A Hunter-Gatherer's Guide to the 21st Century

What’s in it for me? Embrace your ancestral past.

The modern world has brought us more wealth and convenience than ever before, and yet so many of us are miserable. Despite our prosperity, we find ourselves becoming lonelier, less healthy, and more dissatisfied with our lot in life. How can this be? The answer lies in our ancestral past. These blinks are here to explain how our bodies and minds, shaped by millions of years of evolution, are often mismatched with our present-day environments. From our medicine to our food to our childhoods, you’ll discover why we have evolved as we have, and how dangerous it can be when we neglect our evolutionary heritage. In these blinks, you’ll learn

how screen time is stopping our children from growing up; the evolutionary purpose of sleep; and why we reproduce sexually.

WEIRD people grow up surrounded by unnatural geometry.

Can you tell whether two lines drawn on a page are the same length or not? You may have seen the optical illusion in which two lines, of identical length, both have arrowheads at either end, going in opposite directions. Due to this difference, you perceive one line as being longer than the other. But not everyone falls for this illusion. Interestingly, people who grow up in hunter-gatherer societies, such as the San Bushmen of Southern Africa, have no problems seeing that the two lines are identical. However, for people who grow up in WEIRD countries – that is, Western, educated, industrialized, rich, and democratic – it’s almost impossible. The key message here is: WEIRD people grow up surrounded by unnatural geometry. Unlike the San Bushmen, people in industrialized nations use sawmills to create timber with perfectly straight edges and precise corners. This might explain why we have trouble interpreting different line lengths – because we’re deprived of seeing more organic forms, we lose some of our visual abilities. This is just a theory, however, and it’s worrying that experts can’t say for sure that this is why we struggle with this sort of illusion. But one thing that does seem clear is that modernity is undermining our natural abilities in ways that we don’t fully understand, or often even realize. Our ignorance of how our environment affects our bodies manifests in other ways, too. For example, many people in WEIRD countries will suffer from appendicitis, a dangerous inflammation of the appendix, at some point. People in developing countries, however, rarely deal with appendicitis. Why? Experts now believe that the appendix acts as a breeding ground for the good bacteria and microorganisms that live in our guts and help us digest our food. When we suffer from diarrhea and stomach upset, a lot of gut bacteria from our digestive tract gets flushed out of our bodies. But the appendix doesn’t lose its bacteria, and so can grow more of them to repopulate the tract. People in developing countries are exposed to more germs and different bacteria than those in WEIRD ones. We might think this is a bad thing – but our bodies are designed to go through this cycle of stomach upset and bacterial regrowth in the appendix. With our overly sterile and hygienic modern homes, we no longer suffer frequent digestive upsets, and so our immune systems and our gut bacteria get out of balance, ultimately leading to appendicitis in some people. So

whether it’s our overly clean homes or the perfectly straight lines that surround us, the modern world is having an effect on our bodies and minds to which we’re not paying enough attention.

There is no ideal universal diet for human beings.

What’s the best diet for you? Many so-called experts say we should be eating the foods that our ancient ancestors ate. This might involve a raw-food diet, consisting only of foods that don’t require cooking, or a paleo approach, in which foods that were unavailable to our ancestors, such as grains and dairy, are rejected in favor of meat, fat, and vegetables. But what does evolutionary history have to say about our eating habits? Here’s the key message: There is no ideal universal diet for human beings. For as long as there have been human beings in different parts of the world, there have been different diets. For instance, the Inuit people of Northern Europe ate, and still eat, a diet that is extremely high in meat and fat, and contains almost no carbohydrate. This means that people from this genetic lineage have evolved to thrive on this diet, despite the fact that no other people around the world have a culinary tradition like it. Compare the Inuit diet to that of the people of the Northern Mediterranean, which traditionally contains a high amount of carbohydrate, in the form of cereals, for instance. This means that people with Northern Mediterranean heritage may do best on a completely different diet from those with Inuit heritage. So we can see how wrong it is to suggest that one single diet could possibly represent what our ancestors ate, because our ancestors have eaten many different things. Now let’s take a closer look at the raw food diet. Proponents of this diet maintain that it is more natural, and therefore better, to refrain from cooked food. But this completely overlooks the incredible benefits that our ancestors gained when they began cooking. For instance, when we cook food, we’re able to consume much more energy much more quickly. If we didn’t cook our food, we’d have to spend around five hours a day chewing on raw foods to get an adequate amount of energy and nutrition from them. That’s five hours that could be spent in much more productive ways. Additionally, cooking allowed our ancestors to detoxify certain plants, which lost their poisonous qualities when cooked. Cooking also neutralizes bad bacteria and parasites in the food. Finally, smoking food helps prevent spoilage, making it edible for longer. This allowed our ancestors to travel greater distances by enabling them to take food supplies with them. In other words, cooking hasn’t held us back; it has been absolutely instrumental to our species’ prosperity.

Sexual reproduction makes sense in an unpredictable world.

Human sex and reproduction are costly operations. Not only must you find someone you want to mate with, you then have to persuade that person to mate with you. Once you do reproduce with another human, your own genes take a big hit. After all, if the goal of reproduction is to spread our genes, then it seems inefficient that we spread only 50 percent of them in mating with another person. Wouldn’t it be a lot simpler if we did as Komodo dragons and certain species of frogs do and reproduce asexually? That way we could cut out the partner and pass on 100 percent of our genes to every child we have. The key message is this: Sexual reproduction makes sense in an unpredictable world. In

reality, asexual reproduction is undesirable from a survival perspective. The only way it would be advantageous to pass on 100 percent of your genes is if the world in which you've managed to thrive is likely to stay exactly the same. If it did, then your clones would be sure to thrive, too. But the world doesn't stay the same; it's volatile. Bad events can and will occur; there might be a devastating flood, or a famine, or a new illness. When you mix your genes with someone else's, you have an opportunity to create new and helpful combinations, which give your children an opportunity to adapt better to an environment that doesn't yet exist. Thanks to millions of years of evolution, there are many differences between the males and females of the human species. These differences are known as sexual dimorphism. Men and women run different risks of suffering various diseases, for instance, such as Alzheimer's and Parkinson's disease, and even for drug addiction and migraines. More controversially, men and women also tend to have different personality traits. When looking at the male and female populations overall, one sees that most women are more altruistic, more compliant, and more trusting than men. Additionally, there is also evidence that men tend to prefer working with things, whereas women tend to prefer working with people. Of course, this is not to say that there are not plenty of altruistic men who enjoy working with people, but that, in an average population, these traits will skew female. The inherent differences between the sexes are reflected in the fact that, within every single human culture that has ever been known, language exists to distinguish between male and female. There is no doubt about it: sex is universal for humans.

To mature into adults, children must be allowed to explore and discover during childhood.

Humans have the longest childhoods of any species, but we're not the only ones who take a long time to grow up. When a baby orangutan learns to swing from tree to tree through the forest, he'll whimper when he gets to a gap that's too big, and his mother will come back and teach him to cross it. Similarly, after ravens leave their parents, they gather with other adolescents and spend years being teenagers together, as they learn how to relate to each other. In essence, childhood is the time when we learn about ourselves, how we should behave, and who or what we might become. The key message here is: To mature into adults, children must be allowed to explore and discover during childhood. Although none of us is born as a completely blank slate, humans come the closest. Our brains have the greatest amount of plasticity; they are the most malleable of any species. For instance, as infants we're born with the capacity to hear the particular sounds and tones of any language, regardless of where in the world we're born, or our ethnicity. However, as we get older, we lose this capacity to hear language tones and sounds that aren't present in our environment. Similarly, we're born with more neurons in our brains than we use, and these neurons die off as we reach adulthood, precisely because we haven't used them. But wouldn't it be better to keep the ability to hear different language sounds, as well as some extra brain power? Well, the truth is that we don't keep all this extra capacity because any benefit it could offer is outweighed by the fact that it costs us a lot of energy to maintain. So, as children, we discover what kind of world we're living in, and then we structure our minds accordingly and let go of abilities that we are unlikely to need. This is why childhood is a crucial time for exploration. So it's unfortunate that parents in the twenty-first century often stifle this exploration. Modern parents tend to keep tight control over

their children by scheduling and planning their time for them; they choose what activities they'll do, and direct them to play in a certain way. Many parents also stunt their children's exploration of the world by subduing them with television and other screens. Although parents often mean well, intervening in childhood like this prevents children from growing into truly capable adults. This is because it stops the developing brain from refining itself in the way evolution intended.

Sleep is our body's answer to a very specific problem.

Have you ever felt as if you could accomplish so much more if you didn't need to sleep? Like humans, nearly every other animal sleeps, too. What's more, if there is intelligent alien life somewhere out there in the universe, then it's highly likely that those aliens also need to sleep. To understand why, let's look at the evolutionary purpose of sleep. Here's the key message: Sleep is our body's answer to a very specific problem. It's a fact that no animal can develop eyes that are equally good at seeing in the daytime and at night. To have this sort of dual vision, you would actually require two sets of eyes – one for day and one for night. This would, in turn, require you to have a much bigger brain, with much bigger energy requirements than are feasible. Thus, all animals, including humans, evolved to have eyes that were specialized for either light or darkness. This became their time to be ecologically productive, and engage in hunting and/or gathering activities. With this adaptation came another issue: what to do during the period when your eyes couldn't see well. For early humans, as well as all other animals, it was not a good idea to be active during this "blind" time, because of the risk of falling prey to animals that could see. So, instead of being productive, it made evolutionary sense to be dormant during this time, so as to conserve vital energy. Thus, animals began to sleep. Understanding why we sleep also answers the question of whether aliens would sleep. Given that any alien life forms would likely also experience night-and-day light patterns on their planets, too, it makes sense that they would also engage in something that resembles sleep. But although we began sleeping to solve a vision problem, sleep's purpose in humans has evolved over time. Given that humans have such powerful brains, it wouldn't make evolutionary sense if they were to do nothing during the times when we were sleeping. And so we began dreaming. When we dream, our brains work through the past, and imagine future situations. We test out various responses to hypothetical scenarios, and process information that we've learned that day. So even though humans began to sleep before we began dreaming, our dream state is now crucial to our cognition.

Scientists take a dangerously reductionist approach to health.

What's the real cure for what ails you? In 2009, one of the authors was suffering from recurring bouts of laryngitis. When she visited her doctor, she was advised to start taking strong pharmaceuticals to treat it, as well as more drugs to counter the side effects of the first drugs. But the author didn't take his advice, or the drugs, because she knew something that many doctors and scientists overlook: When it comes to putting new substances into the human body, the cure can often be worse than the disease. The key message is this: Scientists take a dangerously reductionist approach to

health. Reductionism happens when you take a complex system, such as the human body, and try to simplify it down to a few measurable parts. In the modern world, we're able to create drugs that are meticulously calibrated to enact a particular physiological change in our bodies. But the problem is that our bodies are not meticulously calibrated. Instead, we're complex beings with delicate communication systems operating among our mental state, our hormones, and our organs that cannot always be healed by pulling on a simple physiological lever. Reductionism in modern science is so dangerous because it dishes out pharmaceuticals or medical advice that might benefit one narrow part of the human body, while compromising another part. For instance, when scientists discovered that fluoride was associated with reduced tooth decay, it was added to public drinking water in many places. However, this may have inadvertently caused more problems than it solved. Not only does drinking water use a synthetic form of fluoride, but it may also cause neurological problems in children who are exposed to it, and there is a correlation between drinking fluoridated water and suffering from hypothyroidism. This highlights an essential evolutionary point: when it comes to the human body, there are very few magic bullets. Fluoride might seem like a panacea, but it isn't. Another example of reductionism in science comes from the world of processed food. These days, we have successfully managed to extend the shelf-life of various food products by adding a substance called propionic acid, which stops mold from growing. However, the downside of propionic acid is that it affects the brain development of fetuses in the womb, and is associated with higher rates of autism in children who are exposed to it. Once again, that convenient magic bullet is simply an illusion.

Final summary

The key message in these blinks: Evolutionary biology is full of trade-offs. We cannot enjoy the benefits of something without also paying a cost for it elsewhere. But in modern life, we often overlook these trade-offs, and assume that the convenience, medicine, and technologies that surround us are entirely good for us. This fundamental misunderstanding has led to health problems and issues surrounding the normal development of children into adults. Actionable advice: Feel the earth beneath your feet. The modern world tells us we need a different pair of shoes for every occasion. But sometimes the best thing you can do is not wear any shoes at all, and go barefoot. That's because evolution has equipped us with natural shoes – the calluses that develop on the soles of our feet over time. When you forgo shoes, your feet are also able to transmit a lot more information about the type of terrain you're standing on, so that you can move in the best way.