Where did Fido Come From?
The Evolutionary Enigma of Domestic Animals and Plants

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Here we are again. We are in NatGeoland in the NatGeo time of 32,000 BC. We are about to be treated to a profound scientific treatment on the origin of the domestic dog in the NatGeo special, *And Man Created Dog*. Wolves, we are told, have taken to hanging around human camps, picking up food scraps. This is a characteristic, peculiar it seems, only to Lupus NatGeocus. An unseen predator approaches the camp and the wolves run to go on the defense. One is fatally injured, leaving a cub behind. The cub is adopted by a camp human. A few frames later and lo, we now see a human with, yes, a very dog-looking dog. From this we are to infer that after a thousand years (or so), man successfully bred the many varieties of dog from the wolf. End of profound scientific explanation.

The year 32,000 BC was chosen because the skull of a Saluki dog was discovered and dated to 31,000 BC. This gives the apparently brilliant Stone Agers of NatGeoland but one thousand years to breed wolves into dogs, in fact Saluki dogs. One wonders if the crafted mythological imagery of this NatGeo special is just more disinformation on our past. At best one wonders if the program consultants entertained even one teensy thought on the problems here…

The Domestication Problem – Plants

There are two equally profound problems – that of the origin of domestic animals – dogs, cows, cats, sheep, etc., and that of the origin of domestic plants – wheat, tomatoes, corn, potatoes and so many more. Both of these classes were supposedly developed by the primitive denizens of the Neolithic age perhaps five to ten thousand (though now modified to 32,000?) years ago. The subject of domestic plants gives us the quickest insight into the brilliance these people must have had.

Many of the domestic plants have apparent starting points with wild ancestors. Many, to include many common vegetables, have absolutely no known starting point. Ignoring this "missing ancestor" problem, the difficulties of modifying wild ancestors into current

domesticated varieties is itself enormous. These wild grains, as they stood, were useless to us. Their seeds were hard, like nutshells, inedible, and simultaneously extremely small, like salt crystals, ungraspable by human fingers. This meant that the wild plants needed their seeds expanded, greatly softened in texture, and overhauled at the molecular level.

To botanists, this is not a problem. It requires only the time and patience to spend over hundreds of generations of selective crossbreeding. This is to say that there was the time and patience, over many generations of humans, to work with a perfectly useless plant which would put nothing eatable on the table in their lifetime while struggling for food in survival mode. It also required a bit of vision, in fact a lot of vision, for some brilliant ancestor had the foresight or model, in each case, of what some useless wild grain or plant could become. Further, as Lloyd Pye (*Everything You Know is Wrong*) points out, this crossbreeding would require doubling, tripling and quadrupling the number of chromosomes in the wild grains. Wheat and oats were transformed by a six-fold increase from an ancestral seven chromosomes to forty-two. Sugar moved from ten to eighty, an eightfold increase. Peanuts, potatoes and tobaccos were expanded by factors of four. In each case, someone had to conceive the future vision and ensure it was carried forward by numerous generations of experimenters.

Assuming these Neolithics had no knowledge of DNA, nor of chromosomes, no labs, no gene-splicing, this was their only available method: selective crossbreeding for generations. Yet, since this creative outburst, no plants have been created by this method in the last 5000 years. The Botanical Garden in St. Petersburg, Russia began attempts in 1837 to transform a wild rye into a new domestic version. This is still a work in progress, for the rye still maintains its fragile stalk and tiny seeds, and this fact only emphasizes the transformational problem.

The covers of the seeds (glumes) and the tiny stems that attach the seeds to the stalks (rachises) remain strong and durable during the growing season. Wind and rain must not take the seeds off the stalks. But at maturity, they become brittle; a breeze will shatter and scatter them to propagate. This feature equally makes them impossible to harvest. Thus, in addition to

enlarging, softening, and nutritionally modifying these plants, the Neolithic version of a Monsanto research PhD had to perform the complex transformation wherein the rachises were simultaneously made strong enough to hold the seeds during harvesting and brittle enough to be collected via threshing (a harvesting process that calls for yet another implied invention). The glumes had to be balanced between the toughness needed to withstand the threshing, yet brittle enough to shatter during this process. This requires a totally different, extremely precise adjustment for each form of wild ancestor.

This Neolithic la-la land of the botanist, populated by visionary Einsteins, generations of experimenters and a process never replicated, is only matched by one other mythological region. This is NatGeoland, where wolves become dogs, wildcats become tabby cats, and our array of domesticated animals appears in equally miraculous ways.

The Domestication of Animals

There is a very small percentage of difference in the genetic structure of wolves and dogs, or between cattle and their precursors in the massive, ancient aurochs. But one must be aware of the misleading character of this statement. The difference between humans and the gorilla is considered to be around 1-2 percent. Yet given the size of the genome, even a 2% difference comprises 30 million chromosomal base pairs. This is a massive keyboard to play upon to achieve vast physical changes via genetic alteration, and the list of human-ape differences is long, impressive and difficult to explain by chance mutation. To boot, this human-ape difference hides a difference of 46 chromosomes for the human versus 48 for the ape. The only known way to achieve this is by splicing two of the 24 base pairs of the ape into one, making 23 base pairs or 46 chromosomes. To obtain this splice by chance would have been quite, yes, miraculous.

For Fido, one of his key features is a remarkable sensitivity to human cues, gestures and body language. In this dimension, experiments have shown that the dog exceeds the generally far more intelligent chimpanzee, grasping easily, for example, from a human's gaze toward a box that the box might hold food, while the chimp, though noticing the gaze, remains clueless as to its

significance. Wolves, also extremely intelligent, are also much inferior to dogs in this regard. This gives every indication of the existence of a special neural "module" that supports this ability to recognize and grasp human facial expressions and cues. It echoes, on the converse side, of theories wherein the autistic individual, again suffering from insensitivity to normal human social cues, appears to have damage to a neural module or structure that supports this. It is difficult to imagine "selecting" via breeding for such a complex neural structure, just as it difficult to imagine "selecting" for chimpanzees over generations such that we eventually achieve a chimp equal to a dog in sensitivity to human cues. Such complex neural modules have to be constructed from equally complex genetic programs of gene structures and modulating switches, just as would be required for a mammalian eye, a reptilian claw or avian beak. This is one of the great differences at issue as we move in "evolution" from the wolf to the domestic dog given only selective breeding as our method.

Until relatively recently, the consensus was that the domestication of animals took place in the same period as plants, 5,000-10,000 years ago. In 1997, however, after a study of the mitochondrial DNA (mtDNA) of dogs, UCLA professor Robert Wayne determined that mtDNA difference between wolves and dogs is only 0.2%, but, again, this is yet in reality a vast keyboard on which to play to arrange structural differences. Further, Wayne announced that dogs had split off from wolves 135,000 years ago. This is strangely coordinate with another extremely early date, namely the origin of Indian cattle, thought to be 117,000 to 275,000 years ago, or on average, 200,000 years. Evidently, our Stone Age precursors were extremely brilliant from the outset, the "outset" being yet another strange, coordinate date – 200,000 years ago – the date that mtDNA studies of humans determine to be the origin of the African "Eve," the progenitor of our race.

A 2002 study by Peter Savolainen, analyzing the mtDNA from several wolf populations around the world and 654 dogs put the date "safely" back to the original consensus time of 15,000 years ago, with East Asian wolves being the source. Yet, Wayne's conclusion also lurks, with no

explanation of its demise. This is not to mention the 31,000 year old date we saw used by Nat Geo, a date which gives the distinct sense that the current theoretical age of the dog's origin is only limited by what skeletal remains will be found next in what geologic "strata" (see *Atlantis Rising*, #70, on problems with our dating methods). In other words, there is little real clue. The current consensus at 15,000 years must hold enough time to achieve the many modifications of wolf architecture unto dog by, again, the simple procedure of crossbreeding. The same 15,000 years must hold the time needed to produce, again via crossbreeding, the nearly 400 breeds of dogs, with all their remarkable differences – Bulldog, Greyhound, Collie, Chihuahua.

The standard centerpiece for proof for this possibility is a Russian experiment by Dimitri Belayev on the domestication of foxes. Begun in 1959, it still continues today under Lyudmila Trut. After only ten generations, the researchers achieved a very domesticated fox, entirely submissive to humans. Further, it had developed a smaller size, shorter skull, floppy ears, a coat with white patches and a white-tipped tail. The presence of lower adrenalin levels due to the new, safer environment for the foxes is seen as the key factor in this transformation, adrenalin being entwined with a genetic pathway related to this set of physiological changes. The well known apologist for evolution, Richard Dawkins, uses this quick development over ten generations of foxes to encourage us to easily imagine, with even more time available, the changes from dinosaurs to birds, or apes to men. Nevertheless, little more of significance has occurred in the foxes (hundreds are involved) after another forty years. Trut herself, in her paper (1999) on the experiment, expresses a strong concern on how we account for the emergence of the hundreds of breeds of dogs in but several thousand years. There is a long way to go from a floppy-eared fox to a bulldog. That little has occurred subsequent to the first ten generations gives the distinct sense that if carried out even longer, the experiment would become exactly opposite of the vision of Dawkins – it will become an impossibility proof.

Cattle too are considered to have been domesticated 8,000-10,000 years ago. Here the ancestor was the mighty aurochs. These were heavily concentrated in Europe, the last dying in 1627. The

male aurochs stood nearly six feet high at the withers. It was monstrous and fierce, in Julius Caesar's words, "a little below the elephant in size" (*Gallic War*, Chapter 6). It was so dangerous and aggressive, it was considered a badge of great courage to slay one. In the light of the standard domestication thesis, where our all-powerful Neolithics take an auroch under their custody and begin the long process of domestication, it is interesting to note Caesar's statement: "But not even when taken very young can they be rendered familiar to men and tamed." One wonders then at the probability of our ancestors even attempting this domestication scene, just as one wonders if our Neolithic ancestors would really have been that willing to take a gamble on adopting a member of the fierce and powerful wolf family.

The current view, as noted, holds that all domestication was all brought about by simple crossbreeding by ancestors still in the Stone Age 5,000-10,000 years ago. To be consistent, the method must be applied to all cases – even to the cheetah. This is the favorite example of Lloyd Pye (*Everything You Know is Wrong*). The cheetah is the most easily domesticated of the great cats. There is no question it was actually one of the first of the domestics, with a history stretching back to early Egypt, India and China. No reports exist of it harming a human. With its long slim legs, enlarged heart and nasal passages and aerodynamic head, it appears to have been designed as a hunting companion, no less so than greyhounds or Labradors. In fact, it appears to have the genes of a dog as well as a cat. Cheetahs sit and hunt like dogs, have the fur of a short haired dog, hard paws of a dog, and contract diseases unique to dogs. Of the fifty cheetahs subjected to genetic testing, all were virtually genetically identical. This homogeneity is only observed in lab rats and other species genetically altered in labs.

To escape the implications of this, cheetahs are held to have undergone a "bottleneck." A bottleneck occurs when a wild population, otherwise normally very genetically diverse (as are wolves, lions, etc.) suffers a very steep decline with only a few breeding pairs left alive, forcing a restricted gene pool. Unfortunately for this explain-it-away escape route, there is no record of

any near extinction event that singled out cheetahs, as opposed to lions, tigers, jaguars or any other great cat.

Conclusion

There is a large gorilla in the room in all this, a huge "that which cannot be said." All these massive differences in genetic architecture in plants and animals cannot have been achieved by crossbreeding via patient experiments by Neolithic farmers and hunters extending uniformly, unbroken, patiently, across human generations, wars, cataclysms and other events for thousands of years. They can only have been effected by the methods of gene manipulation, splicing and cutting we see in our labs today. In domestication, we may well have a phenomenon coordinate with a general thesis such as Sitchin's (*The Twelfth Planet*), despite whatever details are considered in dispute. This thesis, as is well known, argues that historical record of the Sumerians explicitly states this to be the case: Humans, domesticated animals and domesticated plants were the work of the "gods" in the "house of fashioning" thousands of years ago.