The Dog and the Wolf:

Some Thoughts On Biological Shackles and the Trap of Humanism

*by Craig Naherniak**

> Discouraged after an unsuccessful day of hunting, a hungry Wolf came on a well-fed Mastiff. He could see that the Dog was having a better time of it than he was and he inquired what the Dog had to do to stay so well fed. "Very little," said the Dog. "Just drive away beggars, guard the house, show fondness to the master, be submissive to the rest of the family and you are well fed and warmly lodged."
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> The Wolf thought this over carefully. He risked his own life almost daily, had to stay out in the worst of weather, and was never assured of his meals. He thought he would try another way of living.
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> As they were going along together the Wolf saw a place around the Dog's neck where the hair had worn thin. He asked what this was and the Dog said it was nothing, "just the place where my collar and chain rub." The Wolf stopped short. "Chain?" he asked. "You mean you are not free to go where you choose?" "No," said the Dog, "but what does that mean?" "Much," answered the Wolf as he trotted off. "Much."[1]

There are many different themes running through this Aesop fable which are applicable to trends in Western culture. One way to interpret this piece is to think of the Wolf as representing "wildness" and the Dog as representing "domestication."[2] The collar and chain that rub around the neck of the Dog are like our own tie to the Western technological mind-set. It appears that the Dog is living a comfortable, safe, easy life, just as we feel that the benefits of our technological world have brought us a similar security. The Wolf, in choosing not to accept the collar and chain of the Dog, maintains the freedom to follow his own will and purpose. He retains his wildness. The Dog has had this wildness, this independent purpose, bred out of him by the Master. His purpose is not his own, but that of the Master. We, in Western culture, tend to see ourselves as like the Master, possessing control over what purpose the rest of nature will serve for us. We fail to recognize that, nature, like the Wolf, has purpose independent from us. We also fail to recognize that the very mechanisms and techniques which we use to exert control, have placed us in the position, not of Master, but of the Dog. The trap of humanism, therefore, is that in attempting to domesticate nature, we domesticate ourselves.[3]

Wildness is everything opposite to what we consider civilization: it is the untamed, the undomesticated and that which is not controlled. In this sense, wildness is understood as the absence of human control. A wild animal is a creature with its own intrinsic volition, beyond any humanly defined purpose. While wild animals have come to symbolize such human qualities as freedom, innocence and courage, it is important to recognize that wildness is also part of our biological heritage. Humans, too, have sprung from the spontaneous integration of genetic information that forms new unique beings, and which characterizes wildness. The constant change, through reproduction, in a constantly changing environment is what provides both the diversity and the stability of all life forms on the planet. In other words, despite our culture's tendency to see humans as different and separate from wild nature, we are continuous with it.

From our position of perceived separation from nature, we extol the virtues of freedom and independence associated with wildness. Yet at a cultural level, to ensure our survival we seem to have been working on ways to minimize risk and extend control over society, and ourselves. Writer and naturalist John A. Livingston has described the development of this mechanism of control as a cultural "domestication" process.

It is Livingston's contention that long before we began to physically domesticate plants and animals, humans had already become psychologically domesticated through technological dependence and the cultivation of sophisticated techniques of social control, in the form of rituals, customs, regulations, and codes of varying description.[4] To sustain control over our lives and our growing

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populations, we gave up the biological mechanisms of social regulation which still characterize the rest of nature. We suppressed our wildness and replaced it with techniques of social management. By doing so, Livingston argues, we were "forced to suspend (and eventually forgot altogether) the mutualistic, non-competitive, peaceful social order from which [humans] had come."[5] The techniques humans developed for maintaining social control became the very fabric out of which civilization was woven.

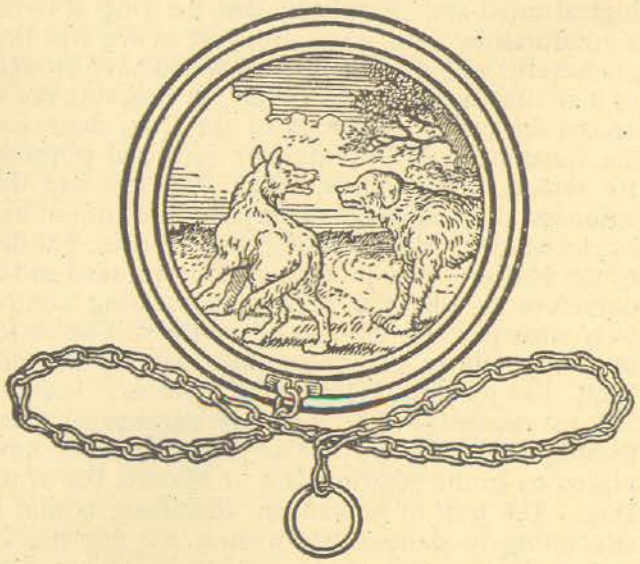
Simplified as this account may be, in retrospect we can easily see the increase in human dependence on technology, accompanied by the deepening of the perceived separation between humans and the rest of the natural world. This has not occurred to the same degree in all human cultures, but is presently epitomized by industrial societies. According to Abbe Mowshowitz, a computer science professor from the University of British Columbia, our human dependence on technology has led to technology becoming the mediator of all experience. He says: "It is not simply the use of machines and gadgets that defines this dependence. Our reliance on them is merely the outward manifestation of a pervasive attitude toward experience."[6] All experience, he believes, has become a commodity. He says, "the ability to grasp what is real is attenuated by the interposition of interpretive media, by excessive filtering, blocking, and laundering of experience. To the extent that we inhibit the capacity to interact with the world on a direct basis, we risk a one-sided and faulty view of reality and ultimately become maladaptive."[7] Technology becomes not just something we use for survival, but becomes technique--a mind-set for looking at and interpreting the world (like a pair of coloured glasses).

Mowshowitz uses examples from science fiction to demonstrate both the consequences of human technological dependence, and the "inherent contradiction in the conquering spirit of science and technology."[8] His conclusion is that in extending our dominion over the natural world we have alienated ourselves from the sources of our own vitality. "Through obsessive exercise of the will to power in the elaboration of technique," he says, "will itself became enfeebled and subject to control by autonomous forces linked to mechanical progress....A social order built of this imperative ultimately domesticates the heroic impulse which fashions it."[9] In other words, by creating an elaborate technological infrastructure aimed at making humans more free (to enjoy life), we have paradoxically ended up becoming enslaved by this technological mind-set. The result is less freedom of will and more centralization of control. But, does the control we humans like to think we have really exist? Christopher Hodder-Williams, author of **Fistful of Digits**, thinks not:

> Eventually the mechanical interlock of technology must conquer all individual will. You might conceivably postpone it, but it could only be postponement, because for as long as man could not stand by himself and rely on himself in preference to the easy way out, then inevitably he would wind up handing over the mastery of his own wits...[sic][10]

Though Hodder-Williams does not directly say so, he hints that the domestication of humans through dependence on technology and social order eventually causes the loss of individual will, which is the one thing the so-called control and stability of technological society were supposed to grant us.

For the sake of comfort and security the Dog gave up its own will to that of its master. So too, we give up our will to that of the cultural technological machine we have created. By giving up its will and independence, the Dog relinquishes pursuit of its own teleology. (In the case of the Dog, its teleology has been relinquished biologically, through breeding.) Its teleology, or purpose, is now that of the Master. In a way, the Dog becomes a technology whose purpose is to guard the house and show fondness to its Master.



If we can associate the loss of will to the surrendering of purpose, then the next question is, what is purpose? And, where does purpose reside? I will avoid discussing the possibility of purpose on a cosmic level. That there exists some omnipotent entity predetermining evolutionary direction can not be supported beyond faith. John Livingston suggests that there is no "purpose" of this kind in

nature--at least no purpose that humans are capable of knowing. He suggests that "random genetic and environmental events brought us to a stage at which our minds, and thus our cultures took over,"[11] and that prior to this all change was accidental and random.

Another way to think of purpose is at the level of the individual, where it can be thought of as residing in all beings--at least in the sense that each organism has its own teleology, whether it is conscious of it or not. Paul Taylor, in **Respect for Nature**, reaffirms the idea that each individual organism has its own purpose (which can be as simple as sustaining life):

> We conceive of the organism as a teleological centre of life, striving to preserve itself and realize its good in its own unique way. To say it is a teleological centre of life is to say that its internal functioning as well as its external activities are all goal orientated, having the constant tendency to maintain the organism's existence through time and to enable it successfully to perform those biological operations whereby it reproduces its kind and continually adapts to changing environmental events and conditions.[12]

Every living thing has being in and of itself. In this sense, it has purpose. Its purpose is inherent in its being, otherwise it would not be here, in nature--the conglomeration of everything being. There is no need for humans to know and understand purpose for it to exist. However, not knowing is irritating to the Western rationalist who, by cultural tradition, feels compelled to equate all purpose in terms of human use value. The purpose-to-humans-only view is what prevails in present society.

Hans Jonas, in **The Imperative of Responsibility**, discusses the same topic of individual purpose by showing the effects of having purpose reside solely in humans.[13] His discussion of the way humans try to control the elements of nature to fashion technologies or tools for their own use helps illustrate the humanistic ideology that permeates our conception of purpose. The end or purpose of a tool (or machine) belongs, Jonas argues, to the *concept* of the tool, and this concept, as with all artifacts, *preceded* the tool's existence and is the cause of its origination. The tool, a hammer in Jonas' example, does not have a purpose in and of itself. The concept of what a hammer might be underlies the object itself. The hammer did not exist before the concept of the hammer existed. The concept of time measurement, for example, was the inspiration for the clock, and the clock is totally defined by this end. It is its only reason for being. The end of the clock is not, however, located in the clock, but in it's maker, and this is also true of any machine. Neither the hammer nor the clock have any purpose in and of themselves; their purpose is only in their use within a particular cultural context. And so it is true for all lifeless implements of human manufacture. These implements can be anything from simple tools to abstract institutions. Both the tool and the institution are artifacts created to serve the maker's purpose.

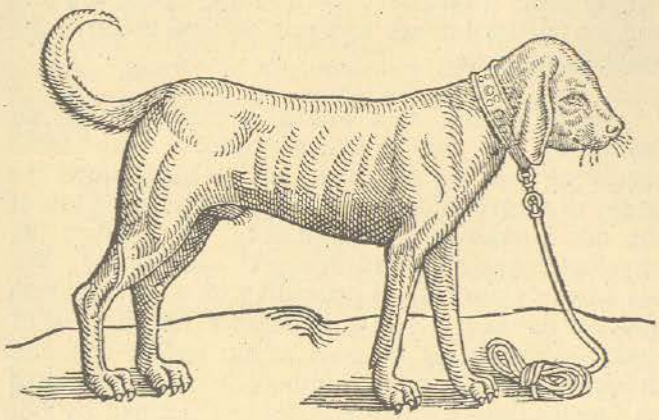
Even nature, as a whole, is made over as an institution in the Western mind. The same reasoning we use to create social institutions we apply to nature in deciding what the intended use of the non-human is. With nature, we analyze the physical appearance and interpret a use for us. We see nature's purpose as providing us with resources and we develop a set of processes for the use of them. Stripped of its own being, nature becomes thought of as "our environment." It is considered an "institution," which has its use defined by our purposeful desires. The ramifications of this egocentric view are growing now that genetic engineering has brought our technological society to the threshold of controlling all life processes.

Over the centuries, the one level the human domestication process could not touch was that of the genes. Reproduction, the way living things transmit genetic information from one generation to the next, has always been the only way new life forms could emerge. The random genetic fluctuations in the offspring further ensures that change --the one constant of all life--continues.[14] This evolutionary process is extremely slow however, and evolution does not always create the kind of life forms humans find useful; therefore, we have learned to control nature with selective breeding. While yielding predictable results, selective breeding has limitations. There still remains room for random natural mutation. Also, selective breeding is limited by the natural limit of the range of variation within a particular species beyond which severely mutated offspring cannot survive. Further, we always had to wait until the offspring were born, or sprouted, before we would know if the trait bred for was indeed passed on.

Now, the human practice of genetic engineering has the potential to remove the randomness of genetic changes. In place of randomness, genetic engineering promises exact predictability and control of the genetic structure of life forms, by manipulating their DNA. Geneticist David Suzuki explains that:

> Until now, the power to determine the fate of individual genes in living things has, with rare exceptions, resided in nature. Evolution tends to rid populations of organisms possessing detrimental genetic traits at a ponderously slow

> pace. But today we are rapidly assembling the technological tools not only to render quick judgments concerning the "genetic worth" of DNA sequences but also to impose those judgments by modifying the information stored in genetic molecules.[15]



By altering the DNA of an individual life form, whether by selective breeding or genetic engineering, the individual's teleology can be altered at the organism's genetic structural level and replaced with human purpose. The science of genetic engineering simply takes the guess work out of domestication.

The idea that domestication makes nature into technologies to be used for human purpose becomes realized literally through genetic engineering. An organism's very essence, its DNA, cannot only be altered, but engineered to our exacting specifications. Through the process of cloning, for example, we are now able to take a cell from a microorganism, couple it with another piece of DNA, insert this cell into a host animal so that it will propagate, and "harvest" the cloned enzymes that are produced. In this way, organisms acquire novel genetic properties that would not be attainable through conventional breeding or natural mutation. Other possibilities include using the stomachs of animals to manufacture chemicals or drugs in quantities previously unheard of. In an article entitled "Transgenic Animals Make Drugs in their Milk," Andrew Pollack describes this undertaking:

> Scientists are reporting their first successes in genetically transforming animals so that they can produce drugs and other useful substances in their milk. Although in the early stages of development, it could one day turn farm animals into living factories, producing pharmaceuticals, industrial enzymes and food additives.[16]

This process effectively turns the cow into a living machine whose sole purpose is to produce drugs for humans.

The biotechnology company, Integrated Genetics Inc., is bioengineering mice so that their milk contains a drug useful in treating human heart problems. Likewise, researchers in Edinburgh are inserting into sheep the genes needed for the production of two human proteins that could be used as drugs for the treatment of human diseases. The advantages of having animals produce these substances is that costs are substantially reduced. As one biologist remarks, "What is your input: grass and hay." Also, if more of the substance is needed, then it is simply a matter of breeding more animals,[17] of essentially building more machines.

As the science of genetic engineering becomes perfected, more and more complex substances can be produced in animals for human use. This type of "molecular farming" is just one of the ways applied genetic engineering is being realized. Another aspect of genetic engineering is the creation of entirely new creatures that are genetic recombinations of creatures that would normally be unable to reproduce naturally. One example is the "geep," a combination of a goat and a sheep.[18] These new life forms can even be patented like any other new "technologies."

One of the next applications of genetic engineering will likely be the removal of "negative" traits in humans. Currently, genetic engineers are mapping the human DNA in order to discover which particular gene regulates which specific trait.[19] What is at stake may, however, be more than just the ethical considerations surrounding the decision of what is a "negative" or "positive" trait. If and when we begin to apply technological practices to the formation of the human we will have crossed a line that has never been traversed before. If we understand engineering to mean the designing and constructing of complex material artifacts for human use, including the redesigning of existing designs for adaptation or improvement, then applying engineering techniques to the human genetic code means turning humans into the same category of artifact (that we reduce the non-human world to). Thus, everything in the world becomes an artifact, an object. This, Jonas argues, makes the human subject, not a means, but "a thing merely to be acted upon."[20] Human evolutionary change then becomes determined not by the chance integration of genetic traits (governed by adaptive mechanisms rooted in relationship with nature), but rather by the direct physical intervention of humans whose understanding of what traits are desirable or undesirable is rooted in a narrow, culturally fabricated understanding of the place of humans in nature. In other words, future humans become artifacts whose purpose resides in past generations.

We in Western society maintain a view that

humans are the subjects and "nature" is the object of our technological mastery. In this view, humans are the mediators, the appliers, the purposeful linkers of technology onto nature in order for the non-human to serve our *ends*. Humans are ethically out of bounds for technological manipulation because they are considered to have purpose of their own. Western society has always considered there to be a clear division between humans and technology, or artifacts. Now that the science of genetic engineering has made it theoretically possible for technological application to be applied to humans, this may change.

Right now we have a sense of belonging to a humanity in which we see all purpose residing. But, after several generations of engineered humans --that is, humans with pre-determined characteristics--where will the goal or realm of purpose lie? It seems that purpose will be defined forever by the previous generation and there will be no opportunity for adaptation from these pre-ordained characteristics, since the unique potential of each person will have been limited. The random genetic fluctuations that Livingston maintains are the one constant of all life will have been removed. Humans will have become domesticated, not just culturally, but very possibly, physically as well. Our "collar and chain" will be engineered right in. The possibility of engineering social control in humans will become reality.

If, as Livingston maintains, human history is one of furthering the domestication process in order to preserve social control, then genetic engineering is the final solution to the unpredictability and irrationality of all nature. In the process, humans will have become a product of the same technological applications that we enact on nature. There will no longer be any "wildness" within or without (nor will there be any "Wolf" to remind us of what has been lost). At least this is the direction we are headed if we take the domestication process to its logical conclusion. The biggest proof that our assumptions about human control are flawed is that they are self-defeating. Instead of technology being used to free humans, it will have imprisoned humans within a biological heritage designed by previous generations, and hence the domestication process will have been completed.

Notes

1. An Aesop fable as quoted in Barry Lopez, **Of Wolves and Men** (New York: Scribner's and Sons, 1978), p. 254.

2. I do not mean to suggest that "wild" and "domestic" are totally separate realms, but reading on you will find that I suggest that, while we, in Western culture, began by separating them in our minds, we now separate them biologically, or physically, as well.

3. This paper is limited to discussing the self-defeating flaw in the logic of domestication and does not address the numerous other implications that domestication raises in respect to the relationship between humans and the rest of nature.

4. John A. Livingston, " Ethics as Prosthetics," **Environmental Ethics: Philosophical and Policy Perspectives** (Burnaby, B.C.: SFU Publications, 1986), p. 71.

5. Ibid., p. 70.

6. Abbe Mowshowitz, **The Conquest of Will: Information Processing in Human Affairs** (Don Mills, Ont.: Addison-Wesley, 1976), p. 311.

7. Ibid., pp. 311-312.

8. Ibid., p. 313.

9. Ibid.

10. Ibid., quoted in Mowshowitz, p. 313. The interpolation [sic] used here refers to the sexist language in the quotation.

11. John A. Livingston, **One Cosmic Instant: Man's Fleeting Supremacy** (New York: Dell Publishing, 1973), p. 210.

12. Paul W. Taylor, **Respect for Nature: A Theory of Environmental Ethics** (Princeton, New Jersey: Princeton University Press, 1986), p. 122.

13. Hans Jonas, **The Imperative of Responsibility: In Search of an Ethics for the Technological Age** (Chicago: Chicago University Press, 1984)

14. Livingston, **One Cosmic Instant**, p.70.

15. David Suzuki and Peter Knudtson, **Genethics: The Ethics of Engineering Life** (Toronto: Stoddart Publishing Co., 1988), pp.46-47.

16. Andrew Pollack, "Transgenic Animals Make Drugs in Their Milk," **The Globe and Mail**, Sept. 3, 1987, p. B22.

17. Ibid.

18. Steven Strauss, "Science or Sin: Laboratories Are Now Creating Whole New Life Forms," **The Toronto Globe and Mail**, April 30, 1988, p.D1.

19. See for example "Wanted: Fast Ways to Map Human DNA," **The Toronto Globe and Mail**, November 7, 1987, p. D4, Pat McNenly, "Scientists Seek Ways to Repair Genes," **The Toronto Star**, August 22, 1988, p. A8, and Michael J. Kelly, "Computers: The Best Friend a Human Genome Ever Had," Unpublished paper presented at the 16th Genetics Congress, August 24, 1988. The first two articles describe the need to sequence the human genetic code primarily so we can begin to isolate genes that cause heriditary diseases, and the third article discusses the role computers can play to help geneticists attain "the goal of understanding the nature of man."

20. Hans Jonas, **Philosophical Essays: From Ancient Creed to Technological Man** (Englewood Cliffs, New Jersey: Prentice Hall, 1974), p. 107.