymematically, as a shorthand linking Darwin and paleo living to warrant arguments for behavior change (as explained in our discussion of cosmology). This is how paleomyths carry out Campbell's pedagogical function: They describe "how to live a human lifetime under any circumstances." It makes sense to shift focus quickly from evolutionary cosmic origin stories to the ubiquitous models of behavior and rules of conduct that attend paleomyths because this resolves a tension at the paleomythic heart: How does evolutionary science become mythical when it has long been a tool deployed to demythologize? Our rationalistic sensibilities are more comfortable with science dictating rules of behavior, and for this reason paleomyths lean heavily on the pedagogical function.

At their pedagogical core, paleomyths seamlessly embrace "the naturalistic fallacy." Their smooth move from "is" to "ought" by suggesting that "because we evolved in a particular way therefore we should act in that way." As Loyal Rue notes, "this feature of myth violates the modern view that facts are value-free and that it is therefore fallacious to confuse 'is' with 'ought'" (Rue, 1989, 46). The fact that myth "does not apologize for confusing cosmology with morality" joins the pedagogical and the cosmological — the reality of our origins shapes righteous actions (Rue, 1989, 46). Clifford Geertz notes something similar in his study on religion and symbols:

Never merely metaphysics, religion is never merely ethics either. The source of its moral vitality is conceived to lie in the fidelity with which it expresses the fundamental nature of reality. The powerfully coercive 'ought' is felt to grow out of a comprehensive factual 'is,' and in such a way religion grounds the most specific

requirements of human action in the most general contexts of human existence (Geertz, 1973, 126).

And for these arguments, there can be no more "general context of human existence" than our evolutionary history. Lessl is borrowing from Geertz when he writes:

The 'powerfully coercive "ought" that would compel the world to cherish scientific learning as an absolute good, is the 'comprehensive factual "is" of evolution. Evolutionism could never stand entirely apart from evolutionary science for this reason, for to doubt evolution would be to doubt the scientific identity (Lessl, 2012, 19).

While Lessl shows us how evolutionism conflates science and scientific authority, our essay identifies how the 'is' of evolution proceeds to an 'ought' in paleo discourse: namely, that you *must* change your behavior.

Eliade further emphasizes myth's pedagogical component by directly comparing it to the modern educational system:

The homology of the respective functions of the myth of our public instruction is verified above all when we consider the origins of the exemplary models upheld by European education. In antiquity there was no hiatus between mythology and history: historical personages endeavored to imitate their archetypes, the gods and mythical heroes (Eliade, 1975, 92-3).

Authors of paleomyths champion our evolutionary forebearers as archetypes who embody an authentic way of living that these authors hope to recapture and model for the public.

Consequently, texts that deploy paleomyths establish guidelines for eating the "right" plants or running with the "right" form do on the basis of true origin story of human evolution where our ancestors serve as archetypes and models of right behavior. The mythological character of this move is clearly illustrated in a recent article from *Paleo Magazine*: "Increasingly, we find ourselves looking at the fine-grained details of our lives and asking, 'How would this relate to our primal ancestry? Is it Paleo?" (PMOADMIN, 2012). It can also be seen in Peter Fleming's *The*

Mythology of Work, where his criticism of the employment myth begins with the popular evolutionary assumption: "They hunted; we work" (Fleming, 2015, 19). In both cases the facts of evolution and natural selection drive the values that guide modern behavior. In this way, paleomyths offer socially embedded codes and models of behavior not entirely different from other mythical and religious codes, with the question "Is it Paleo?" mirroring "What would Jesus do?" The religious core of this formulation is also captured in Eliade, who cites the Satapahta Brahmana: "We must do what the gods did in the beginning... Thus the gods did; thus men do" (Eliade, 1975, 133). The ironic commitment to the naturalistic fallacy in paleomyths indicates their recalcitrance to Zuk's demythologization. Aside from low hanging fruit like smoking and cancer, science can be rather fickle with its lifestyle recommendations. But evolution is canon: no matter whether science vacillates over the healthiness of a meat-based diet or the value of rubber soles, evolution's core story remains true. It resists counterevidence, serving as the foundational myth, and hence is the true story through which we can find meaning and confidence in our lifestyle decisions.

Michael Sandler, for example, in his book *Barefoot Running*, relies on the naturalistic fallacy in this commonsensical argument: "Think about this, ancient man didn't have a fireplace or any means to cook. Since we haven't evolved since then, likely neither have our stomachs. Ancient man survived for millions of years before ever cooking a meal; it's what our bodies adapted to" (Sandler, 2011, 139). John Durant, in *The Paleo Manifesto*, appeals to the mismatch hypothesis to make an identical argument: "There is a mismatch between our genes and the lives that we lead today. Humans aren't adapted to sitting at desks all day long, eating Twinkies and drinking Pepsi. Humanity spent most of its evolutionary existence living as hunter-gatherers on the African savannah; therefore humanity was better adapted to that type of lifestyle" (Durant, 2014, 5). In The Paleo Diet, Loren Cordain describes how the paleo diet wasn't created by humans; he and others "simply uncovered what was already there: the diet to which our species is genetically adapted. This is the diet of our huntergatherer ancestors, the foods consumed by every human being on the planet until a mere 333 generations ago..." (Cordain, 2010, xi). And most simply, De Vany in *The New Evolution Diet* writes, "In plain English: We are not living as we were built to live" (De Vany, 2011, 6).

In these examples we see something different from the typical scientific argument about health. It's one thing, we're arguing, to say "You should do x because recent science shows it to be healthier" and quite another to say "You should do x because you evolved that way." The first type of argument typically relies on claims of correlation or causation – studies that show a link between pesticides and cancer, for instance, sugar intake and diabetes, and so forth. Researchers will suggest that eliminating some factor – either on an individual or commercial level – will likely correlate with an improved condition of some kind. Arguments in the second form, though, carry with them a deeper value-laden evaluative component, one that speaks to a cosmic authenticity, not simply pragmatic healthfulness: This is who you are or what you were born, and often designed, built, or programmed, to do. It implies that evolution was purposeful as our species developed and that modern humans should act in accordance with what evolution intended for us. There is, in other words, a move from statements of fact to statements of value, a move from description to instruction, and a move from "is" to "ought" that happens frequently and very quickly in all of these cases.

Where does this version of the naturalistic fallacy take us? In The Paleo Diet. Cordain focuses on the benefits of evolution in terms of how it can control and discipline our behavior. His diet is "the key to speedy weight loss, effective weight control, and above all, lifelong health...It is the closest approximation we can make, given the current scientific knowledge, to humanity's original, universal diet – the easy-to-follow, cravings-checking, satisfying program that nature itself has devised" (Cordain, 2010, 11). Adherents to the paleo diet can now control their modern sins of gluttony and sloth. Nature itself devised a plan for us to do so. Cordain is just the messenger. Such disciplining of our behavior is complemented by moralistic-sounding prose when Cordain uses language like, "If you are *faithful* to the basic principles of the Paleo Diet..." (Cordain, 2010a, 11) and when he describes the basics of the paleo diet as "the Paleo message" (Cordain, 2010b, 9; emphasis added). Both excerpts rely on religious-sounding language that underscores a believer's duty to be faithful and trust in the message. In the case of the paleo diet, though, the message comes not from a religious text or figure but from nature and the principles of evolution, deifying them both. Cordain likewise emphasizes good and bad behaviors in his discussion of a non-paleo diet. There, he emphasizes how the example he describes "violates all of the Seven

Keys of the Paleo Diet – the ones we're genetically programmed to follow," (Cordain, 2010, 34) indicating again the *right* and *wrong* types of behavior in relation to a set of norms and oddly mirroring in language The Seven Deadly Sins of the Christian tradition. Ultimately, most texts emphasize that the human species is living incorrectly; we are repeatedly characterized as being misfits in our modern environment. Evolution, according to these authors, does not move as quickly as our species has moved, but because we have forced ourselves into our modern existence, we commit sin after sin against our bodies. Nature and Evolution offer us salvation through their code of living – and our job is to be faithful to these principles. By prescribing paleo behaviors in this pedagogical fashion, these texts offer a path of self-help that can ultimately redeem us.

Conclusion

As we have attempted to demonstrate, paleo practices are commonly presented to the public through a mythological narrative that employs Campbell's dimensions of mythology to varying degrees. What does this signify? First, we can see an evolutionary trend in contemporary paleo practices that is at odds with much of the authority of evolutionary science — and here we reinforce Zuk's main message. In offering a mythology of evolution, the idealization of these "primitive" practices seems to minimize or ignore the genetic and environmental differences between early hominids and humans. Such texts and practices present a "we're not so different" line of argument, which emphasizes our similarities with earlier species but homogenizes all types of hominids. In doing this, the family tree of hominids is flattened and the public has to think less critically about the importance of difference among all types of hominids and evolution overall. Our work underscores Zuk's argument and demonstrates some of the problems paleo arguments can present in terms of scientific literacy in the public sphere. Ironically, paleo lifestyles on one hand claim to reject modernity and science (largely of the doctors and body of research that don't support their simplified views of natural history), while at the same time relying on the ethos and credibility of science in order to advance their argument. This bait-and-switch reveals the problematic and confused relationship paleo arguments have with evolutionary science.

More importantly, we have shown that this shorthand representation of evolution demonstrates the naturalistic fallacy's rhetorical effectiveness. By repeatedly invoking the claim "because we evolved that way," paleo proponents demonstrate the suasory power of evolutionary narratives. This is particularly interesting in a time when half of the United States still claims to not accept the theory of evolution. What we can surmise is that this fallacy is most effective when it offers the reader something – health, freedom from acne, a connection to the earth, that overrides reasonable scientific evaluation. When religious arguments are made against evolution it is typically when the theory is seen to threaten humanity's special purpose and place in nature. As we've shown, paleo arguments still offer an anthropocentric narrative that simultaneously may benefit the reader and restored their faith. The combination of these two characteristics is likely to have made the paleomyth and evolution more acceptable in the public mind.

It's just here that what we're finding in the paleo-literature dovetails with Lessl and Davi Johnson's arguments about the religious and mythical nature of evolution's larger and longer story. We see embedded in conversion narratives and spiritual appeals a way to operationalize evolution to resolve the crisis of meaning in modern life. Evolution, however frozen, foreshortened and incorrect, becomes embedded in simple stories that provide not just a grand, cosmic narrative but a narrative that guides behavior, telling us how to act in the right way. Francois Jacob, in writing about evolution as myth, remarks: "One of the main functions of myths has always been to account for the bewildering and meaningless situation in which man finds himself in the universe. They aim at providing meaning to the disconcerting vision that man gains from experience alone, and at raising his confidence in life despite sufferings, mishap and misery" (Jacob, 1982, 12). Johnson and Lessl have illuminated how evolution functions mythologically in this such on a grand scale. Evaluating Paleomyths in popular discourse fills out this picture by illuminating how the mythical deployment of evolution provides a kind of moral lifestyle guidance in a "bewildering and meaningless" situation. For the public, paleomyths may seem to provide answers about who we are and who we are supposed to be. But conflating this mythology with evolutionary history sacrifices science in order to persuade the public.

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