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designer cows: the practice of cattle breeding
between skill and standardization

abstract

cattle fair arenas are panopticon-like spaces that are instrumental in dissecting the cow’s body into functional parts or traits. the arena aesthetizes a partitioning gaze that is codified in a marking system: the “linear evaluation protocol” for milk cows. the positioning of the nonhuman animal body into a highly artificial context allows one to view the cow as a self-standing object, ready to be partitioned. the exhibition space of the cattle fair and the surveying eye of the cattle fair judge aim to recreate a laboratory space within the relatively “artisanal” and approximate context of the breeding practice. however, there are several limitations, down sides, and contingencies that contrast the project of standardization of the skilled practice of breeding.

this essay is based on ethnographic data gathered during fieldwork in the foothills of the Italian Alps, drawing on participant observation conducted with breed inspectors, practicing farmers, veterinarians, and agricultural advisors working in dairy farms and specializing in the Alpine Brown breed cattle. the aim of this essay is to suggest ways of examining the socio-technical forces that literally shape cows and the ways in which breeders perceive them.

Having been imported into the United States in 1880 accounts for the world-wide fortune of the Brown
Swiss breed. Specimens of the Alpine Brown were selected as a milk-producing breed, and the U.S. Association of Brown Swiss breeders was founded with the specific intent of establishing a herdbook. In the second half of the twentieth century, the Swiss Brown breed was re-imported into Europe via the semen from selected bulls, thus “reimporting” the original genetic material, incorporating the added history of the American project of selection.

Today, Brown Swiss cows are appreciated for their ability to face adverse climatic and environmental conditions, for their good feet and udders, and especially for the higher protein count in their milk when compared with other milk-producing breeds such as the Friesians. Currently, with about 800,000 Brown cows in Italy (and about 10 million world-wide), northern Italy is a world-competing site dedicated to the development of a Brown breed that stands up to the Friesian in terms of milk quality (protein content) over quantity. The goal is a cow with udders capable of sustaining a production of tens of thousands of liters of milk a year, with protein contents calculated—and accordingly paid for—down to 1/10th of 1%.

The social landscape of farming in Northern Italy is composite and diverse: Until the beginning of the 1970s, the Brown breed was associated with traditional, self-contained farming and was used for milking, meat producing, and plowing. The introduction of biotechnology—from artificial insemination to embryo transfer—has happened only within the last 30 years. ANARB (the Italian Association of Breeders of the Brown Breed) was founded in Italy in 1957 with the declared aim of improving the breed and establishing a herdbook. ANARB celebrated the success of the Italian selection process in 1999 and 2000 when it won the European Brown Exhibition at Paris.

In 2004, Italy hosted the 7th Brown Swiss World conference in Verona. The impact of agri-biotechnology quickly has shaped farmers’ perception of non-human animal nature. To maintain an edge over the competition, economically viable farms must select their herd carefully and invest in continuous genetic improvement. Considerations of animal health have changed from longevity and sturdiness to productivity and statistical hazard control. Standard practices, expert advice, and biotechnology now mediate breeders’ skill in knowing their animals and predicting their productive capacity.

From an historical point of view, the transformation of Swiss dairy farming in the production of high-yielding cows occurred in the nineteenth and early
twentieth centuries on the northern side of the Alpine ridge in an area with a climate and agricultural vocation similar to that found in Northern Italy. The industrialization of milk-producing organisms was made possible by the separation of an integrated and complex web of ecological relationships between soil, landscape, and animal body into self-standing, controllable units subject to the skilled vision of taxonomy, classification, and evaluation.

Orland (2003) maintains the “shift from local practices to networks of impersonal information” to “a new culture of competition, measurement, selection and predictability” (p. 173) was achieved only by a careful calibration of local breeding and husbandry practices. In particular, Orland shows how “long before the technical industrialization of dairy farming began in 1870, the traditional relationship between land, fodder, cattle, and dairy production had been torn apart” (p. 177) by the Enlightenment projects of agricultural improvement, which required that animal dung was collected from the cattle sheds to manure the crop fields intensively. Hence, cattle were moved in from the pastures and began being concentrated in sheds.

I would like to extend this argument of improvement to the world of zootechnology, focusing on the practices of “industrialization” of the animal body and, in particular, on the selective vision of genetic experts and breeders. In particular, I wish to show how the disciplining of the breeders’ vision into a certain way of seeing, a certain way of looking at the animal body, is instrumental in steering their skilled practice toward the industrialization of organisms.

**Fair Visions**

The “correct” appreciation of form is a necessary prerequisite for the cultivation and social appreciation of breeding skill in many contemporary contexts. The capacity to produce good shapes for production and reproduction goes hand in hand with participation in a “world-view” that directs one’s attention and is informed by a standardized and disciplined vision. In the practice of breeding, this vision hinges on the translation of the animal body into a set of criteria of excellence and its inscription into forms and tables.

Cattle fairs are important social occasions in which the skill of looking at cattle is displayed and shared in the breeding community. Historical research on the development of specialized breeds (Quinn, 1993) underlines the role
of cattle fairs as didactic exercises in which breeders learn how to distinguish the relevant traits of selected breed and develop a sense of their beauty (Grasseni, 2004).

It is important to be aware that a milking cow in “working clothes” would be unrecognizable from the same cow paraded in the arena in her “Sunday best.” Handbooks for breeders teach how to prepare one’s cows for the show: shaving their hair with clippers, including the udders, to bring the lactiferous vessels into relief and to accentuate the fine glossy skin and the line of the spine (Telfer, 1994). Cows are led to the arena where they are paraded in a ring, then picked out by the judge who stands in the center, and lined up in the order of selection. “Leading” a parading cow is a skillful technique, aimed at making the cow pace her “catwalk” majestically and making her assume a posture that best shows her udder, elegance, and vigor. The worst comment one can receive from a fellow farmer in the arena is that “it’s the cow leading him, not him leading the cow.” Junior farmers, usually the children of farmers presenting their best cows, compete for prizes for “best leaders”—an important part of the social and didactic exercise.

While they wait in their stalls, tables hanging behind each specimen report the length of the lactating curve and the average milk production calculated over 365 days. The “rank” of exhibition specimen at national or interregional events ranges from 85 to 99.5%, meaning that these are among the 15 best cows in 100. Timing the lactating curve for it to be at its peak on the day of the event means that one single animal will be at her best for only one cattle fair per year, so a careful choice of one’s target and ranking must be made in advance—choosing whether it is worth competing at inter-regional or national events or to enter only a local fair. Calendar-managing means administering hormone-based drugs to the animal to time her reproductive cycle. If the cow spends summer grazing in the precarious setting of the high pasture and the breeder wishes to have her competing as a first-time heifer, it also may involve inseminating the heifer for her first pregnancy. This involves monitoring the cow’s sexual receptivity, performing artificial insemination with appropriate bull semen kept in a liquid-nitrogen-refrigerated bin.4

The evaluation of milking cows according to the criteria of breed selection follows a rigid and detailed protocol. The animals are not only beautified but also assessed according to parameters having little to do with their actual life
in the shed: whether they cope with medical problems, whether they produce enough milk to cover the costs of feeding and sheltering them. In the mountains, these animals well may be on their way to the pastures in late May and return to the shed by October—after the summer outdoor grazing season. In the compound of the shed, they may have to face other problems such as hoof infections, under-nourishment, lack of air and space, or problems when giving birth. In particular, selective breeding does not take into account the costs and constraints of running a small cattle shed: Cattle fair champions most often come from farms specializing in selling female exemplars for reproduction. The same evaluation criteria for the breeding champions prized at an exhibition are applied to animals who never even will see a local cattle fair ground.

The morphological evaluation of selected cattle is based on the assumption that it is possible to isolate certain traits that testify to a good productive potential. The objective of breed selection is to produce physically large cattle of solid constitution with early productive development, good reproductive possibilities, and the capability for producing high and constant milk yield. The continuous monitoring of the productive performance of morphologically high-ranking animals has helped to approximate the selection criteria to a kind of “functional beauty,” based on these morphological traits. The Italian Brown Breed herdbook changed its criteria for the evaluation of cattle in 1968 and in 1978, progressively privileging the udder as the most “functional” trait. In 1978, a description of the ideal cow was accompanied by a grid to assess a successful or a poor specimen by a quantitative score. In 1997, the udder score was divided into five traits that help in objectifying the preferred shape of the udder. Pre-eminence was given to udder and longevity. Here, longevity is measured in terms of healthy productivity: A productive, illness-free animal is preferred to a more productive one who may be prone to illnesses that could hinder her productivity.

A “linear system of evaluation” was introduced in the United States at the end of the 1980s and soon was adopted by the Italian and Swiss breeders’ association, and finally accepted in 1995 by the European Committee of the Brown Breed. The introduction of the linear system marks an important step toward the quantification and objectification of the “ideal cow.” The aim of the new system is to codify—not a straight, qualitative comparison between the concrete
animal and the ideal blueprint—but rather a quantification of the degree of
distance between the two, with regard to the trait considered. Instead of giv-
ing a qualitative judgment such as “outstanding,” “acceptable,” or “mediocre,”
the breed expert is asked to quantify—with marks from 1 to 50—the esti-

mated distance between the concrete specimen and the ideal model. Hence,
a measure of perfection, or rather of distance from perfection, is introduced
such that if the judges used meter and scale to assess each animal (which
they don’t, but only for “practical and economic difficulties,” says ANARB),
the result would be an objective and repeatable “biological measure” of the
animal.

Figure 1. Form for the Genetic Evaluation of Cows. (Courtesy of ANARB).
In the light of these considerations, we can appreciate the importance of the introduction of an internationally acknowledged evaluation system. In 1996, the main European countries breeding Brown cattle agreed on a set of traits and on common standards of classification using the linear system. The aim was that transmission and sharing of genetic and selection results across national borders and among different Breeders’ associations would be homogeneous. It is possible to appreciate the necessity for a universal system of evaluation and of a single network of homogeneous, genetic indexes in the context of a world-wide market for bull semen. Top bulls may be American, Italian, or German; farmers need to compare them—according to a single standard of reference—through numbers and listings that are published and circulated internationally on the internet. The “ideal cow” is translated from a bulky body into a series of numbers (scores for each trait: genetic “potential,” lactation length, and production).

This is why the genetic center of ANARB in Verona provides quarterly updated “Genetic indexes” of sires: classifications of the best international bulls whose semen is commercially available, and listings of the best living Italian Brown cows and heifers. ANARB does this to inform the farmers about which bull
semen is most appropriate to program insemination of their best cows. Morpho-functional evaluations (about 30,000 a year are conducted in the cattle sheds of all registered farmers) and milk production data then are gathered from the bulls’ female offspring in all registered farms and are used as feedback on the bull semen “effectiveness.” The Association for the Promotion of Breeding (APA), which gathers all data on behalf of ANARB, has a distribution system throughout the territory, and herdbooks guarantee that the taxonomy and classification of cattle is objective—indeed from locality and subjective judgment.

Not only the calendar for cattle fairs and the international appointments for the genetic evaluation of cows but also the actual breeding practice consistently has shifted toward a systematic handling of hormones, heat curves, and embryos for reproduction. Selective or artificial breeding aspires to take control of the animal’s genetic and productive potential to secure its transmission to the following generations. The aim behind such a concerted pursuit of the ideal producer/reproducer is an increase in the farm productivity, just as it is in global, capitalist industry. This calls for ruthless interventions on the herd, such as that of “substituting” a cow at her second or third lactation with newer genetic material.

The continuous striving for milking traits means that a cow’s production is exploited only until the offspring are capable of a production exceeding that of their mothers. “It is a genetic law that the daughters will be better than the mother,” explained an agriculturist friend. Thirty months after a mother’s first birth-giving, the calf will have become a heifer, will have been inseminated, will have given birth, and will be lactating. At this point, it becomes an economic imperative for the farmer to maximize production by substituting the mothers with their daughters who carry updated and reliable genetic material. On average, an industrial breeding farm will “use up” a milking cow for three successive suckling cycles and then discard her at about five to six years of age, although the cow could live up to 12 years with decreasing milk production until losing reproductive capability.

Farmers are under pressure from the breeding associations, agricultural informants, and market competition to invest on peak producers: If the average cow in an industrial farm produces 25 liters of milk per milking, peak producers of up to 50 liters guarantee a margin in the enterprise turnover.
Therefore, each cow in the herd is a potential genetic investment: one needs to evaluate whether she is worth inseminating or whether it is better to substitute her altogether with a better pedigree heifer. It is uneconomic to inseminate just for the sake of reproducing the herd: In each generation, the pedigree of the entire herd must be improved. This calls for ruthless selection of the reproducers lest the farm production drops. Breeding pedigree cattle means being able to sell calves and heifers for respectable prices.

The rationale behind genetic selection is confirmed by the consistent investment on embryo transfer as the standard practice in industrial lowland breeding and increasing interest for cloning as the “natural” step forward after insemination and embryo-transfer. As one agricultural informant imaginatively put it, “If I can have a stable full of Ferraris, why should I limit myself to average specimens and only one Ferrari once in a while?” Rejecting a cloned animal for moral reasons would be inconsistent with the entire practice of industrial breeding: Its rationale is incompatible with piecemeal applications.

**Between Skill and Standardization**

Rather than a science or a simple rule-following technique, successful breeding is both an art and a skilled practice. It is not guaranteed that “peak” traits will be transmitted automatically to each specimen in the next generation. A cattle fair champion represents only a peak, which needs consolidating by improving her offspring’s morphology and by spreading, statistically, the increment in production over the herd average. Investing in reproducers is like betting on the stock exchange: There is an underlying rationale, but the several factors determining a successful outcome may add up to high indeterminacy in the way a “potential” (the genetic rank) is concretized in a result (the milk production).

The way in which this indeterminacy seeps into selective practice is evident from discrepancies about what counts as “success” in artificial breeding. First, the average composition of milk is different in different breeds. A Brown Breed farmer strives to breed cows who produce milk with a high protein count—whether this is considered high or low is a matter of tenths of a percentage point. At the time of fieldwork, 3.7% protein content in milk was considered outstandingly high; 3.5% was the standard for good farms, while
3.2% would ensure selling the milk for only the minimum national price guaranteed to all farmers. Today, Friesian champions easily can produce 10,000 liters of milk in a lactating cycle. Nonetheless, thanks to the higher protein content in their milk, Brown cattle can compete in quality, if not in quantity, with Friesian herds.

Judging the results of good breeding is more a skilled practice than a simple rule-following protocol. The ever-resurgent problem of subjectivity threatens the positivistic ideal of judging cattle as an objective and emotionless practice. Judging largely is a question of trust and of a socially recognized skill. Cattle fairs are moments of heightened competition—a space open for fraud—where money is exchanged and cows are sold and bought. During my fieldwork in a Lombard valley, a notorious blunder at a local fair was the subject of gossip. Apparently, the elected champion was a borrowed or stolen steer whose data and pedigree did not correspond to any of the cows owned by the winner. Who was to blame? Certainly, the judge did not sense that the champion was unnaturally ranking far above the local average—which would have given reason for suspicion—while the organizers did not act quickly with a blood test and a DNA sample to check against the documents presented.

Guidelines for judges and breed experts testify that experts are expected to face diplomatic problems, both when presiding over fairs and when visiting sheds. Judges should be “professional” and show “firmness always and in any respect.” They should be “capable of motivating with adequate expressions their evaluations” but also willing to “acknowledge any mistakes.” A breed expert should show “politeness and respect for everything and everyone, especially for the work of one’s colleagues” and should be “willing to improve one’s capacities, to discuss with farmers and technicians and to accept advice on selection.” When visiting farmers’ sheds, the breed expert should be ready to suspend the evaluation if specifically asked by the farmer, or “if he feels that he has been offended or that his good faith is being questioned.”

The discrepancy between the project of genetic enhancement and the local practices of breeders becomes evident when one follows the objects of selection (the prize cows) away from the regimented and restrictive displays of cattle fairs. Their “genetic potential” expresses itself differently according to the cow’s quality of life. This potential is compromised especially in a con-
text of high pasture grazing or of great changes in the animal’s environment.
The breed inspector whom I shadowed during fieldwork complained that farmers easily can waste good genetic material by not providing proper attention. They can be reluctant to call the vet during birth-giving to cut costs, and allow the cow to be damaged in the process. He compared champions with “postcards,” good to look at but less sturdy, susceptible to diseases and birth-giving problems, and easily exhausted by the effort to produce milk. Hence, lest selected and expensive cattle were wasted, he recommended to farmers a well-monitored nutrition program.

He also considered that “too much cattle fair going”, especially if it was for buying, brought no good: A culture of how to tend to genetically selected cows must be spread first. He criticized day visits to cattle fairs where local breeders easily get hold of good champions but do not learn how to treat the animals and do not develop the skills of husbandry. He felt that within the mentality of small, mountain breeders, cattle fairs were the occasion to buy a champion and to “boast” that champion in the village fair. This “genetic material” easily was wasted in another sense, in as much as small-scale breeders do not keep themselves up to date with information about reproducers and do not program the insemination of their newly bought cows to enhance the breed in the next generation. Instead, they exploit the cow’s productive capacity “until they are good for the slaughterhouse” and then buy another one at the next cattle fair.

From the considerations of the breed inspector emerges no preconceived “model cow” but rather a pragmatic evaluation of the aim of breed selection in a given context. Investment on specific traits has to be considered in the context of a long-term investment in the animal and in the herd. The notion of “good forms” thus appears as a ductile ideal, shaped and measured by international standards but negotiated time and again for specific instances.

Even when they agree on the imperatives of the economic rationale, breed experts do not agree always on the necessary strategic choices—such as investing in the “right” breed. Thus, for those committed to industrial lowland farming and to Friesians, the choice of some farmers to remain committed to Alpine Brown and to mountain farming seemed a strategic mistake, a sin of pride. CL, one of my informants, moved from his mountain village about 30 years ago and, with his brothers, established a breeding farm in the lowlands.
south of Bergamo in Lombardy. They now have a 200 Friesian herd but still keep a single Alpine Brown, the offspring of their father’s last cow. In the light of the competitive conditions outlined above, this innocuous yielding to sentimentality is an anomaly. To maintain an edge over competition, farms with about 200 cows must select their herd carefully and invest in continuous genetic improvement.

In traditional farming communities, cows were not seen as specialized “milk-machines” but as all-round farm animals. The Alpine Brown is one of the breeds that would be “naturally” sturdier and adapted to the terrain in the mountains. But the improvement of the Alpine Brown has meant that the original breed is being lost to a competitive and internationally bred “Superbrown.” Selection and sedentary life is making these animals unsuitable for traditional settings such as summer grazing in the high pasture (alpeggio). Consequently, among small-scale mountain farmers, a highly specialized breed (whether Friesian or Superbrown) is considered too fragile and large to do well in the mountains. Therefore, in the expectations of traditional users, selected specimen score low. Also because of the social and economic tension introduced into local communities, “marginal” farmers resent the “brownization” of local breeds.

To justify preferences in the face of contrasting functional considerations, improvers and traditionalists alike use aesthetic and moral implications both ways. At stake are the identity implications of local standards of animal beauty. On the one hand, many traditional mountain farmers prefer not to select their breed and keep it small and sturdy to enhance its survival on the high pastures. On the other hand, selective breeders look down on this as a symptom of backwardness. When I was visiting the cattle sheds of Val Sabbia in the province of Brescia with a breed expert and touring Val Brembana in the province of Bergamo with a breed inspector, the ideological divide between traditional farmers and selective breeding became apparent.

Expert and farmer talked at cross-purposes; rather, the sets of criteria they used to evaluate cattle were incommensurable. The breed expert (himself a farmer) said that the cows were too small and worthless. The traditional farmer then protested that they were rather good for mountain terrain. The breed expert recommended the use of exclusively artificial selection to enhance the pedigree of the animals. The farmer would admit that he used both bulls
and artificial selection, according to which was at hand. This depended upon practical circumstances such as whether he could borrow a bull from a neighbor for no cost—or for a lesser charge than for semen—and whether the semen provider—local vet, a hired inseminator, or APA controller—was available at the right time.

These exchanges conveyed a set of assumptions about what is virtuous knowledge and what makes virtuous conduct for a breeder. The moral undertones of both parties were at times evident in the way breed expert and farmer dealt with each other. In some cases the breed expert would be welcomed with an eagerness for updated information. Often, he would be met, however, with a barely disguised lack of interest or with mistrust. A degree of unease for the intrusion of the “new ways” and the bureaucratic dealings they entail was evident, especially in encounters with newly registered farmers. On the other hand, the breed expert often complained that he was wasting his time because of the farmers’ lack of interest in genetic selection or incompetence in the new ways of husbandry—especially of nutrition. He found that even when there was “a good cow” in the shed, she would be malnourished or suffering from lack of air and space. In other words, investment on the bloodline had not been accompanied by a strategic rethinking of breeding practice in conjunction with husbandry.

The world views articulated in relation to the farmers’ moral outlook on animals and breeding practices incorporate many environmental, socially, and culturally contingent factors involving the meaning and values they attach to their work and to their relationships with fellow breeders and animals. It would be wrong to oppose breeding “Western rationality” to the behavior of “irrational peasants.” The farming family who hosted me for part of my fieldwork seemed to have found a compromise between the two schools and to survive financially. They maintained the practice of *alpeggio* in the high pastures, but they made sure their artificial insemination program would be carried out. This they did by keeping a store of semen in a refrigerated ozone bin and by carrying out insemination on the pastures.7

During a visit to a neighboring pasture, my host G, aged 73 and committed to breed selection, scorned less refined, less selected breeds such as the sturdy “Austrian” cows owned by his neighbor. Also, he had a negative opinion of Friesians, the “Ferraris” of lowland agribusiness. According to him, they are
ugly, disproportionate, stupid, and pumped with drugs and chemical foods to increase production. He would use the same type of descriptions sometimes used for drug addicts, made stupid and slow by consuming unhealthy substances.

By scorning the most advanced selected breed, my host was disproving that a selective breeding aesthetic is slavishly derived from fixed standards and measurable criteria. However, he refused nostalgic attachment to “breeds of the past” and scorned the neighbor’s “Austrian,” old-fashioned sturdy animal. He would not let cows’ horns grow. He thought of cows with horns as a sign of breeders’ laziness and would comment, in moral and aesthetic terms, about their ugliness and their danger to people and to each other.

Conclusion

Dwelling on the breeder’s skilled practice immediately plunges one into the conflicting dynamics of the standardization of agricultural knowledge. Milk and cows are the end products and the focus of investment of farmer and breeder who wish to sell their milk for high prices. Breed selectors wish to recalibrate farmyard practices to new technical and symbolic expectations. What are calibrated—first and foremost—are the “genetic capital” of cattle, the infrastructures and social events that provide the environmental context for breeding and, finally, the very gestures and vision of the breeder. Not only assumptions about improvement, development, and growth are argued and conveyed through technical jargon and economic calculus but also aesthetic preference and morality, such as what really makes a good breeder or a beautiful cow.

Latour’s (1986) actor-network theory (ANT) purports to “follow up” the many links and contexts offered by the complex objects of technological and scientific practices. He explains scientific revolutions with the evolution of “writing and imaging craftsmanship,” practices of inscription that are adopted by competing scientific communities. He underlines that few scientific forms of inscriptions would have been developed without a competing social context in which “groups of people argue with one another using paper, signs, prints and diagrams” (p. 3).
Latour (1986) thinks that the “time has come for ethnographers to describe biotechnology, artificial intelligence, microchips, steel-making” (p. 3). I would add, using his language, the enrollment of nonhumans in the production of food. We can adopt Latour’s language to see the practice of breeding as an arena of skill and technology, highlighting the attitudes of people who cultivate skills but increasingly deal with forms and protocols. In this case, I have tried to follow the animals out of the show arena. The increasingly competing context of world capitalism in which dairy breeders have to operate bears close resemblance to Latour’s description of quarreling scientists. In the practice of breeding, a typically partitioning vision is functional for the purposes of mustering data, presenting them, increasing production and efficiency, and insuring that more farmers subscribe to the agenda of breed selection.

Without effective practices of visualization and inscription that partition the cow’s body and quantify her functional potentialities, the program of genetic enhancement would run aground. However, without a competing world market that pays higher prices for milk rich in protein, the scores of genetic indexes, listings and morpho-functional evaluations that strive to identify good reproducers and producers would burst like a bubble.

In the present economic context, the breed expert’s vision is the focus of enhancement programs. Morpho-functional evaluations allow one to manipulate, mobilizes, and compute the bulky bodies of cows and bulls in the guise of diagrams, listings, genetic indexes, champions’ photographs, cattle fairs, and videos. Without this vast and organized visual apparatus, the raw data of the milk production and the protein count of individual specimens would be sterile—it would not give any margin to compare, explain, and predict the performance of the next generation.

The discourse and imagery woven around animals (domestic, pedigree, or industrial) are telling of the society that produces them. The professional imagery of cattle as cyborg (Haraway, 1989) underlies a hidden debate on the idea of “nature,” specifically around the kind of vision that it is necessary to exercise of animals to justify our “tampering” with their nature—a justification that is not complete without reference to the processes of commodification (Grasseni, 2003). In particular, the sedimentation in professional
communities of standard visions becomes reflected in the perceived “good form” of bred animals and in the way breeders think about the breeding techniques, the process of animal growth, and the worth of their animals.

The ethnographic approach allows one to understand the real people behind these processes, their economic concerns, and their symbolic expectations. These are the subjects that one needs to approach if one wishes to show that the agri-business strategy is environmentally and culturally unsustainable and that there are alternatives to a concept of modernization meant as the intensification of productivity—through revaluation of local breeds and traditional knowledge, through eco-tourism, quality foods, and through historical and didactic agriculture.

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Notes

1 Correspondence should be sent to Cristina Grasseni, S. Agostino, 24129 Bergamo, University of Bergamo (Italy). Email cristina.grasseni@unibg.it. The author wishes to thank Garry Marvin for his help and ANARB for allowing to quote and reproduce its materials.

2 See the U.S. Brown Swiss Association web site, www.brownswissusa.com

3 Quotations in the paper attributed to ANARB come from an on-line protocol for conduct for registered breed experts of ANARB. The protocol is in Italian. Translations were accomplished by Grasseni.

4 The “wet” period for a cow (time at which she can yield milk) begins after pregnancy and birth of a calf. A cow has her first heat at about 18 months of age. At that point, insemination can take place. On average, 2.5 insemination attempts take place per successful pregnancy. Pregnancy lasts 9 months. Hence, on average, a milking cow begins production around 30 months of age. Milk production reaches its peak between 30 and 40 days from birth giving, when she can yield up to 30 liters a day but can continue up to 10 months with decreasing quantities. Attempts to inseminate a second calf begin as early as three months after birth giving to make the first suckling cycle overlap with the second pregnancy and maximize the cow’s production capacity. From about two months before giving birth, the cow is “dry” (cannot produce milk). So, programmed insemination will aim at allowing a full 10-month suckling cycle, while not “wasting” any more time than the necessary 2 months of dry time before the next birth.
Embryo-transfer requires a sophisticated timing of different cows’ periods. Their heat is programmed through hormone-based drugs, which also stimulate the segmentation of the egg after ovulation. The eggs are flushed out from the womb and fecundated. The embryos thus obtained are implanted in several steers. This is a delicate operation requiring accurate timing. This process can produce from 10 to 20 calves per ovulation, while up to 4-5 transplants can be carried out from the same egg donor in one year. Only recently has embryo-transfer become a successful standard practice, being industrially applied from the 1990s.

A 1996 graduate in agricultural science recalled from his University years an experimental treatise entitled “How to make one cow produce 6,000 kilograms of milk a year”. In 1999, the best exemplars produced more than double that amount.

In other aspects of their farming practice, though, they seem to have uncritically adopted the routines and infrastructures of lowland agribusiness, which could result in negative effects on their environment (M. Corti, personal communication, July 20, 2003).

References


