NATURE AND OTHER MOTHERS

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There is good agreement among the people of various times and cultures concerning the basic elements present in the world. In nature there are celestial bodies and movements, weather, plants and animals, and the land and water of the earth's surface. In human affairs there are families, problems of food and reproduction, social and political structures, and experiences of unseen realities of an emotional, spiritual, or religious sort. There are males and females, strong and weak individuals, birth, sickness, and death, as well as love, joy, and pleasure. Cultural models agree well in their inventories of the world's significant components, but they vary greatly in their assessment of the relationships among these components. Every culture finds its own model of organization for them.

A favorite model of organization within Western culture has been the hierarchical scheme which arranges all elements of reality according to a vertical scale of some sort. Anyone who has suffered education in our culture knows that every part of the standard curriculum is informed by hierarchical criteria, both as the objects of study and as the methods for studying. The influences of this persistent model of reality are all around us: in philosophical systems, literary forms, social institutions, political structures, educational organizations, scientific systems of classification, and in the laws and customs governing human behavior.

Wherever the Chain of Being has been applied, it has been assumed that value increases at each higher notch upon the scale. "Lower" forms of existence are always less important than "higher" forms. Further, the status of every element upon the vertical scale defines the rights that it enjoys. God possesses all rights, while stones have none at all. Those of us who are neither gods nor rocks must be content with an intermediate status and limited rights, with some things possible for us and others impossible. All animals, including humans, are such middle creatures.

We have come to accept the notion that there are lower forms of life and higher forms. Even biologists testify to the validity of the chain and use its terminology in their laboratories and professional writings. The phylogenetic scale comes out of Plato and Aristotle by way of Linnaeus, and it is nicely consistent with other versions of the Chain of Being. Scientists who would never think of experimenting upon human beings at the upper end of the scale are perfectly content to carve, drug, torture, confine, and redesign animals lower on the scale because their status allows them no moral rights to life, liberty, or to the pursuit of their own destinies.

I do not mean to suggest that hierarchical models are solely the invention of Western culture, although it does seem that the West has institutionalized and internalized such models more thoroughly than other peoples. The Confucian tradition of China, for instance, is a thorough-going hierarchical model of social order based upon status roles in the human family and extended to political and ethical structures. Hindu social order is also rigidly and notoriously hierarchical. Even the Hopi Indians have a kind of inverted scale which places highest value upon those things closest to the earth, which is why the Hopi worship in underground kivas with the spiritual leader situated at a lower elevation than his audience. And, as has been learned only recently, many animals are socially organized according to status roles conferred by birth, behavior, or gender. Abundant evidence suggests that hierarchies are, in fact, principles of nature and that status within them defines an individual's rights and responsibilities.

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PHILOSOPHY

Natural hierarchies are normally found only within given groups of conspecifics. The rank-order in a mongoose colony applies only to members of that colony, and it does not even affect neighboring colonies of mongooses, let alone other species living in the same area. Humans alone have imagined that they possess a species status which elevates them above other species. We are remarkable among animals because of our attempts to live according to an imaginary interspecies dominance hierarchy. Other animals, of course, do not know about the relative status they have been assigned in our system; so, they continue to disappoint us by ignoring our rules.

Confusion is bound to occur when a pattern of dominance developed within one species is extended to include all species. One of the clearest examples of the problem is evident in the relative status of male and female human beings, which has long been mixed up in our minds with the relative status of mankind as a whole and nature as a whole.

Women and nature have occupied virtually the same status in the traditional structures of mythology, public imagery, philosophy, and law. Whatever may be conceived of as "rights of nature" in any given period are likely to be consistent, if not identical, with that period's conception of "the rights of women." It is not merely coincidental that a renewed interest in the rights of natural environments should occur simultaneously with a massive social effort to redefine the rights and status of women. For, as nature is thought of by mankind, so will women be thought of by men. As humans conceive the roles and rights of nature, so will men conceive the roles and rights of women.

Neither nature nor woman is as simple as both have been assumed to be in most hierarchical schemes. Nature is not merely a garden provided for mankind's nourishment and comfort, but a complex system with a capacity to encourage many forms of life other than human forms. Humans are one species of the several million whose intricate relationships constitute what we think of as "nature." To assume that the system of nature is simpler than one of its component parts--humanity--was never reasonable, and it has now become completely absurd in the light of the ecological knowledge of nature's complexity. Similarly, woman no longer seems the simple

creature she has often been thought to be. In addition to giving birth, raising children, and keeping house, women also experience complex states of consciousness and are fully capable of understanding and of creating intellectual, spiritual, and artistic experiences of a high order. Women can be quite as responsible before the world as men and are no longer likely to be content merely to serve the interests of individual men or those of a collective of male-dominated society.

Traditional moral categories also fail to agree with what is now known about nature and has always been known about women. The seductiveness and seductability of Eve are no more typical of women than are the spirituality and purity of Mary. Like men, women are capable of both corruption and compassion and of the many gradations of hate and affection, deception and honesty, selfishness and altruism which make up the moral repertoire of humanity. Neither the top nor the bottom of a hierarchical moral scale is a suitable niche for woman, though she has seldom been allowed any other choices. In the same way, nature has been judged to be either fundamentally evil or divinely perfect. Pastoral scenes of moral perfection are no more accurate about nature than are the grisly scenes of brutality imagined by Social Darwinists who interpret "survival of the fittest" as if it referred to a gigantic Darwinian Donnybrook. Neither nature nor woman is inherently evil, nor inherently pure.

It is also untrue that undeveloped land and women must be managed by men in order to achieve their full potentials, though our laws and customs persist in this assumption. Wilderness land supports more life and achieves more ecological elegance than farms can ever know, and with better prospects for stability and future growth. Land manages itself better than bureaus of land management can. Similarly, shrews--whether two- or four-legged--can fulfill their lives without being tamed by men, especially if taming has no better purpose than to affirm male power. Women and wilderness have alike been forced to submit to male management "for their own good" but to the loss of their inherent integrities.

Power has traditionally grown out of the barrel of a penis. Rigid male machines poke at the earth pretending to fertilize it, heedless of the destruction of delicate tis-

sues. Possessing nature is the entertainment of all-male gangs of engineers, mountaineers, miners and frontiersmen who leave their women at home when they set out, weapons at the ready, to ravish Mother Nature. Ostensibly, the girls are left behind to spare them danger, but the mutual admiration typical of men in such gangs is enough to explain why the conquest of nature has been mostly a masculine sport. Nature is the woman men mount in public to display their prowess before one another, while wives are screwed at home to affirm male supremacy over females. A screw is an engineering device used to hold things in place.

Nature has been assumed to exist only to serve humanity's needs, just as woman exists to serve man's. Both have been thought of as commodities, resources to be mined. Adam received dominion over nature and over Eve, both gifts of God. From the raw materials of nature and woman, Adam was supposed to fashion heaven using his male tools. So, his descendants plowed the earth, and they plowed their wives, for both were properties needing improvement before their benefits could be realized. As Rene Dubos once put it, "Man can manipulate nature to his best interests only if he first loves her for her own sake"[1]--as if there were no contradiction between love and profitable manipulation.

Exploitation is not the only purpose guiding man's relation to nature and woman, for he has also found pleasure and beauty in both. Both have been thought of as enriching ornaments on the bare bones of life. Both offer relief from monotony and ugliness, comfort after struggle, and the titillations of sensual pleasure. National parks, like beauty queens, are set aside as inviolate specimens and fenced from the uses of individual men, so that all may ogle them equally. Pride is also at work even in such preservations of pleasure, for parks and queens alike serve as status displays proving that those who are rich and powerful can afford to maintain beautiful and useless objects merely for the pleasure they will provide.

Perhaps the simplest way to summarize the conventional imagery of woman and nature is merely to repeat a few typical sentences in which the feminine pronoun can be indiscriminately replaced by either word: nature or woman. She is corrupt, because she is exclusively biological and, thus, incapable of spirit or moral responsibility. She re-

presents physical existence, and metaphysics helps to transcend her. Yet her image and her environs often inspire men toward spiritual achievement. She represents fertility when she is properly cultivated and death or danger when she is permitted to remain wild. Taming her is man's task on earth, the fulfillment of which affirms his maleness. She is a prize to be won by males in battle, and she is a source of male repose when the battle has been won. She was provided by a male god to be man's servant. Her influence tempts man to sin and inspires him to his salvation. Such mix-and-match metaphors have provided Western culture with a unified way to think about woman and nature and to regulate the status and rights of both. A consistent axiom of our culture affirms that nature is to mankind as women are to men.

A revolution has begun which challenges the traditional status accorded to women and to nature. Both have been compromised beyond their endurance and made to bear unbearable burdens. Water and air have accepted enormous quantities of humanity's poisons, and now they have begun to kill us with our own contaminants. They do so incidentally and without malice; nature is merely announcing that it can take no more of our crap. That is also modern woman's message to men, but women speak from a reservoir of anger that is unknown to nature. Women are capable of revenge as the ecosphere is not. From both sources, the message is increasingly clear: the world is not well served by a hierarchy that relegates natural processes and females to subordinate levels with no rights to protect them from abuse.

Of course, Reversing the hierarchy will not solve the problem. It would be no improvement if nature were to dominate mankind or if women were to dominate men. It is the hierarchy itself that seems inadequate, however it may be organized. In its place is emerging a recognition that systems unlike one's own must enjoy the right to fulfillment according to their own inherent needs. Males must begin to learn how to recognize and respond to the genuine needs of females, just as humanity must discover how to honor the complex structures of natural ecology. Status is no longer appropriate for the determination of rights, and it never was.

Natural creatures do not enjoy any status beyond that earned among the immediate members of their own species. Wolves are not

superior to the rabbits they prey upon or to the environment they live in, nor do they enjoy any special rights within their surrounding ecosystems. A wolf's status is fixed by competition with the other wolves in its clan and is not significant beyond the contiguous social group. Effective group hunting simply requires leadership and the exercise of authority. Fortunately, wolves cannot elevate their status structures into cosmic hierarchies, as people have done.

Non-hierarchical systems of classification are worth examining. Several are available to us from the ancient past and from cultural traditions other than our own.

One such system has been pieced together from the remains of Paleolithic art dating between 30,000 B.C. and 10,000 B.C. Paleolithic art represents ancient human values and patterns of thought before these were modified by the powerful forces of agricultural civilization and intellectual culture. Paleolithic art antedates agriculture and the domestication of animals, and it represents a way of life based upon hunting and close coordination between human affairs and natural ecology.

Paleolithic art is primitive only in the sense that it is very old. It is not simple, nor is it confined to representations of mundane activities or observed objects and events. Rather, it displays a subtle symbolic mode of thought which remained consistently expressive of human sensibilities for a period of some twenty thousand years. The stability of this artistic tradition rested upon a dualistic, non-hierarchical system which classified all living creatures according to gender in a single symbolic scheme.

There is no Paleolithic pornography displaying sexual relations between men and women. The caves are not monuments to sexual conquests, nor do they display images of sexual fertility and voluptuousness. Astonishingly, "there is not a single scene of human copulation in all Paleolithic art, not even a single instance of an ithyphallic figure in close proximity to a female figure." [2] There is, however, a "fundamental principle of pairing" . . . there are male and female animal figures whose actions do not overtly allude to sexual reproduction, but whose male and female qualities are indispensably complementary." [3] Humans are

among these male and female symbols, but they are by no means dominant. Along with the animals, humans take their place in a larger sexual classification of all life forms.

Genital and reproductive aspects of sexuality are minor and inconsequential features of Paleolithic art. Male and female are significant categories of life because of the different values and behavior that they represent. They stand for a world that is ordered according to alternation, complementarity, and antagonism between two principles which occupy equal halves of a horizontal scale. Differential functions, rather than differential status, are the significant criteria for organization.

Paleolithic taxonomy (unlike that of Aristotle or Linnaeus) seems to be based upon the proposition that variations in behavior and temperament are more important principles of classification than variation in anatomy and physiology. In such a system, gender is the guiding principle, for there are only two large classes of life: male and female. Gender cuts across species lines, uniting all creatures in a continuous scale of existence. This proposition raises for us some interesting questions: do male humans have more in common with male apes than with female humans? Is a nursing human mother more similar to a nursing wolf mother than to her own husband? Such questions seem bizarre only because of our long cultural addiction to hierarchical scales based upon structural criteria. They are worth reconsidering after thirty thousand years of neglect.

The Paleolithic system of classification can be reconstructed only by inference for the arts and actions of ancient hunting peoples. Although it may have been systematic and comprehensive, it is not articulated in a body of literature or law. If models of dynamic order were to be found only in such cultures, we would have to assume that they are only appropriate to the circumstance of hunting and gathering, and perhaps not applicable to the refined cultures of civilized human life. There is at least one example, however, of a systemic cosmology based upon gender symbolism developed by a highly sophisticated culture that is far from hunting and gathering: Chinese Taoism.

The Chinese Book of Tao describes a structural model of the world which was present in the cultural traditions of China for

many centuries before its articulation by Lao Tzu around the fifth century B.C. The concept of life as a "way" (Tao) and the polarities yin and yang were present at the earliest stages of recorded Chinese thought in the third millenium B.C.,[4] and they may rest upon much older structures, like those of Paleolithic art. Whatever its origins, Taoism's concepts correspond in important ways to the implicit philosophy of Paleolithic hunting culture, and with other ancient concepts of world order which deserve to be re-examined in our time, as we search for a new ecological view of the nature of things.

The world as described by Taoism consists essentially of processes, not of things. Objects and organisms are media through which process (Tao) becomes manifest, just as language is one medium through which thought becomes manifest, but neither things nor language are equivalent to the processes which they partially represent.

Taoist cosmology offers a model of the world based upon modes of action and relationship which are reciprocal rather than hierarchic. Status is not significant in this system, for all of its essential components are of equal importance:

Tao is great
Heaven is great
Earth is great
And the king [representing mankind] is also great.
There are four great things in the universe, and the king is one of them.[5]

The four great components of reality are not competitive but complementary and imitative of one another:

Man models himself after the Earth,
Earth models itself after Heaven,
Heaven models itself after Tao.
And Tao models itself after Nature.[6]

Taoism insists that relationships among the components of reality must be mutually complementary. Integrative processes within the cyclic system of the universe are essential to Taoism, but the relative status of its various parts is inconsequential.

Neither does the evolutionary chronology of Taoist thought presuppose a status hierarchy based upon priority in time or a destiny intended to glorify one component of reality

over others. Instead, Taoism describes merely a process of increasing complexity:

Tao produced the One.
The One produced the two.
The two produced the three.
And the three produced the ten thousand things.[7]

The "ten thousand things" include all the forms and species of the earth, with no special status reserved for mankind. The things of the earth are not organized according to a nature-man-god hierarchy, as in the Western chain of being, but according to the balanced polarity of yin and yang:

The ten thousand things carry the yin and embrace the yang, and through the blending of the material force they achieve harmony.[8]

Harmony is achieved through blending, rather than status being achieved through conquest. Taoism is a dynamic ethic, rather than a rationale for triumph.

Yin and yang are female and male principles independent of sexual gender. Like the symbols in the caves of Paleolithic hunters, yin and yang divide the world's forms into two complementary categories according to their modes of being and action, without regard for their species, status, or sexuality. Yin is passivity, yang is activity; yin is space, and yang is surrounding form; yin is receptive, and yang is contributive; yin is fluid, and yang is its container. In Paleolithic symbolism, yin is the wound, and yang is the spear. In the emerging vocabulary of modern brain research, yin yang are names for the right and left hemispheres of the human brain. In all, male and female are organizing principles applicable to a total and integrated model of world reality. Pre-requisite to such integration is the need to view things as they are:

. . . the person should be viewed as a person and the world should be viewed as the world.[9]

How, then, are things? What are the genuine needs of an individual, a family, a community, and of the world? The answers to these questions which are emerging from the ecological and ethological studies of the past half-century have begun to sound something like the statements of Taoist philo-

sophy. Science appears to be confirming the implicit philosophies of Paleolithic art and the ways of life common among ancient and modern hunting peoples, not to mention the patterns which govern the lives of many non-human animals. None of these deeply-rooted traditions guarantees special rights to human beings which contradict the rights of other species or of the natural environment.

Rights in such systems are based on inherent natural characteristics which require expression and fulfillment. Since these characteristics are subject to change according to time and circumstance, rights are necessarily as variable as the contexts in which they are exercised. Water on a slope has a "right" to flow downhill, because it is its nature to do so; water in a sheltered pool has a right to quiescence, for the same reason. Rights are inherent in the physics, the chemistry, the phylogeny, the anatomy, the physiology, and the ecology of things--in other words, in their Tao.

In groups of natural things, the exercise of individual Tao is often competitive with and restrictive of other Tao. Water's right to run downhill, for instance, means abridgement of the hill's right to retain its contours, for it is eroded in the process. Big fish deny the right to life of smaller fish. Wind blows according to its stormy Tao and prohibits water from remaining placid even in sheltered pools. When multiple functions exist, as they always do in ecosystems, the rights of individual components must be subordinated to the requirements of the overall environment. The rights of integrated systems necessarily take priority over the rights of individual components, not because systems have higher status, but because their conditions of systemic balance are an aggregate of their constituent organisms. The Tao of systems is collective.

Temporal order, too, has its own systemic integrity. The evolution of species must take precedence over the growth of individuals, and the processes of succession in ecosystems must enjoy the right to proceed, even to the abridgement of the rights of any participating species. Evolution and succession are not status hierarchies, but cyclic temporal chronologies. Early stages in both are essential to the overall process, and the fact that they may be "primitive" in form does not lessen their importance. The first fireweed to grow upon newly erupted volcanic

ash is as essential as the ponderous pine which will dominate a climax ecosystem on the same site ten centuries later. The first philosopher is as important as the most recent one.

Rights in ecosystems are functions of the particular successional stage the system has reached at any given time--that is, rights are variable according to the condition of the environment. When rabbits are abundant, lynx enjoy a right to rapid reproduction, which is later withdrawn when the rabbit population declines. The fireweed's right to propagate its kind over new soil disappears when botanical succession has restored a more complex vegetation on the site. On a larger time scale, the rights of dinosaurs to evolve as a species was denied by the environmental conditions of Pleistocene glaciation.

No individual organisms, and probably no species, enjoy an inalienable right to live when their ways of life are contrary to their environmental circumstances. Of the billion or more species which have existed at one time or other on the earth, only about one percent now survive. Those that do survive earned their durability by adapting to environmental change, not because of their superior status, and not because of their ability to manipulate environments for their own welfare.

The rights of non-human nature are not, and never have been, uncertain, except in the thoughts of humans. They are complex and variable, but they are firmly established upon the foundation of evolutionary history. Natural rights are enforced by the biological systems governing plant and animal evolution and distribution and by the necessary correspondence between natural rights and their environmental contexts. The only species to suffer genuine confusion about its rights is our own. We have lost confidence in our instincts and have devised ways to contradict and suppress them. We lack sensitivity to our environments, and we feel free to modify them to conform with our conceptual models of reality. We lack knowledge of our rights as a biological species, and of the responsibilities which accompany them.

Human behavior can reasonably be tested by asking whether specific acts or patterns of behavior occur in non-human species as well. Acts which have some counterpart in

other animals may be tentatively assumed to enjoy a basic validity, possibly based upon a common evolutionary history shared by humans and by other animals which have evolved before us and with us. Property and ownership, for instance, seem to be important to many territorial species. Whether humans are a territorial species, however, remains in doubt. It is possible that our customs of land ownership and the social systems built upon these customs express ancient and instinctual human patterns, or that they are the consequences of an agricultural way of life dating back only a few thousand years. Territoriality can, perhaps, be understood better when we know more about its importance to our near evolutionary neighbors, the other primates, and more about the anthropology of our non-agricultural human ancestors. Territorial rights reside in a grey area which has not yet been adequately explored.

The right to kill other animals for food, however, is impossible to deny to any carnivorous species. Some doubt may exist that humans are naturally carnivorous, but, the antiquity and universality of human hunting are sufficient to affirm that killing animals of another species for food is a basic behavioral pattern of humanity, as firmly established as the hunting rights of bears or other omnivores. When we kill for purposes other than food, however, or when we kill members of our own species, then we are on shaky ground. Hunting for entertainment or recreation is difficult to justify on precedents from other predatory species; the killing of conspecifics by murder or warfare is even more rare; and killing for purposes of revenge is virtually unknown apart from the abundant examples provided by human history. Only humans can visit the iniquities of their fathers unto the sons of the third or fourth generation.

Behavior that is seemingly unique to our species, such as revenge killing, requires detailed examination to determine whether it is rooted in unique conditions attending the evolutionary differentiation of humans from other animals, or if it rests upon purely intellectual models of reality which lack any biological basis. Clearly, revenge is possible only for a species capable of memory and imagination. It is, therefore, made available to us among the special functions of the human brain. The question, then, is whether it is also a necessary and appropriate feature of our species in the light of evolu-

tionary history and the requirements of environmental adaptation. Does revenge behavior enhance the prospects for our species; does it help to fit us better into the world ecosphere? Or is it, as seems more likely, an aberration of human mentality that serves to estrange us from one another and from the world around us?

Some forms of human behavior are so blatantly out of step with natural patterns of existence that no precedent whatsoever can be found for them anywhere in natural history. Volcanoes may add lethal chemicals to the atmosphere for brief periods, but they cannot pretend to destroy as many forms of life as the industrial pollution of the past two centuries. No other species can systematically destroy the other animal species which compete with it or cause it nuisance. No other species can extract quantities of oil and minerals from the lithosphere, or add poisons and wastes to it as ours can. And none save humans can overpopulate the entire world sufficiently to destroy species diversity and to muddle the integrity of the entire world ecosphere. Only in the past few centuries have humans acquired these dangerous skills in actual fact, although the enabling laws and ideologies from which they have grown are, perhaps, three or four thousand years old.

Humans cannot "bestow" rights upon non-human nature any more than men can prescribe the rights appropriate to women. Models of the world which assume a status hierarchy among creatures of different kinds do violence to the rights of all creatures, even to those who have made a place for themselves at the top. Yin and yang offer a more promising concept of world order than top and bottom have ever provided. Without some such philosophy that is consistent with the natural history of the world, the rights of humans and non-humans alike will remain in jeopardy. The ethics governing our attitudes toward nature govern also our relationships with other human beings.

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been featured in magazines, and helped develop courses of study. I have seen people at their stupidest and most intransigent, yet I have also, on many occasions, seen the efficacy of reason and witnessed the triumph of decency over self-interest. In the midst of all of this tumult, I have been fortunate, indeed, to enjoy the security of a stable home life and have benefitted from living with a wife and son (born in 1979), both of whom are considerably brighter than I am. (By the time my wife, a mathematician, has finished going over my papers and speeches and rubbed my nose in every conceptual flaw, I am morally certain all my bases are covered and am prepared to face anyone.) My little boy has attended my speeches and lectures so often that he has only to hear the word "ethical" and he falls instantly asleep. When I gave the C. W. Hume Memorial Lecture at Kings College, London, in fact, he sat erect in the first row, much to the amazement of the audience, apparently absorbed in the lecture, and slept quietly from the first sentence on, to be awakened only by the applause, in which he enthusiastically took part.

For the immediate future, I anticipate working primarily on the treatment of animals in science, not because there aren't other areas of pressing concern, but because it is the area I know best. Then, too, despite frequent lapses, scientists are professionally committed to abiding by the rule of reason and are, thus, amenable to rational and scientific persuasion. Where profits and bottom line are, as it were, the bottom line, as in animal agriculture or in horse-racing, rational argument is obviously not the most effective force for change.

In addition to the all-important moral dimension, it seems clear to me that the issue of animal use in science teaches us much about the nature of science. For if, as scientists frequently say, contemporary biomedicine is essentially dependent on invasive use of animals, surely they cannot also claim as part of the ideology of science that science is value-free, since every such invasive use of animals presupposes the moral judgment that the benefit gained by science is of greater value than or trumps the animal pain or suffering. Also, the scientist's ability to ignore the common sense demands of morality when dealing with laboratory animals is itself a fascinating phenomenon, based in part upon a widespread notion integral to the

ideology of science that one can make no judgments about animal feelings and awareness and that imputation of consciousness to animals is anthropomorphic and scientifically meaningless. This in turn leads to bizarre Cartesian claims that animals don't really feel pain; they only "vocalize" or "show aversive behavior." My most recent work is designed to confute the orthodox view that claims about animal minds are meaningless and to show that it was basically an indefensible historical accident, inconsistent with fundamental biological premises, but pragmatically expedient, which led to a denial of mentation to animals. In this way, I hope not only to change the scientific gestalt on animal consciousness but to shed light on the less than rational manner in which scientific change takes place.

As the concept of local and public review of animal research gains credence, people will become increasingly aware, as, indeed, they have in the human research area, that moral deliberations are not bull-sessions and do not take place in a vacuum. This, I hope, will in turn ensure that the tissue of questions surrounding these moral issues about animals will become the object of serious study and research and, correlatively, receives academic respectability and a place for study in institutions of higher learning. Only in this way can such issues become a permanent and legitimate area of emphasis in a democratic society.

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7. Ibid., p. 176.
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