EPISODE 38 THE HYPERSOCIAL ANIMAL

Hi there. Welcome to the end of the world. My name is Michael Folz. And this is Episode number 38 of my podcast Dial It Back Or Die. Now last time we talked about intelligence. And I pointed out how certain animals, such as dogs, parrots, dolphins, and great apes, are pretty smart. And also how intelligence has convergently evolved in species separated by millions of years of evolution, such as parrots and orangutans. But then I pointed out that human intelligence is qualitatively different, and no doubt orders of magnitude different, from all that has come before. And I left the question dangling in the air as to why Nature and Evolution, which are famously conservative in their approach to life, would create such a ridiculously intelligent creature such as us. After all, as we shall shortly see, our giant brains require humungous amounts of energy. And what possible use can the appreciation of a poem by Yeats be towards the replication of a genome?

Well, today we're going to tackle the question. And in so doing I'm going to be introducing another of the unique aspects of the human condition. In fact, this aspect might even be more game changing and more central to the human condition than intelligence itself.

But first let's talk about ants.

Now ants are nothing to make light of. They certainly do deserve careful studying. For one thing, there are lots of them. Their total number has been estimated at over ten quadrillion. And their total biomass has been estimated to be equal to that of us seven billion humans. (Although, to be fair, biomass estimates are all over the place. It has also been estimated that fungi make up 25% of all the animal biomass. And that the total biomass of bacteria actually exceeds the total biomass of animals and/or plants.)

But the main reason to be fascinated with ants is that they are what are called hypersocial animals. That is to say that—at least with most of their 20,000 species—they exist as colonies of up to a million or more individual ants, all working together as if they were one superorganism. And the

word 'ant' encompasses several different beings with totally different behaviors. In a colony's simplest form there will be a vast majority of sexless female worker ants, which are themselves usually differentiated into various 'castes', each with its own specific task. Then there are a few winged male ants which just hang around long enough to mate. Finally there is the giant queen ant, which starts each new colony and produces all of the millions of eggs required to populate it.

It's a strange world down there. Those 18th Century intellectuals who believed in the primacy of innate self interest would have no doubt squirmed to consider that the individual ant has absolutely no concern in living if its continued life in any way interferes with the good of the colony. In fact, ants will, without even a second ant-thought, die in order to defend their mates. Where is the innate self-interest in that?

Now a guy named E. O. Wilson is the world's leading authority on ants. And he is also the world's leading proponent of a field called Sociobiology. And we don't need to get into the arguments for and against Sociobiology here in this podcast. But it is interesting to note that Professor Wilson also believes that human beings are hypersocial animals. After all, each one of us contributes our own small part to some superorganism, and said superorganisms have now culminated in what we now call the nation or the state. Each one of us performs a highly differentiated job in these larger societies. Which end up consisting of millions upon millions of citizens. Our collective cultures are then hugely bigger, more complex, and far more important than the lives of any individual or extended family or clan ever was. Finally, we will even make the ultimate sacrifice for the welfare of unknown others. Policemen will give up their lives for the collective good of a city. Soldiers will die in the service of a flag.

How is this all that different from the reality of ants?

Well, for one thing you (and many critics) might counter that humans are, um, a little more complex than ants. After all, an ant brain has about 200,000 neurons in it. Which admittedly may sound like a lot. But a human brain has about 200,000,000 neurons. Which means that our brains are literally a million times larger than that of ants. And that's not adding in the unmeasurable complexity of those thousand connections per neuron. Or our demonstrated capacity for rationality, self control, etc.

Second, although some rudimentary 'learning' has been observed in ants, there is little argument that they are born with the vast majority of their behaviors hard-wired into their tiny brains. No serious scientist believes that this is true for humans. Next this formulation is ignoring the fact that we humans have unmistakably individual personalities and unmistakably individual personal goals. Even historically strange, foreign cultures such as the Chinese, whom we might have in the past xenophobicly thought of as 'ant-like', turn out to have just as many varied and distinctive individual personalities as our own.

Finally, there is the not so small sociobiological problem that, since all the ants in a colony are more or less clones of one another, there's at least an argument to be made that their apparently selfless behavior is actually genetically selfish. But it is stretching the idea beyond its breaking point to suggest that 90 million Germans are somehow protecting some mythical German genome. And certainly this is the case when considering 300 million Americans, who are famously immigrants from all over the world.

Indeed one might well think that only someone who had spent their entire life engrossed by ants could even come up with such a comparison.

Still, E. O. Wilson is definitely on to something.

And it all has to do with the leading hypothesis as to why our remarkable rise to (relative) super-intelligence has occurred. Namely, that we need all that brain power in order to process all of the myriad needs of our social relationships and responsibilities.

Let's start with the observation that all of the other animals which I have described as intelligent —crows and parrots, dolphins, elephants, and dogs—also live in highly social groups. Even octopi, almost alone among non-vertebrates, engage in consciously collaborative behavior.

And it's easy to see why complex social arrangements and hierarchies would require complex intelligence. For if you are one of those who is ideologically bound to a belief in *selfishness* you will cynically say that each individual needs to be both aware of its place in the hierarchy and tp be able to scheme its way around all of its companions. And on the other hand, if you do not have that preconceived notion, then it should still be clear that each member of a group needs to know the particulars of each other member so that co-operative behavior can be that much more productive. In fact, each individual might actually be interested in—might very well care about—the affairs and welfare of the others.

Whatever your slant, such knowledge calls for a lot of processing power.

And either way one should never forget that in most situations a primary purpose of a social group is for mutual protection. And that therefore *in any social animal* the welfare of the group must necessarily be more important than the welfare of any one of its individual members.

But we're not just any social animal. We come from a long line of monkeys. And for the past thirty million years almost all of the hundreds of species of monkeys have been highly social. Mating behaviors, hierarchies, etc., have of course varied, but what has remained constant is that the individual monkey has been pretty much useless, defenseless, and psychologically bankrupt outside the context of its group.

And as for group *size*... In 1993 an anthropologist named Robin Dunbar noticed a correlation among primates between how large a given simian brain was and how large its greater society was. He then extrapolated from the size of a human brain and determined that the maximum number of other people that any one of us can be reasonably intimate and sociable with is around 150. This is now known as Dunbar's Number, and although there is some argument as to its precise amount, for the purposes of this discussion let's use the number 150.

Which makes a lot of sense if you think about it. Because a person may have 5000 Facebook 'friends'. A politician may know the names and certain details of a thousand different contributors. But in practice there aren't that many people that any of us are close enough to so that we actively communicate with and/or care deeply about them.

150 is also about the largest size that pre-Neolithic settlements got to, or that present day rural Third World villages get to. Among foragers, that's about the size of a typical extended clan. Interestingly, in the history of modern intentional societies, such as Israel's kibbutzim or America's 19th Century Utopian communities such as the Shakers, whenever they got larger than around 150 people they would invariably spin off daughter colonies.

Now shortly I'll bring up the question of how civilization worked around this limit at the time of the dawn of the flowering of Egypt and Mesopotamia and all. But for right now let's dwell for a moment on the point that 150 is the probable size of late Paleolithic human social groupings.

After all, as I've already pointed out, Nature supposedly doesn't waste energy on attributes which are not absolutely necessary. Which means that a brain should not have gotten any larger than what was required to deal with the relevant social grouping size.

Which means that now we most definitely know what was going on in those 'mists of time' that the 18th Century theorists could only guess at. There weren't individuals wandering around by

themselves or with their individual families who then sat down with others to draw up some legalistic social contract. Instead you had at least thirty million years of highly socialized primate species culminating in the greatest brained of apes—namely us—living in the largest of groups.

Which also means that each member of each of those groups, far from being a self-maximizing rugged individual, spent their entire lifetime knowing from the core of their being outward that the welfare and the dictates of the group were far more important than anything that they might want or feel. After all, any individual was just 1 in 100.

Actually 1 in 150...

And this musing about the Paleolithic is more or less confirmed by what we know from looking at 'primitive' tribes in New Guinea or the Amazon. Yes, each is composed of individuals with individual personalities and quirks. But the tribal identity is always paramount. That's who they are.

And that's who we, up until the 18th Century ideas of the Age of Enlightenment, evolved to be.

Now 150 people is really starting to get up into that hypersocial range. So our giant leap forward in the size and complexity of our brains is pretty much prima facie evidence that we are indeed, E. O. Wilson's weird comparison of us to ants notwithstanding, hypersocial.

Although this doesn't necessarily answer the question of which came first, the hypersocial part or the hyperintelligence part. It could well be some sort of feedback loop in which, say, smarter apes developed simple stone tools which made it possible to hunt animals, which required larger groups of hunters and smarter brains to co-ordinate the hunt, which produced high energy meat which nourished larger and smarter brains, which were needed anyway in order to handle the language necessary to communicate and co-ordinate within and among the larger groups. And so on and so forth.

But the end result is the same: Giant brains led to a hopelessly interconnected hypersocial animal.

And this process introduced other triggers, other changes in behavior which ended up making us vastly different from anything that had ever come before.

For instance, in learning. Now I've already noted that most behavior in lower animals is somehow innately hard-wired into their brains, which means that it is the result of the expression of various genes. And it is no doubt another one of those bizarre mysteries just how it is that a set of nucleotide sequences can encode incredibly complex three dimensional amino acid strings (in other words, proteins) to be made which then actually direct an animal to precisely act in a certain way. But nonetheless it happens. Further, with those lower animals, even when learning seems to take place in the real world much of that is based upon hard-wiring. For example, baby ducks are imprinted to follow around the first creature they see upon hatching, whether that creature is its mother or a human researcher.

And although it is a signal of higher intelligence in an animal for it to be able to learn by observing others, observing others is about as far as such learning ever goes. For instance, if a chimp figures out how to use a stick to dig into a termite mound, the only way that this trick will be passed on to others is if other members of its group observe it and try it out for themselves. It would never occur to the first chimp to want to try to *teach* other members of its group.

Not so with humans. We love teaching others what we know. (In fact, sometimes we love teaching them things we are in reality quite ignorant of.) We love teaching our children. We love teaching our friends. We even love teaching total strangers. And if the theory as to why chimps and all the other animals don't teach is because they are innately selfish and do not want to jeopardize the survival advantage that this new learned trick has given them, then the reverse must also be true: The fact that humans are so eager to teach is therefore further proof that we are innately unselfish.

Whatever the original impulse, however, the fact that we do teach, when combined with the languages that we have developed to aid us in teaching, means that human culture—how to make fire, how to grind tools, the stored collective wisdom and insights which are carried forward irrespective of individual births and deaths—soon became orders of magnitude greater than any 'culture' that we might ascribe to, say, killer whales or baboons. Indeed *human culture*—and the need to pass it on—is probably by far the biggest trigger, game changer, killer app (or whatever else you want to call it) which has set us on the road to those giant brains and those (relatively) giant Paleolithic societies.

Moreover, this very fact of human culture—the existence and continuance of which is way more important than that of any individual, family or clan—certainly seems to provide further support support to the idea that, not only are we humans necessarily hypersocial, but that the Neolithic (and later) societies that we created are indeed in effect gargantuan hypersocial superorganisms.

Although arguably more charming and more meaningful than E. O. Wilson's ant colonies.

But the question naturally arises: If our brains are limited to 'knowing' 150 people, and if naturally occurring communities split up when they reach that limit, then how did Mesopotamia and

Egypt and all the other ancient civilizations, with their thousands upon thousands of people all living together, come about?

First and foremost, how in the world did everyone in the world even begin to get along?

After all, one of the distinguishing features of social groups in Nature is that everyone and everything outside of one's social group is the enemy. Territory—and the food resources that it contains—must be defended. In fact, certain species of monkeys will proactively go to the edge of their territory and screech away, just in case anyone else is in hearing range. Fortunately, though, with monkeys, as with the aggressive displays in most other animals, instances of conflict between groups are more ritualized than actual.

As for our supposed cousins the chimpanzees, though, it may well be true that when strange 'tribes' meet they will often react with seeming friendliness, and females will even switch groups. On the other hand, sometimes real war can break out. Meaning to the death. What's even more disturbing is that in good years when there is a lot of fruit in the trees and all the chimps are well fed, males in some groups will actively go hunting for solitary males from other groups. And then murder them in cold blood.

Remind you of any other hominids?

Because there may have been a popular 20th Century view among certain anthropologists that human warfare was a result of capitalism or feudalism or—horror of horrors—the rise of patriarchy. But the plain fact is that, for almost all primitive cultures that have been actually studied, warfare was an essential part of life. Indeed it can be argued that for adult male humans preparing and engaging in war was their principal leisure activity. And, as with the chimps, this was not ritualized combat, either. Nor was this limited to one off battles. There were always retaliatory raids to conduct, livestock and women to steal, blood feuds to continue on for generations. Slavery and cannibalism were common.

In fact, as we shall see further on, if it weren't for the invention of sports, it is difficult to see how all this propensity for aggression could have been sublimated to the extent that it needed to be in order for a larger civilization to take hold.

Having said all that, though, it is also undeniably true that humans may well be the most peaceful large mammals to ever walk the Earth.

Huh?

Let me explain. First, let's briefly consider those elephants and dolphins. Most of us would think of their herds and pods as being relatively calm and co-operative. And they are. But that's primarily because they are matriarchal. That is to say, the adult males of these species are destined to roam around all alone by themselves, only allowed to be 'social' during mating season. And the reason for this is that in general males of any species are extremely aggressive towards one another. That's what they do. That's how biology works. If they all got along, then how would survival of the fittest work out?

Nor do most mammalian males adjust all that well in social groupings which do allow more than one of them. For instance, a pride of lions usually has two or more male lions in it. But the lives of the submissive ones are extremely unhappy. And it might be even worse for those which are dominant. Because that period of dominance is usually short, it is consumed by a constant defense of that dominance, and it almost always ends in a violent death.

Wolves are not so Hobbesian. Instead their situation is finessed by establishing an extremely well defined pecking order, with the alpha dog prevailing and every other member of the pack precisely knowing its place. This in turn necessitates that vast array of sophisticated social behaviors and those larger brains required to keep everyone and everything in line.

Many monkey species have stable pecking orders similar to wolves. The same can't be said, however, for baboons. From top to bottom male baboons are some of the most stressed out animals on the planet.

When we get to the great apes behaviors diverge. Orangutans solve the problem by being one of the only primates to lead solitary lives. Which is good, since the males are extremely aggressive. Gorillas, on the other hand, are relatively placid, and although they collect harems they often do accept other males into their group. Bonobos (those true cousins of the chimps) famously resolve their tensions through promiscuous sex. But this is not a sign of peaceful coexistence. Rather it is a sign of constant bickering and tensions that need to be relieved through that promiscuous sex.

Humans, on the other hand...

Because it looks like, at least compared to all the other attempts to get mammalian males to live together, we the people people have—once again—made a huge evolutionary leap forward.

For instance, research has shown that most human core emotions track pretty closely to those of chimpanzees. Both species smile when they are happy. We both express disappointment and anger in much the same way. But there is one range of behaviors which chimps have which have no real analogues in human. And that is in what are called dominance displays.

Now you might think that showing off a Rolex watch or a new BMW is a form of dominance display. And in a sense you are of course correct. But these are trivial when compared to the highly ritualized—and constant—displays of aggression which male chimpanzees, gorillas, macaques, and virtually all other monkey species are prone to.

Further, the huge, vicious canine teeth that all male apes and monkeys have to fight each other with are gone in humans. As are the sharp claws. In fact, anthropologists come right out and call these morphological changes in human males 'feminization'. So that, compared to most other primates, we male humans are downright soft and pliable.

Or, as one expert on primates put it, if you placed 150 chimpanzees that didn't know each other on a plane in New York, by the time it landed in Los Angeles there would be very few of them that still had all of their hands and feet.

And I'll discuss the causes for this 'feminization' in a later episode. But for right now consider how such a change was necessary in order for men to have at least a semblance of getting along in those groups of 150. Also how a certain level of equality was necessary in order to effectively conduct all those highly complex coordinated actions, starting with hunting those mastodons and continuing on through the division of labor necessary for the implementation of tool making, basic agriculture, etc. Even, ironically, warfare.

Still it is pretty much an unanswered question as to how and why those larger Neolithic towns and then Bronze Age cities and civilizations were formed. And as far as I can tell, so far it is almost an unasked question. Sure, anthropologists point out that when you get to larger groups and cultures you need strong social norms. But, as we shall see, you also need strong social norms for those groups of 150. And to me at least it is not at all obvious that groups larger than Dunbar's Number should or could coalesce. To me it seems that this uniquely human ability, like language, like culture, like intelligence, is another one of those triggers, those game changers, those from out of nowhere evolutionary leaps that put us on the road to today.

Now it is certainly plausible to hypothesize that, with the instinctual drive for crude dominance dissipated, human males could therefore also learn to live together in groups of more than 150. And, as I shall point out later on, the somewhat disputed adoption of monogamy no doubt played a huge part in our ability to live together in these larger groups.

But I would also suggest that a critical element was that our brains were able to substitute a new identity of clan, then nation, then empire over the original one of tribe or village. After all, if Dunbar's

Number means that the fact of our large brains and their huge computing power more or less proves that we are hypersocial animals, then it is not so far fetched that those large brains could easily have conceptualized beyond that formal limit of 150.

Just so long as we still maintained a strong sense of identity as part of a larger group. Which, because of those millions of years of evolution, had to be stronger than our sense of identity as an individual. In other words, it was more or less imprinted upon our DNA that we *had* to be some part of a greater whole.

Otherwise we would see no point in living.

Because that's what hypersocial animals do. It's part of their wiring. It's part of their nature.

Not to say (once again) that each and every one of us is not also a unique individual with a unique personality and a unique set of desires. What's more, this has been the situation since long before Lucy came along three million years ago. Indeed, just about the earliest examples of literature, Homer's 'Iliad' and 'Odyssey', are nothing if not long poems praising dominant individual personalities, such as Achilles and Ulysses, and their quest for individual fame and glory. It has also been sarcastically noted that humanity's first few thousand years of writing consist almost entirely of kings building giant monuments which do nothing but boast about how great the kings were.

Nor am I ignoring the reality that submitting oneself to the larger group is not without its pitfalls. Lynch mobs, goosestepping Fascist hordes, and stifling Communist (not to mention Capitalist) bureaucracies can easily result. Overdoing the communal can get real funky real fast. As I've been saying since the beginning, the proper balance does have to be found.

On top of that, just as the creation of the original 150 person hypersocial unit did not mean that individual conflict between men was entirely eliminated, so, too, the creation of nations and empires obviously didn't do away with warfare. Even worse, anthropologists pretty much agree that the more complex society has become, the more stratified it has become, with hierarchy, status, and, um, dominance displays all rearing their ugly heads.

Now let me pause for a moment and gently affirm that I am more than aware, both from my reading of the histories of all cultures, and from painful experience in my personal life, that people do lie, cheat and steal. For all of our supposed intelligence, we humans do really dumb things. And incredibly selfish and shortsighted things. And all of this is certainly part of the human condition.

And all of that does bring us back around to the old question about what the 'true' nature of the human condition is. Are we essentially peace loving creatures or are we essentially warlike? Are we essentially sharing, altruistic creatures or are we essentially selfish? Well, next episode I will be presenting a hypothesis, a paradigm if you will, which both tries to resolve our seemingly contradictory behaviors and which tries to point us towards the answer as to what is indeed our 'real' true nature.

But for right now what I would like to do is to really impress upon you the lesson of this episode. Namely that the science has been done. And on the question of whether we are primarily individuals or primarily members of a larger group, the answer is in. And the answer is unequivocal. The ancient Greek philosophers who, even with the stories of Achilles and Ulysses, concluded that we were primarily political, ie social, animals were right. Confucian ethics, which still rule most of East Asia, and which come right out and state that the harmonious society is that in which the individual subsumes himself for the good of the family and the family subsumes itself for the good of the state, they were also right.

And we in the West, with our little Age of Enlightenment fantasies of Thomas Hobbes, and of those 18th Century philosophes, that in some unknown mists-of-time past freely independent men should sit down with each other and—much like the mythical Magna Carta noblemen did at Runnymede—hash out some sort of legalistic Social Contract in which they forfeited their independence in exchange for the protections and efficiencies of a greater society, and that the individual existed before the collective, and that therefore the individual should be considered as sacrosanct... All of this was and is absolutely and utterly wrong.

And the biggest, most important one of those supposed 18th Century truths, the one that most people of a modern mindset in fact proudly proclaim to be the foundation of the modern world, namely the idea that the care and feeding of the Individual Self is the proper focus of our laws and our culture, and, further, that human rights are those which further the protection and promotion of that Individual Self... This is also utter poppycock and complete B.S.

Because we now know that such a formulation is an absurd fairy tale. We now know that we are in fact evolved from a long line of highly socialized primates.

And the real truth, in fact, is that we homo sapiens have taken the whole social animal thing to a whole other level. Because those ancient Greek philosophers were only part right. We are not just social animals. Because in point of fact we are fully fledged hypersocial animals.

And—not to put too fine a point on this—but we now know that through our entire evolution, going back at least three million years and the first inklings of homo habilis, *the individual human being has never even been remotely paramount*.

This is Science. This is Truth. Further, this one insight in and of itself totally knocks out the foundation stone on which the Modern World, the Postmodern World, and the Politically Correct World have all been built. And if you don't like that, then tough noogies.

Now, having just said that, let me also say that, given that we are presently living in the Postmodern World and the Politically Correct World, I fully respect the rights of each of us to individually stand apart from those worlds. In fact, under the present circumstances I consider this right to be an individual to be more precious than ever.

Moreover, let me reiterate one more time for the record that I am more than fully aware of how the Collective can go drastically wrong. And the whole point of the upcoming episodes will be to understand the true human condition so as to make sure that we can create a system wherein the Collective goes drastically right. Wisdom, Beauty, Balance—these *Qualities* which were collectively trashed by Utilitarianism and Liberal Democracy—these all need to be revived and relearned.

And I'll reserve a larger discussion of all that for the future.

For the present, though:

If you wish to hold a libertarian belief that individual freedom is our most important right, then you are free to do so. If you wish to have the liberal democratic view that personal expression is a basic human right trumping government authority, you are free to do that also. If you hold a neo-liberal economic viewpoint and think that there is some magic in 'free markets' of millions of competing individuals, you are even free to do that.

But only in the same sense that you are also free to believe that the Earth is flat or that the Moon is made of green cheese. Or that the world was created 6000 years ago. Or that climate change isn't happening.

Because Science says otherwise. Science says that we are first and foremost *hypersocial* animals. And that unless we learn to deal with that we are irrevocably screwed.

And on that happy note I will leave you. Oh, except that next episode is going to be one of my favorites. Because I'm going to reveal to you an idea which I am pretty certain that no one has ever come up with before. And you get to hear it. Pretty damn exciting, eh?

Of course, it does mean that you are going to have to wait until next time. For this time, though, once again I do thank you for so far having listened.