In the 1760s Robert Bakewell prided in calling his animals "the best machine for converting herbage into money" (Ritvo, Animal Estate 66). Bakewell developed “in-in” breeding of his cattle, i.e. he bred within the same family lineage. By mating close relations, he helped to insure the purity of the desired characteristics. If an offspring did not meet his standards, it was eliminated from the breeding stock. Consequently having an ideal type to breed toward proved an important element of Bakewell’s plan. It allowed him to read the body of the cattle and discern which characteristics were worthy of developing and which were to be eliminated.

The fundamental means of evaluating and categorizing animals during the 18th century is by lines and surfaces—i.e. by what can be seen—artists have a privileged position in the promotion of breeds. Distribution and hierarchy of traits and values are made through a description of what is visible in cattle. The patterns, points, and characteristics literally display themselves. One has only to look and, of course, to be aware of what one is looking for. Many of the points and characteristics of a prize ox are designed to be captured visually. It was commonly held that beauty of form created the finest animals (Youatt 191). With a primacy placed on line and form by breeders, the artist is able to employ his skills toward creating a visual argument for the value of an animal. In painting,
the cattle's quality becomes evident at one glance. One can simply look at Boulbbee's painting to see the desired traits. You doubt that an ox can weigh 2,400 lbs? Why simply look at the neck, the shoulders, the dewlap, the fine ribs, etc. Lest the two dimensional image not convince, then the inscription of dimensions will advance the point. The agricultural treatise spend page after page describing the look of the animal which can then be captured in a painting. For example, in the paragraph following a woodcut of a longhorn, Youatt declares: "Here were evident materials for some skilful breeder to work upon" (199). The "here" points both to the animal which Bakewell will improve and to the illustration. By simply pointing to the illustration "here" the reader literally can see Youatt's argument. Because of the primacy of the visual as a mode of knowledge about cattle—both in agricultural texts and at market—cattle portraiture becomes a sensible means of conveying information about breeds.

Unlike artists' rendering human portraits, in cattle portraiture the beast never faces the viewer head on. To do so would spoil the intended purpose of the portrait—which is to provide a look at the beef hanging from its skeletal frame. The skeletal frame brings forth the real concern here of Heideggarian enframing: how are we situated or placed to allow the figure to reveal itself. The larger question, then, is not simply how society frames animals but why particular frames are set into place rather than others. In 18th century cattle portraiture the animal is shown from a right angle view and the animal's body presents a flat plane over which one can project the grid lines for cuts of meat. The Agricultural Revolution transformed the live stock into an already dead stock; that is they are
an already "enframed" "stock" or standing reserve—with all the echoes of that skeletal frame and grazier's points brings to these terms. Viewers see only one eye and only one side of the animal's world, its position as object. To depict both eyes and to face the animal directly would mean that the animal looks back. The animal's look unsettles the human's sense of mastering landscape. As Anthony Berger explains in "Why Look at Animals?:

The animal scrutinizes him [man] across a narrow abyss of non-comprehension. This is why the man can surprise the animal. Yet the animal—even if domesticated—can also surprise the man. . . . And so, when he is being seen by the animal, he is being seen as his surroundings are seen by him. The re-centering is crucial here: "he is being seen as his surroundings are seen by him."

What this often neglected look of the animal suggests is that creatures of other species occupy the same earth as humans but engage it differently. Humans and animals are of the same earth but have different worlds. The possibility of thinking of the earth differently than humans do and living amidst nature on other terms can be both liberating and horrifying for us. The human species loses its privileged status. The challenge for ecocriticism as much as for philosophy is to find means of understanding this other world, the world of the animal.

One initial, although problem-ed, way out of our enframe is by the look of the animal suggested by Burger. But ultimately, this look will maintain a distance
between the human and the animal. This has been Derrida’s path in his recent work on animals ("The Animal That Therefore I Am (More to Follow)"). By approaching animals through the look, he folds the animals gaze back within culture and—perhaps worse still—a Lacanian social and psychoanalytic discourse.

Yet, animals challenge seeing at a distance. They problematize disembodied thought and furthermore distribute the body of thinking. To make thought move and to do real work at the horizon of the unthought, representation should create a friction, reciprocity, and exchange between the human symbolic system of representing and the physical world shared with other creatures. Most importantly, it should enlivens the surface of the animal body as something other than an object enframed by human desires. The corporality of cattle provide a unique surface; if cattle portraiture is to escape enframing it is through the illustration's pure surface. The animal's large abstract square mass interrupts linear perspective and offers an area for contact with the real. Unlike human interiorization, the cattle body projects itself onto space and maneuvers with its corporality. Even its food doesn't stay in the body until it returns to the surface where it gets regurgitated and ruminated time and again.

The interiority of the human subject contrasts with cattle's surface. For Heidegger, only humans are capable of poesis since only we possess language. The symbol system of language is the tool and visible evidence of our self-reflexive nature. Since other animals lack language, they simply live on the surface, interacting with other objects but not creating an interiority through self-
reflection. Our privileged interiority of reflective consciousness also provides a
unique relationship to the exterior world. Language enables humans to create a
clearing by which the world reveals itself as the world worlds. Heidegger
expresses this unique relationship in the four fold: as mortals, humans provide
the space by which earth, sky, and deities come together. Such is the nature of
human dwelling and building. In fact, only humans—not rocks, nor vegetation,
nor animals—can have a world: "A stone is worldless. Plant and animal likewise
have no world; but they belong to the covert throng of a surrounding into which
they are linked. The peasant woman, on the other hand, has a world because
she dwells in the overtness of being" (Heidegger, "Question Concerning
Technology" 170). By its life on the surface of things, the animal is linked to
other entities; however, only humans are able to consciously make the link,
connecting ourselves and other things together in the space of the world as
world, and thus the human "dwells in the overtness of being." The world comes
to know itself through human techne and poesis.

Yet, animals are not without world altogether; Heidegger claims that they
are simply "poor in world" [weltarm]. The question then is what such poverty
means. Heidegger’s animal poverty is a qualitatively unique difference, a
difference of kind rather than degree. Could the animal’s world nudge the human
from its unique relationship to being?

While it remains stubbornly difficult to enter into the perception of animals,
humans can come to know the world of the animal through their own contact with
the corporality of beasts and humanity’s own animality. The shock of physicality
in contact with animals counters the enframing of animal portraiture. During the
Romantic period while cattle portraits are constructed, Edward Jenner provides
an opportunity for encountering animals and our own animality. vii

Jenner’s 1798 An Inquiry into the Causes and Effects of the Variolae Vaccinae details his successful scientific experiments with inoculation against smallpox. Prior to Jenner, variolation was the method of inoculating against the disease. In variolation pus from an infected smallpox victim gets transferred to a patient who then develops immunity to the disease. In contrast to variolation, Jenner used the highly culturally coded British animal—cattle—and the uniquely Western European disease of cowpox to solve the problem. Jenner introduced cowpox into the human body as a means of inoculating against smallpox.

Jenner’s work stems from common folk knowledge about smallpox. Dairymaids contracted cowpox by contact with the utters of infected cows. After recovering from the disease, they were found to be immune from smallpox. As a consequence of their immunity, in local villages dairymaids were called upon to care for smallpox victims. Aware of this tradition, Jenner made folk wisdom into a science by introducing a scientific method of inoculating with cowpox and monitoring its results.

Detractors worried that preventing smallpox by using animal fluids introduced new and untold animal plague and pestilence into the human body. The swell of reaction was led by Dr. William Rowley and Dr. Benjamin Moseley, Charles Fox’s physician. The claim in their pamphlets centers around concerns of cross species contaminations. Charles Williams’s 1802 illustration Vaccination
aptly depicts the argument within Rowley's and Moseley's documents. 

*Vaccination* reveals a monstrous botched taxonomy that conflates into a single beast various methods of vaccination using different animals. Because Jenner began experiments with swinepox and had also used horsepox but settled on cattle as the most useful animal from which to cull a vaccine, Williams combines these animals as the dangers of exchanging fluids with any domesticated beast and makes no distinction between result from different cross species inoculations. In William's illustration, Jenner and his advocates are pictured as devils feeding babies to the all devouring and all leveling domesticated animal now become demon. The image shows Moseley, Rowley, Squirrel and others in knightly valor defending the nation against the beast Vaccination and its worshipers such as Jenner, Pearson, and Thornton who feed the nation to their Moloch (Thornton 332). In 1808 John Ferdinand Smyth Stuart provided a textual complement to Williams's print:

*A mighty and horrible monster*, with the horns of a bull, the hind hoofs of a horse, the jaws of the krakin, the teeth and claws of a tyger, the tail of a cow, all the evils of Pandora's box in his belly. . . .

This *monster* has been named *vaccination*; and his progressive havoc among the human race, has been dreadful and most alarming.

Yet, strange to tell, this *monster* has found not only a multitude of friends but *worshippers*, who prostrate themselves before him, and encourage his voracious appetite.
In *Vaccination* Williams upsets the enframing of cattle breeding and portraiture. Human manipulation of animals seems to have gotten out of hand as nature's multitude bites the hand that domesticated it.

**Vaccination. Charles Williams. 1802.**

Jenner's use of cattle would seem to extend the dairy and meat industry's enframing of the beast; yet, backlash to Jenner shows how the doctor has unwittingly allowed the animality of a domesticated animal to reveal itself. Using pox matter from cattle differs in several significant ways from other uses of cattle. Most importantly, the animal is not captured through a visual frame. Touching the surface of an animal works in contrast to false depths of linear perspective in picturesque painting and visual matrices placed over the body of the beast in animal portraiture. Transmitting cowpox collapses the distance of observation. The anxieties over human animality ensue from such a collapse.

Vaccination makes the human patient the passive receptacle of cattle pox matter that penetrates the human body. The anxieties over injection derive from a loss of control and a fear that the cattle's animality will take over the human. Such anxiety gets sexualized as a masculine fear of penetration. Entry of a foreign body unravels a sense of self-contained identity and individuality.

Moseley expresses the loss of control as a sexual abandonment that may befall the women of England should they receive the cowpox injection: "owning to vaccination the British ladies *might* wander in the fields to receive the embraces of the bull . . . . Who knows but from vaccination a *brutal* fever will arise" (Thornton 4-5). Moseley's fear is satirized in an illustration for Thorton's
Vaccinae Vindicia. The image entitled "Moseley's prophecy" depicts a young woman presenting her hybrid human-cattle offspring to her mother. The baby is the size of a human new-born with the body of a cow, the head of a human, and cattle horns.

Both Moseley and Rowley report instances of young children who developed bovine affinities and physical traits of cattle after vaccination. For one case, Moseley provides a scientific Latinate name of "FACIES BOVILLA" or cow face. Rowley goes even further then Moseley by supplementing his case histories of ox face and cow hide children with illustrations. Not to be outdone, Stuart relates equally "strange mutations from quadrupedan sympathy": "a child at Peckham, who, after being inoculated with the Cow-Pox, had its former natural disposition absolutely changed to the brutal, so that it ran upon all fours like a beast, bellowing like a cow, and butting with its head, like a bull" (57-58).

These "new diseases" develop from a metonymical slide of signification and simple analogy that are "caused by the subtle Poison" of contact with the beasts. Arguing by analogy, hide is like skin and the cow's jowls are like human cheeks, an exchange of fluid can transform one into the other. Such fantastical changes stem from and gloss over a deeper worry—that humans are already animals. The anti-vaccination texts both raise this fear and try to cover it up with explanatory rhetoric.

Analogy is the decisive concern for both vaccinationists and their opponents. There must be an affinity between cattle and humans for the cowpox to have an effect—amiable or maledictory. In illness or in vaccination toward...
immunity, humans become aware of their bodies, of an awkward corporality that for at least a moment neither \textit{techne} nor \textit{poesis} can undo.

\textit{The Cow Pock or the Wonderful Effect of the New Inoculation}. James Gillray, June 12, 1802.

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\footnote{A notable exception to this rule is Sir Edwin Landseer’s portrait \textit{Wild Cattle of Chillingham} (1867) in which animal is given a wild and noble character. The Chillingham cattle have throughout British history been treated as unique cattle that are more pure of blood than common livestock. The extensive critical history on these animals shows, once again, Britain’s need to claim their cattle as unique.}


\footnote{For a discussion of animal surfaces, or the sensate sense over the sensible sense, see Fredrick Young’s "Animality: Notes towards a Manifesto" \textit{Glossalalia}. Manchester: Edinburgh UP, 2003. 9-22.}


\footnote{While there is not space here to pursue the connection further, Charles Darwin’s theory of evolution also serves as a marker of human animality by collapsing the privileged position of humans in the chain of being. While certainly Darwin’s work in the Galapagos solidified his notion of evolution, he explains that his initial inclinations and later thinking on the subject derived from the farm animal breeding of the 18th century. He sees in Bakewell human selection in animal breeding a model for natural selection. See Darwin’s \textit{The Variation of Animals and Plants under Domestication} and Roger J Wood "Robert Bakewell Pioneer Animal Breeder and His Influence on Charles Darwin" \textit{Folia Mendeliana}. 8 (1973): 231-42.}

\footnote{See chapter two of Laura Otis’s \textit{Membranes: Metaphors of Invasion in Nineteenth-Century Literature, Science, and Politics}. Baltimore: Johns Hopkins UP, 1999.}

\footnote{In the anxiety over penetration by cattle fluid, the authors only use women and children as subjects that are effected by the cowpox. Presumably men could fall under the contagion as well; however, these authors are hesitant to break the identity of adult men—except in the case of Jenner and his "Ruminating Society."}