



Bovine Reproductions: Animal Husbandry and Acclimatization in the Cattle Paintings and Prints of Rosa Bonheur

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As often noted in the art-historical literature, Rosa Bonheur (French, 1822–99) was an avid collector of beasts wild and tame. When speaking of the menagerie possessed by herself and her life partner, Nathalie Micas (French, c. 1824–89), she emphasized emotional solidarity with the animals, as well as an instrumental interest in their breeding and upkeep. For her more exotic specimens, she relied on the diplomatic gift economy and network of colonial imports that supplied the *Jardin des plantes* and similar institutions with their animals. Still others were acquired by the artist at markets and fairs on her travels in England, Scotland, Germany, and throughout the French countryside. By 1859, the artist had left her Paris residence to live in the Château de By, a villa located near the forests of Fontainebleau. She thereby accommodated even more such purchases. There, her creaturely comrades included (among many others) a deer named Jacques, Margot the mare, Kiki the stag, and Fatma the lion.¹

As both an artist and collector, however, she was especially fond of bovids, the family of cloven-hoofed, ruminant mammals comprising antelope, sheep, goats, and, most significantly for her purposes, domestic cattle. Bovids were by far the most common motif in her oeuvre and the one for which she was most recognized by her audience and patrons. The auction catalogue comprising works found in the artist's studio immediately following her death included 121 paintings and drawings in the 'Oxen, Bulls, and Cows' category and 114 sheep subjects, as compared to 110 depictions of horses and seventy-six of 'wild beasts'.² She owned entire flocks of goats and sheep, as well as Saint-Girons cows and, most unusually, a yak. She acquired the latter through the assistance of her agent, Ernest Gambart, who directly delivered the creature to By, greatly alarming the artist's doorman on its arrival.³

Domestic cattle, as both charismatic megafauna and boon to the French agricultural economy, were the central subject of many of the artist's early career successes, most prominently in *Plowing in the Nivernais* (1849) (plate 1). Bonheur was so closely associated with these animals in the public imagination that she appeared alongside a bull in one of her best-known portraits, painted by Edouard Louis Dubufe (French, 1820–83) in 1857 (plate 2). Dubufe, who had initially planned to depict Bonheur leaning against a table, had the sudden inspiration to replace this piece of furniture with the artist's signature species. The portrait sitter was then called upon to paint the bull herself and was duly compensated by the English collector who ultimately purchased the work. Dubufe refused the full payment of 15,000 francs, insisting that the canvas was a collaboration; Bonheur thus received 7,000 francs of this sum 'pour le taureau'.⁴ The painting is a notable departure from earlier portraits

**Detail from Rosa Bonheur,
Plowing in the Nivernais, 1849
(plate 1).**

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I Rosa Bonheur, *Plowing in the Nivernais*, 1849. Oil on canvas, 1.34 × 2.6 m. Paris: Musée d'Orsay. Photo: RMN.

of women with their animal companions. Pensive and resolute, Bonheur stands proudly alongside a large beast of burden where past female portrait sitters would be represented in a state of upper-class leisure, accompanied by a cat or a minuscule lap dog (one recalls the many portraits of Madame de Pompadour and her canine companions). Bonheur, like the bull, is a labouring subject. Her association with a male animal and the telegraphing of her profession through the *porte-crayon* (pencil case) and portfolio held in her arms reaffirm the masculine persona adopted by the artist, which formed a focal point of public fascination with her life. Occupying nearly a third of the canvas and angling its head to look out towards the viewer, the bull's fuzzy, affable face and soft, shining snout render its presence palpable. The imposing heft and perplexed expression of the animal draw the eye away from the portrait subject towards the manifestation of her talent. The creature's curious, full-frontal gaze, unusual in a history of livestock paintings dominated by profile views, stages a direct encounter with the viewer.

As in the painting produced in collaboration with Dubufe, the cattle that so often functioned in the history of art as mere landscape staffage appear in Bonheur's paintings as central protagonists rich in fur, fat, and muscular force. Her works were also closely connected to the illustrations found in agricultural texts, as well as the many generalist natural histories that devoted considerable space to the cultural and economic significance of domestic cattle and their relatives. In addition to her many painted depictions of bovines, she contributed prints to landmark scientific texts like Louis Gossin's (French, b. 1817) encyclopedia of French agriculture, *L'Agriculture Française* (1858) and Émile Baudement's (French, 1816–63) guide to European cattle types, *Races bovines (Bovine Breeds)* (1861). The serial visualization of cattle types in these encyclopedic works, each receiving its own illustration, concurred with the spatial juxtaposition of different breeds found in many of her paintings. In both print and painted media, the small, even debatable, marks of difference between the breeds could only be established through this manner of active comparison. Bonheur also produced at least one sketch of yaks (a species closely related to European domestic cattle) that was used as the basis for an illustration by Edouard Riou in the *Jardin d'acclimatation illustré*, a

periodical devoted to the study of foreign species imported to France for domestic adaptation. Yet Bonheur's oeuvre has not been thoroughly addressed in the context of period agriculture practices and zoological science, despite strong links to their illustrations and economic concerns. Throughout this article, I argue that her depictions of bovine bodies normalized perceived advances in husbandry and species importation, while also emphasizing the animals' innate animate force, both as labour power and intangible creaturely energy.

Although in her lifetime she was among the most popular living French artists, Bonheur's practice has in subsequent centuries become less central to surveys of nineteenth-century art. Even twentieth-century attempts by feminist art historians to restore her place in the canon have rested largely on her biography, in particular her unusual professional success as a woman artist in an era when most women



2 Edouard Louis Dubufe and Rosa Bonheur, *Portrait of Rosa Bonheur*, 1857. Oil on canvas, 130.8 × 94 cm. Versailles: Palace of Versailles. Photo: RMN.

could at best adopt painting as a genteel, unpaid hobby, as well as her unconventional gender presentation and intimate partnerships with other women.⁵ Indeed, the very disconnect between the artist's work and her biography might partially account for the relative paucity of discussion surrounding the paintings themselves, even as those works also express a queerly expansive sense of cross-species kinship. The marginality of the masculine, woman-loving woman would seem, by a present-day, Western understanding of queer identity, to be at odds with the taxonomic, reproductive logic that structured nineteenth-century depictions of domestic animal breeds, including those by Bonheur. The following will consider Bonheur's role in illustrating agricultural and zoological texts, and will reposition canonical paintings such as *Plowing in the Nivernais* (1849) within the context of period husbandry practices, which emphasized the visual and physical perfectibility of bovine stock. Given the considerable number of cattle subjects produced by Bonheur – as mentioned earlier, over 100 such sketches and paintings were documented during the sale of her estate and many more were sold over the course of her lifetime – I will focus on a small number of paintings and prints that highlight the artist's imbrication in scientific discourses and the capitalist, colonialist economies to which those discourses contributed. I will begin by addressing her depictions of oxen as labouring subjects and by-products of breed selection and the differing political valences of these labour depictions under the Second Republic (France, 1848–52) and Second Empire (1852–70). I then consider the artist's role in illustrating the works of the zootechnical and acclimatization movements, which presented less lively versions of her bovine subjects but nevertheless insinuated both their imposing corporeal force and their use value. While Bonheur expressed a form of egalitarian sisterhood with her animal compatriots, she also participated in, and contributed to, the exploitative practices of importation, acclimatization, and breeding 'experiments' particular to Second Empire France.

Of Agriculture and Aesthetics

While Bonheur's painted cattle received particular attention for their personality and anatomical exactitude, their popularity was also part of a larger trend in mid-nineteenth-century European art. At the time, even prominent artists not trained as animal painting specialists, such as Gustave Courbet (French, 1819–77), produced epically scaled bovine tableaux. In a different vein, the wealthy landowning classes of England, who obsessively 'perfected' their livestock for entry in prize competitions, drove the patronage of an entire subgenre of livestock portraiture. These portraits typically portrayed cattle, pigs, and sheep of an excessive size only achievable through the vast feed reserves and repeated (in)breeding experiments of wealthy aristocrats. The images provided templates for ideal breed 'types', while also exaggerating desirable characteristics past the point of physical plausibility, with rectangular, stub-legged behemoths towering above their human owners (plate 3). Frequently reproduced in the form of engravings, these portraits, often captioned with the names of both animal and owner, vaunted their subjects as exemplars of their kind. The British also came to dominate the beef markets and animal husbandry developments of the nineteenth century, as French authors of the period readily admitted.⁶ Yet the ideal breed types depicted by Bonheur were of a decisively different character from their English counterparts. Bonheur's cattle are active agents rather than immovable masses and the illustrations she furnished for natural history publications depict generic breed specimens rather than exceptional prize animals. Her cattle are defined by the tasks they perform and the French provincial landscapes they occupy, instead of their ownership or pedigree. As this article will later discuss, the perceived meaning

of these representations of animal labour was flexible enough to survive the many political upheavals of the French nineteenth century – and the artist herself became increasingly amenable to the imperial government and its support of her work.

The preoccupation with cattle painting was not limited to France and Britain. Germany became a primary point of comparison for the agricultural, social, and moral well-being of the French nation in the mid- and late nineteenth century, especially following the staggering French defeat in the Franco-Prussian War. The competition that played out in the militaristic realm extended to the economic, as the nations regularly compared their regional livestock breeds in pan-European agricultural competitions and World's Fairs. The richness of Bavarian milk cow culture was most prominently represented by animal painter Anton Braith (German, 1836–1905), whose life-size cows are atypical in the history of pastoral painting, wherein bovine figures more frequently functioned as relatively small, component parts of a landscape. Braith was often deemed the 'German Bonheur' by period critics, though his approach was in many respects distinct from her practice.⁷ Where Bonheur conveyed the strength of her labouring animals, Braith depicted passive, pliable cows ambling in their pasture. Nonetheless, both artists were committed to centring their livestock subjects.

3 John Porter after Lucas Beattie, *The Chillington Oxen*, 1838. Line engraving with mezzotint and hand colouring, 46.4 × 54.6 cm. New Haven: Yale Center for British Art. Photo: Yale Center for British Art.





4 Paulus Potter, *The Bull*, 1647. Oil on canvas, 235.5 × 339 cm. The Hague: Mauritshuis. Photo: Alamy.

The cow was also a central figure in artistic debates, particularly those concerning the ‘Flemish/Dutch style’ and the merits of contemporary realist painting that treated of similarly unelevated, everyday subject matter. Large-scale painting was traditionally utilized for history subjects and thus associated with a certain traditionalism, dignity, and political import in the European academies. The presence of life-size portraits of cows in academic art exhibitions was a comparatively new development, though there were a handful of precedents in Western art – the best known at the time being Paulus Potter’s (Dutch, 1625–54) life-size *Bull* of 1647 (plate 4). The relative aesthetic merits of that painting, which features the titular young bull alongside a cow, three sheep, a man, and a prominently foregrounded piece of manure, were, tellingly, the cause of considerable disagreement among leading nineteenth-century critics. While author Théophile Gautier (French, 1811–72) lavished praise on the work’s imposing figures, art critic Charles Blanc (French, 1813–82) was disconcerted by it, convinced that the overwhelming scale deprived the animals of the intimate charm that he associated with Potter’s smaller canvases.⁸

In this era, the cow was likewise granted a central place in the march of agricultural progress by academics and agriculturists. The first known text to attempt a complete overview of French cattle breeds was published in 1789 by a M. de Francourt.⁹ However, these types were not considered immutable, as frequent crossbreeding with more popular breeds, such as the Charolais, led to the ultimate disappearance of more esoteric regional variants. At the same moment, the appeal of exotic and wild bovine species came to the fore. Members of the French acclimatization movement were particularly invested in the project of adapting the multipurpose Tibetan yak, an animal capable of providing wool, milk, meat, and transport, to life in Europe, as the illustration by Riou after Bonheur discussed later

in this article attests. Meanwhile, scientists such as Baudement expressed anxiety about the project of crossbreeding and the quality of mixed (*métis*) livestock, a stance often associated with movements for the breeding of autochthonous French cattle.¹⁰ Significantly, the French term for breed – ‘race’ – also refers to human races and stated concerns about the ‘mixing’ of different animal types were implicitly (and often explicitly) weighted with racial biases. Scientists, farmers, and artists alike were concerned with the literal and symbolic domestication of bovine species. Even through the mid-century, France remained a primarily agricultural economy dependent on such developments: about two-thirds of the French population was still located in rural areas by 1871.¹¹

The cultural significance of the cow at this time in Europe cannot be underestimated. In volume IV of his *Histoire naturelle* (1753), the Comte de Buffon ruminated at length on the various useful by-products to be derived from cattle. In particular, he emphasized the creature’s crucial role in the advancement of human tool-making:

The horns of this animal are the first vessel from which we drank, the first instrument through which we blew to amplify sound, the first translucent material that we used to make windows and lanterns, and the first that we softened and moulded to make boxes, combs, and a thousand other things: but let us finish, because natural history must end where history of the arts begins.¹²

As these contributions of the cow, however involuntary, demonstrate, the history of human creation can never be fully separated from raw animal materiality. On the most literal level, the illustration of natural history was made possible, in part, by the use of stillborn calfskin (*vellum*) as a material support. The French royal vellum collection was and is one of the most illustrious world repositories of botanical and zoological illustrations.¹³ Pragmatically, the categorical distinction made between the study of man-made and divinely created objects presented the reader with distinct discursive domains, allowing Buffon to narrow the scope of his already massive undertaking (he would produce thirty-six quarto volumes of the *Histoire naturelle* over the course of his working lifetime).

The complete dependence of Western human society on the cow is revealed in Buffon’s eloquent formulation. The domestic bovine is placed at the very origins of civilization, providing humans with their first utensils and instruments. Items derived from the animal serve to augment sound (the horn), increase visibility (window glass), transport objects (boxes) and otherwise prosthetically enhance human capabilities. It is the ‘ideal animal’ in Buffon’s estimation because it provides the most benefit to its human keepers, and the earth in general, for the least cumulative environmental damage. It only eats the uppermost shoots of grass, leaving the roots undamaged and able to regrow. The food it consumes is then returned to the earth in the form of nutrient-rich fertilizer. Castrated bulls are agreeable draft animals and the females of the species provide milk. Mature individuals that have reached the end of their working lives give their masters beef, leather, and tallow. Even in zoological gardens they managed to serve as both subjects of display and food for carnivores.

In Buffon’s vision of nature, in which a state of permanent equilibrium must be maintained, the cow is a morally exemplary creature. It gives to the Earth more than it takes, in contrast with human beings and carnivorous species that relentlessly consume and conquer fellow organisms, while offering little in return. In stark contrast to our current understanding of the disastrous climate-warming impacts of large-scale

5 Colette and Ed. Renard, *The Cow*, 1849. Hand-coloured lithograph in *La Revue de l'Education Nouvelle à Paris*. Paris: Musée des arts décoratifs. Photo: Wellcome Collection.

cattle farming, the cow was then seen as a figure of natural replenishment. Yet the supposedly inexhaustible resources of this animal would also justify an ever-more elaborate manipulation and exploitation of its breeding later in the nineteenth century.

Though the Cuvier and Saint-Hilaire families came to dominate French natural history in the first half of that century, the *Histoire naturelle* remained a frequently reprinted and referenced text. The notion of bovine beneficence found in Buffon's text remained prevalent in works by later natural historians and can also be felt, I argue, in the sense of lush abundance Bonheur evokes through the creatures in her cattle paintings. Buffon's discussion could, indeed, be illustrated by a colour lithograph found in the *Journal des mères et des enfants: La revue de l'éducation nouvelle* (plate 5). The review, published in Paris from 1848–54 under the direction of Jules Delbruck (French, nineteenth century), a follower of utopian socialist Charles Fourier (French, 1772–1837), targeted mothers interested in educating their own children. The wide range of subjects covered, from silk manufacturing to geological time to marine vessels, indicated the degree to which modern scientific and technological studies could be considered part of a liberal, republican education. In line with the familial theme of the journal, the cattle print presents a central image of a nuclear family: a cow nuzzles her calf while the presumed father looks on from a distance. The animals are framed above, below and on each side by pictures of cattle by-products and their uses in everyday French society. The image in the top left corner shows cows being milked by milkmaids, flanked on the right by an image of a dairy processing this milk. On each side of the family portrait, one finds a massive array of items produced



from the bovine body: piles of manure, leather shoes, boots, suitcases, 'oil of bull's feet', buttons, combs, horns, boxes, dominoes, brushes, and tallow candles. The lower register shows a simple country luncheon among mothers and small children juxtaposed with a scene of male servants preparing an elaborate upper-class supper, showcasing how the animal could benefit all social strata.

The diagram is accompanied by several pages of fictitious dialogue between the aptly named M. Bonchamp (literally, 'Mr Good Field'), his daughter Louise, and her band of school-age friends as they stroll through the countryside. Bonchamp, upon encountering a cow and calf in a neighbouring farm, sees an opportune teaching moment and takes the children aside for a lesson on the species' many benefits to the nation. As he solemnly proclaims: 'You see how valuable the cow is as a domestic animal; often, her products are the sole resource of an entire family of good peasants. [The cow] would be an animal quite valuable to man, even if it gave him nothing but milk.'¹⁴ The children, uncommonly inquisitive about the specificities of dairy processing, allow their guide to furnish them with a primer on agricultural economics. As the accompanying text reveals, the crudely drawn bull is meant to be a Durham male, representative of the superior state of livestock breeding in England. The breed, known for its high-quality beef, was imported to France in increasing numbers in the mid-nineteenth century, as Bonchamp informs his attentive charges. French agriculturalists were convinced that breeding Durham specimens with native French cattle would result in improved stock.¹⁵ The print and accompanying text thus reveal the traditional significance the animal had for peasant subsistence, while hinting at a future of accelerated husbandry developments, a tension that likewise animates Bonheur's scenes of farm labour.

Creaturely Labour in *Plowing in the Nivernais*

That such specialist concerns would enter into an elementary text is indicative of their significance for the Second Republic government. The emphasis placed on the animal's use value for the average peasant seems particularly apposite to the political moment. Not coincidentally, Bonheur's *Plowing in the Nivernais*, a Republican government commission and painterly ode to French cattle breeding, was produced in the same year (1849). The canvas was exhibited at the Salon to clamorous acclaim and purchased by the state for display at the Musée du Luxembourg in Paris. The painting depicts the first breaking of the soil in autumn and the oxen appear to be of various breeds. The red and white piebald steer (third from the right) represents the Morvan breed, which was quickly being replaced by the white Charlois variety and now no longer exists. As veterinary science professor André Sanson (French, 1826–1902) wrote after viewing the painting at the Salon, the Morvan cow 'will live in the memory for as long as works of art are conserved' thanks to Bonheur's meticulous efforts to replicate its appearance and place it in its native agricultural milieu.¹⁶ Writing in the late twentieth century, Bernard Denis, a zootechnician (a scientist studying animals from the perspective of agricultural economy), echoes this sentiment: 'Morvandelle cattle have completely disappeared and were only seldom represented; one can thus imagine of how much use and value Rosa Bonheur's painting is to the zootechnician.'¹⁷ Denis goes on to remark on the other breeds he hypothesizes to be in the painting: the cream-coloured animals are most likely Fémelins, another working breed found in the nineteenth century but no longer extant today. The white steers are pronounced to be Charolais-Nivernais crosses, a proclamation made with more confidence by the author, since the Charolais remains a source of high-quality beef in present-day France.¹⁸ Presciently, the stark whiteness of those animals immediately draws the eye and seems to overwhelm the other figures.

This level of attention to regional varieties would, most likely, have been a recent development in French representations of cattle. While provincial differences in bovine stock were noted in earlier epochs, the breeds were not exhaustively tabulated and maintained through husbandry practices the way they were in post-Revolutionary France.¹⁹ Even non-specialists lauded the ‘accuracy’ of Bonheur’s Nivernais oxen. As a critic writing under the pen name F. Lagenevais observed in the *Revue des Deux Mondes*:

Nothing could be simpler than this motif, which finds all its grace in the faithfulness of its details. Mademoiselle Bonheur paints the animals in a distinguished fashion and must be praised for having chosen a subject so well suited to her talents. The oxen are very skillfully drawn; they form a harmonious ensemble, pulling with shared purpose and vigour.

Although his review is largely favourable, he does make wry note of Bonheur’s romanticized approach to her subjects: ‘One might reproach the rather too exquisite rendering of their figures, but perhaps they are from a model farm, better combed and cared for than ordinary oxen.’²⁰ The perfection with which Bonheur depicts the breeds can appear as both the height of verism and a form of idealism: much like an ambitious practitioner of animal husbandry, she has attempted to reproduce the best possible livestock.

The quantity and quality of animal painting observed by Lagenevais at the Salon of 1849 prompted him to the conclusion that, ‘in truth, since our painters have become so adept at representing dogs, cats, and chickens, we [humans] have been less well-treated’.²¹ He then goes on to complain about the relative paucity of good portraits at the exhibition.²² The cows, as figured by Bonheur, were thus presented as the ultimate blessing to the French peasantry and economy at a moment when the representation of human subjects, particularly in the elevated registers of historical and religious painting, was confused and contested. Second Republic officials and artists struggled to compose a visual vocabulary of Republican sovereignty (entries from the contest held to create an allegorical representation of the Republic were famously the cause of much mockery among art critics of the period). In the Salon of 1848, more prizes were awarded to landscapists (thirty-six) and genre painters (forty-three) than history painters (fifteen), despite the traditionally greater prestige of the latter genre, indicating the growing pains of an artistic mode that long favoured subject matter flattering to the Church and the monarchy.²³

Plowing in the Nivernais also attracted the attention of period agriculturists like Louis Gossin, who was invested in both the promotion of traditional rural labour and its modernized improvement. Significantly, Gossin employed prominent *animaliers* (animal artists) to illustrate his encyclopedia, *L’Agriculture Française*, including Rosa Bonheur and her brother, Isidore (French, 1827–1901) (plate 6). These artists lent a decided prestige to the enterprise, particularly given Rosa’s contemporaneous fame. Gossin rhapsodized on the exalted vision of French agriculture that she presented in *Plowing in the Nivernais*. As he wrote in his encyclopedia:

Muse of pastoral painting, you who so effectively revived on the canvas the labourer of the Nièvre and his steer, please multiply your masterpieces so that posterity might once again familiarize itself with our present work, as if the old plough never ceased to traverse the fallow land.²⁴

The painting was appealing in its ability to suspend the passage of time, to encapsulate a fantasized, bygone vision of agrarian life. The solidity and hyper-naturalism

6 Rosa Bonheur, *Pyrenees Sheep*, 1858. Engraving (by A. Lavieille) in Louis Gossin, *L'Agriculture Française*. Paris: Bibliothèque nationale de France. Photo: Gallica.



of Bonheur's cattle is the focus, each animal identifiable as both an individual and a breed specimen, while the men that accompany them appear virtually indistinguishable from one another, faces hidden under broad-brimmed hats. The beasts have luxuriant fur that shines under the cloudless sky. Their bodies are fat and muscular yet imbued with grace. The large scale utilized by the artist allows the animals to appear simultaneously heroic and absurd. When approaching the painting more closely, the viewer notices the animals' vacant, wide-eyed stares and drool-coated snouts. The brilliant, sunlit tones both allow for a detailed display of the artist's considerable skill with bovine anatomy and a reassuring vision of contented labour.

As the Second Republic gave way to the authoritarian Second Empire, Bonheur's art continued to emphasize the muscular power of humble steers, moving among the provincial fields prepared and cleared by their efforts. Bonheur was initially fearful of the regime change, given her expressed sympathies with the prior government and its enthusiastic support of her work. Contrary to this expectation, Charles-Auguste-Louis-Joseph, duc de Morny (French, 1811–65), the half-brother of Napoleon III and head of the interior ministry, specifically requested a personal audience with Bonheur shortly after the official proclamation of the Empire to discuss her next major government commission. Asked to propose a new large-scale painting, Bonheur brought a number of sketches to a second meeting with the duke, including preparatory compositions for what would become *The Horse Fair* (1852–55). The latter were rejected by de Morny, who insisted that Bonheur instead produce the kind of pastoral bovine subject for which she was most renowned, noting that she was not (at the time) generally recognized as a painter of horses or urban scenes.²⁵ Indeed, the result of this request, *Haymaking in the Auvergne* (1855) (plate 7), hewed closely to her earlier motifs. The animals appear to be Salers cattle, beasts of burden known for their black or ruddy fur, lyre-shaped horns, and hardy temperament. They are the stolid central axis around which the spirited human activity in the painting revolves, their large, horizontal bodies anchoring the composition. Even as the Republic's heroization of working-class, rural labour faded from view, the French state's investment in its agricultural bounty and nostalgia for rural themes among an increasingly urbanized populace gave Bonheur's art a wide audience and ample patronage. In another such work, the 1854 *Ploughing Scene* (plate 8), we stand



7 Rosa Bonheur, *Haymaking in the Auvergne*, 1855. Oil on canvas, 215 x 422 cm. Fontainebleau: Château de Fontainebleau. Photo: Wikimedia Commons.

behind a plough team of oxen at work, watching them move the instrument with shared pains and purpose. The strain apparent in the left-hand ox's haunches, the pivoting muscles and bones discernable beneath its russet fur, weights the scene with a tangible gravity, a sense of slowly expended force. This heaviness is only relieved by the flitting presence of tiny birds pecking at the furrows left by the plough. The evenly lit, heat-stricken landscape – indicated in the stillness and inert vigil of the trees and haystacks – bespeaks paused time and ruminant mindfulness. Unlike *Plowing in the Nivernais*, *Ploughing Scene* shifts focus away from the expressive faces of the animals towards their herculean hind strength. Again, the human figure is ancillary at best compared to the exertions of the animals.

The emphasis on the animal figures gave Bonheur's paintings a political malleability, appropriate to both working-class, republican interests and to the sense of national dominance the Second Empire attempted to project through various projects of agricultural improvement. The priority afforded livestock development by the imperial government was made especially clear by the new agricultural expositions held under its aegis, which likewise gave Bonheur the opportunity to lend her artistic skills to scientific studies of animal husbandry and breed development, most notably Émile Baudement's *Races bovines*.

Rosa Bonheur's 'Highland Cow' and the Visual Typologies of Émile Baudement's *Races Bovines*

The nation's increased commitment to modernized agriculture at this historical juncture was manifested by the growth of *zootechnie*, or applied animal science, as an academic discipline. While natural history, as previously noted by Buffon, 'ended' where the study of human arts and industry began, *zootechnie* was dedicated to studying the relationship between human activities and animal physiology. Its primary aim was to promote profitable improvements to animal husbandry. The term can be traced back to as early as 1834, when it appeared in an essay by André Marie Ampère (French, 1775–1836), better known for his invention of the electrical telegraph and studies on electromagnetism. Ampère defined *zootechnie* as the science 'related to the usage or

agreement we obtain from animals, from whose work and upkeep we procure the first raw materials from the animal kingdom'.²⁶ While natural history was concerned with the observation of animal anatomy and habits in and for themselves, *zootechnie* focused on the complex intertwinings of human industry, economics, and the animal world.²⁷

Professor Émile Baudement, appointed the first chair of *zootechnie* at the Institut national agronomique at Versailles in 1849, was assigned to his post in the hopes of improving the quality of agricultural education in France. In 1861–62, he published his masterwork, an encyclopedic guide to European cattle breeds, *Les races bovines au concours universel agricole de Paris* (*Cattle Breeds at the Universal Agricultural Competition of Paris*).²⁸ In this text, written during the first agricultural contests held by the French imperial government in 1856, the author described breeds of cattle from Great Britain, Holland, Denmark, Switzerland, Germany, the Austrian Empire, and, of course, France. The first volume discusses bovine physiology and husbandry; the second contains the illustrations. An additional volume of writing on each individual breed was left unfinished following the author's early death.

Baudement's text is significant not only for the thoroughness with which it documented cattle breeds (it was, according to Baudement's obituarist, 'the most precious atlas in its genre') but also for the consideration that went into the commissioning and production of its illustrations, all planned meticulously by the author.²⁹ The list of artists included such luminaries as cattle painter Constant Troyon (1810–65) and animal sculptor Antoine-Louis Barye (1795–1875), as well as Rosa Bonheur and her brother, Isidore. The effort made to include France's best-known *animaliers* is a strong indication of the important part that the visual arts played in the enterprise. Given the relatively fluid and predominantly visual nature of how livestock were classified, images were essential to maintaining the idea of distinct 'breeds'. Visible markers like the lyre-shaped horns of Salers cattle or the heavy pelts of Highland cattle were defining criteria.³⁰

8 Rosa Bonheur, *Ploughing Scene*, 1854. Oil on canvas, 49.5 x 80.5 cm. Baltimore: Walters Art Museum. Photo: Walters Art Museum.



As Baudement wrote, ‘The descriptive part of this work requires illustrations which allow the reader to form an idea of the diverse breeds and to compare them with one another.’³¹ To this end, the author commissioned eighty-seven illustrated plates. Though he discussed other breeds in the text, the illustrations only show those specimens exhibited at the *concours*, such that he and the participating artists could physically measure and study them first hand. The exhibited breeds in *Races bovines* are presented in engraved and *heliogravure* plates (a photochemical reproduction technique), the majority of which were based on photographs taken by Adrien Tournachon (French, 1825–1903), also known as ‘Nadar jeune’. As his moniker implied, Tournachon was the younger brother of the more famous portrait photographer, Nadar (French, 1820–1910), and ran his own successful photography studio. (The use of the ‘Nadar’ alias ultimately became the subject of a lawsuit between the two siblings.³²) The role Tournachon played in the *Races bovines* project was significant enough to merit the inclusion of his name on nearly all the published engravings. To maintain a sense of mathematical uniformity and the comparative sizes of the different breeds, Baudement ordered that each photograph be taken at the same scale (‘75 millimètres pour 1 mètre’). This exactitude would, he hoped, provide the illustrators with tracings (‘*calques*’) that would prevent them from straying too far from the ‘raw data’ (‘*renseignements bruts*’) of the original photographs.³³ However, he felt that the photographic work could best be supplemented by the sketches and observations of ‘skilled artists’.

While Baudement insisted on mathematical precision in the rendering of the animals, artistic liberties were permitted in other respects. Most of the animals in the album stand in front of what appear to be their native landscapes, rather than the more pedestrian urban backdrops furnished by the agricultural *concours*. In each print, the original Parisian setting gives way to a recognizable regional landscape – for example, the Holland bull and cow are shown amidst the low, flat terrain of the Netherlands, while breeds from Switzerland and the southern Germanic states are surrounded by grandiose alpine heights – reasserting the animals’ status as expressions of distinctly nationalized approaches to the management of zoological resources. Bonheur and her cohort created images that were both documentary (portraying particular specimens found at the *concours*, after photographs) and broadly typological (placing those animals in their ‘native’ landscapes, eliminating any visible traces of the contest).

The *animaliers* hired for the *Races bovines* project were, it seems, commissioned by specialization, depicting the species and breeds for which their artworks were best known. Rosa Bonheur, for instance, furnished representations of the Salers and West Highland breeds (plate 9 and plate 10). Inspired by her six-month visit to Scotland, arranged by her agent, Gambart, to coincide with the touring British exhibition of *The Horse Fair* in 1856, Bonheur had produced many popular canvases depicting the latter breed.³⁴ Worried that her stay in Scotland would not provide sufficient time to study the Scottish cattle she so admired, Bonheur travelled to an agricultural fair at Falkirk to acquire her own specimens and have them shipped back to France. Sadly, the animals ultimately had to be resold in England, as their exportation ran afoul of customs laws and concerns about the spread of epizootic illness.³⁵ Works like *Highland Raid* (1860) nevertheless depict lovingly rendered, multicoloured herds of the beasts as they graze, wander, and anxiously escape storms in gusty, picturesque Scottish landscapes. The *Highland Cow* and *Highland Bull* engravings from *Races bovines* likewise show the degree of exactitude with which the artist was able to portray the breed. The prints forgo the windswept romanticism of the paintings, while retaining lightly sketched hints of the Scottish countryside; the statuesque bulls gaze thoughtfully at a seaside scene, while the females occupy a scrubby field. The Highland setting reinforces the breed’s identity as much as its appearance, emphasizing, as Baudement had it, the creature’s ‘milieu’.³⁶ Whorls of light and dark fur



9 Rosa Bonheur, West Highlands Bull, 1861–62. Engraving in Émile Baudement, *Races bovines*. Paris: Bibliothèque nationale de France. Photo: Gallica.

intermingle on the animal's staunch, stout bodies, giving the beasts their characteristic texture and mass. The inclusion of multiple breed specimens provides the observer with both frontal and profile views. The udders and testes of the creatures are made deliberately visible despite their abundant fur, emphasizing the importance of distinguishing sex, as well as breed, to Baudement's project. The preoccupation with reproduction is made especially apparent by the preponderance of *taureaux* (bulls) as opposed to *boeufs* (oxen/castrated males) in both the textual descriptions and the illustrations.

Baudement leveraged his choice of artists as yet another proof of the high degree of representational accuracy found in his publication. The images captured through photography could only be enhanced through the trained eye of a dedicated *animalier* like Bonheur, even as Baudement rejected any attempt at correcting perceived 'defects' in order to achieve the picture of an ideal specimen type.³⁷ The artists seem to have complied, presenting cattle bristling with veins, misshapen musculature and folds of fat overhanging their necks and haunches. Their appearance is nonetheless regal, the rural landscapes acting as pedestals for their imposing forms.

In this respect, Baudement's work conformed with the notion of 'mechanical objectivity' that Lorraine Daston and Peter Galison attribute to much late nineteenth-century scientific imagery. Producers of 'mechanically objective' illustrations took as their goal the presentation of the object of study as a unique individual, rather than an ideal specimen through which to measure and classify all other objects of the same genre. As Daston and Galison write, 'By *mechanical objectivity* we mean the insistent drive to repress the willful intervention of the artist-author, and to put in its stead a set of procedures that would, as it were, move nature to the page through a strict protocol, if not automatically.'³⁸ This involved

using techniques like tracing and photography ‘that were supposed to preserve form from the world onto the page, not to part the curtains of experience to reveal an ur-form’, or ideal type, as eighteenth-century scientific illustrators often aimed to do.³⁹ However, the authors are careful not to conflate this regime of image making with the invention of photography, noting that similar procedures were employed in lithography and other reproductive techniques. Baudement’s text, appearing in the middle of the century before many of these trends in scientific illustration completely took hold, seems a prescient example of such ‘objectivity’. At the same time, the employment of trained *animaliers* suggests a continued interest in a kind of aesthetic perfectibility, or alternatively, a sense that the *animalier* possessed her own form of specialized zoological knowledge that straightforward engraved reproductions of photographs could not convey. As Baudement wrote:

I have attempted, in a word, to obtain faithful portraits, in which one will first notice the individual animal, then its breed. The artists, who would agree with these views, have produced drawings that reveal all the virtuosity of their pencils, and a profound sentiment of especial verity, which it was their task to convey. When I mention Mademoiselle Bonheur and Messieurs Barye, Troyon, Van Marcke, Mélin, Isidore Bonheur, and Villamil, it will be admitted that I could not employ talents more proven and illustrious.⁴⁰

10 Rosa Bonheur, West Highlands Cow, 1861–62. Engraving in Émile Baudement, *Races bovines*. Paris: Bibliothèque nationale de France. Photo: Gallica.

The artists were not only illustrators, but rather, Baudement implies, participants in the process of zootechnic classification, ‘translating reality’ with their pencils. The



sensitivity and ‘profound verity’ with which illustrations like Bonheur’s ‘Highland Cow’ imbued the animals was not, however, meant as a disincentive to their instrumentalization. Baudement regarded the animal body as a machine, though in a decidedly different sense from earlier authors like René Descartes.⁴¹ The machinic character of the animal was emphasized for the sake of economic efficiency, rather than, as in Cartesian philosophy, a means of proving the singularity of divine human souls in an otherwise purely material, clockwork nature. Per Baudement, the animal offers products (milk, meat, physical force) for a certain expenditure (feed, lodging).⁴² The English, he claimed, were particularly skilled at a new, ‘industrial’ form of raising cattle. Rather than using the animals for multiple purposes, as French farmers often did, breeds were specifically cultivated to perform one function, the most notable example being the Durham, famed for its ability to put on weight and resultant high-quality beef.

Nonetheless, Baudement was cautious in attributing too great a role to human agency in the process of breed development. He altogether rejected the traditional distinction, often made by period agricultural writers and natural historians, between ‘natural’ and ‘artificial’ breeds, the latter term designating animal types that only exist in captivity. Man, according to Baudement’s position, can only watch over the actions of nature and mate animals according to his knowledge of observed scientific laws. Thus, he merely guides nature rather than designing new breeds or species.⁴³ Yet, given recent developments fostered by industrialization and urbanization, Baudement argued that a pure ‘state of nature’ no longer existed (*l’état de nature n’existe plus*) and thus the notion of a purely ‘natural’ species was likewise problematic. He wanted to substitute for the natural–artificial dichotomy one of ‘primitive’ and ‘industrial’ breeds. While ‘primitive’ breeds have been (mostly) left to their own devices, industrial breeds have been carefully monitored by humans and harnessed for their use. In essence, Baudement replaced a cultural–geographic distinction with a progress-based chronology amenable to nineteenth-century European capitalist growth. In parallel with colonialist ideology, ‘primitive breeds’ could, Baudement insinuated, become ‘industrial’ through societal and scientific advances.

This industrialized vision of agricultural development was decidedly less sentimental than the picture of the cultivator’s life found in Gossin’s *L’agriculture française* (the first edition of which appeared in 1858, just a few years prior to *Races bovines* in 1862). In this text, Gossin extolled the benefits of farm life for familial harmony and personal fulfilment: women worked in the home and men in the fields, as ‘nature intended’; having numerous children was a source of additional workers rather than presenting ‘mouths to feed’ as was often the case in French cities; the steward of the earth functioned as the ideal patriarch (*père de famille*).⁴⁴ As the author asserted in the introduction to his manual, every educated man should take an interest in agriculture as the practice that sustains human life and forms the core network of social relations.⁴⁵

As indicated by the examples of Gossin and Baudement, agriculture in Second Empire France was viewed as both preserving the past organic unity of the family, threatened by urbanization and the movement of rural workers into cities, and as a means and object of industrial improvement for a more efficient and better-ordered future society. Despite the different tones and moral frameworks with which they approached the subject, the authors concurred on the importance of public instruction, both within the university system and through the publication of specialist texts, to agricultural progress in France. Furthermore, they both

utilized the talents of major *animaliers* to bolster the prestige of their projects. Bonheur, whose unconventional lifestyle appears today to be thoroughly at odds with the stringently heteronormative values of Gossin on the one hand and Baudement's appetite for the 'industrial' development of nature on the other, nonetheless created paintings and prints that aligned with desires for both idealized rural equilibrium and capitalist 'improvement'. Her precisely detailed depictions of cattle allowed the viewer to form an exact conception of what particular breeds 'should' look like. This fixation on regional livestock types took on an increasingly global scale as the century progressed, with French agricultural scientists expanding the purview of their research to the 'acclimatization' of species from outside Europe.

Rosa Bonheur's Yak and the *Jardin d'Acclimatation*

Bonheur's involvement in the projects of agricultural science was not limited to European breeds, as French diplomacy and colonial conquests quite literally 'brought home' an assortment of non-native fauna. She participated as a *Dame Patroness* in the *Société zoologique d'acclimatation*, a scientific organization dedicated to the importation and adaptation of foreign animals to France, as well as the better upkeep of French species in its colonial outposts.⁴⁶ (Women were not allowed to be full members or attend meetings but could offer financial support under the 'patroness' title.) The *Société zoologique d'acclimatation* (1854–present) was founded by the natural historian Isidore Geoffroy Saint-Hilaire (French, 1805–61) to expand the range of species used in French agriculture, hunting, and textile production. To this end, both wild animals and already tame varieties were imported to Europe. Similar scientific efforts were made to better adapt European animals (human and otherwise) to life in colonial settlements, particularly in tropical regions considered inimical to the 'Caucasian' race. The society's membership was internationally open, including interested individuals from the French colonies, Asia, Africa, and other European nations.⁴⁷

Under the auspices of the society, the *Jardin d'acclimatation*, which served as a site of display for species targeted for acclimatization, was opened in the Bois de Boulogne in Paris in 1860. (The space continues to exist today in the form of a children's amusement park and petting zoo.) The *Jardin* was privately owned but enthusiastically patronized by Napoleon III, who donated many diplomatic gifts of exotic animals and plants to the venture. Geoffroy Saint-Hilaire was thus given extensive government support for the acclimatization society. His cause was no doubt bolstered by his formidable scientific pedigree: his father was Étienne Geoffroy Saint-Hilaire (French, 1772–1844), who was famous for his defence of evolutionary theory in a widely publicized series of debates with Georges Cuvier in 1830.⁴⁸

In contrast with his theoretically minded father, Isidore was chiefly preoccupied with pragmatic applications of zoology, as reflected by the activities of the *Société*. The organization was composed of an international group of professional scientists, doctors, veterinarians, landowners, and interested amateurs. Meetings were held in Paris, but publications and meeting minutes were distributed throughout Europe and the French colonies. Other countries and the French provinces had their own regional acclimatization societies with which the Paris branch collaborated. Affiliates were found in locales as wide-ranging as Alexandria, Sicily, Moscow, Berlin, and the colonies in Algeria, Martinique, Guadeloupe, and French Guiana.⁴⁹ Landowning members were encouraged to contribute to the acclimatization process by raising

and breeding species acquired by the *Société* on their private farmland. In turn, they were expected to report back to the society on the animals' health and reproductive activities – failure to do so would result in the revocation of further animal acquisition privileges.⁵⁰

In the preface to *Acclimatation et domestication des animaux utiles* (1861), Isidore Geoffroy summed up the ways in which this project distinguished itself from natural history of the kind practised at the *Muséum national d'histoire naturelle*, where his late father was employed. He declared that observations about animal physiology, which formed the descriptive aim of earlier natural histories, should be capitalistically deployed to produce 'resources, powers, new riches'.⁵¹ Unlike the animals in the *Jardin des plantes*, the creaturely inhabitants of the *Jardin d'acclimatation* were not only raised and bred for scientific and recreational observation but also for commercial, agricultural purposes. Nonetheless, they certainly fulfilled a spectacular function as well: located in the wealthy, fashionable Neuilly-sur-Seine neighbourhood, the gardens were a popular site of upper-class leisure.⁵²

Though Bonheur herself made few official contributions to the *Société*, she received favourable mention in its monthly bulletin from February 1862. The author of the text noted that her letter of thanks for her newly appointed *Dame Patroness* status was read aloud to the assembled membership in Paris and that she pledged to assist the society through the use of her pencils.⁵³ She was already well known by then for her extensive documentation of French regional breeds, including the Salers oxen of Cantal, the Percheron horses of Normandy and the Charolais and Morvan cattle of *Plowing in the Nivernais*.⁵⁴ Her illustrations for Gossin and Baudement likewise demonstrated a sensitivity to the representational forms desired by agriculturists. Such skills could, it was hoped, be applied to animals that the *Société* wished to adapt to a French setting. The spoils of globalized trade networks could thus be proudly placed on view, in both the *Jardin* and its artistic representations.

In 1863, an illustration of yaks by Edouard Riou after a sketch by Rosa Bonheur appeared in the *Jardin d'acclimatation illustré*, a publication on the activities of the *Société* aimed at a lay audience (plate 11). In her design, as engraved by Jean Baptiste Charles Carbonneau (French, b. 1815), three of the animals appear in their full-figured, fluffy glory. A piebald yak is shown in profile view (typical of natural history illustrations) in front of two resting white companions. The nondescript background implies the potential for acclimatization – the animals could be anywhere. In this respect, the image strongly contrasts with what was then the most notable depiction of the species in Western art: George Stubb's portrait of Warren Hasting's yak (plate 12) of 1791. This painting located the animal in an imaginary version of the landscape surrounding Punakha Dzong, the summer palace of Bhutan. Sumptuous and sinuous, the blue-tinted, mountainous wilderness emphasizes the creature's exoticism. In this way, Stubbs strongly evoked the animal's original habitat, even though the yak resided at the time in England with Hastings, a former official of the colonial government in India.⁵⁵ Conversely, Bonheur's yaks inhabit an ambiguous space of potential adaptation. Their shaggy bodies are the visual focal points, tantalizing the viewer with their possible use in textile production and farm labour. No doubt this is in part due to the different conventions of painting and natural history illustration, the latter being characterized by its sparse backgrounds. Nevertheless, the familial grouping of the animals and attention to their postures adds an element of personality otherwise missing in many strictly 'scientific' images. The lovingly detailed textures make them seem comfortably familiar.⁵⁶ Given the particularly high hopes pinned on the acclimatization of the yak, the involvement of a well-known artist like Bonheur in its

II Edouard Riou after Rosa Bonheur, *Yaks Sent by M. Montigny*, c. 1860. Engraving (by Jean-Baptiste-Charles Carboneau) in *Jardin d'acclimatation illustré*. Paris: Bibliothèque nationale de France. Photo: Author.



illustration may well have served a promotional purpose. (Possessing her very own yak as a model no doubt helped.)

One of the pet projects of the *Société d'acclimatation*, the introduction of the yak from China was seen as having potentially wide-ranging effects on France's agricultural production. The first issue of the *Jardin d'acclimatation illustré* (1863) made this clear through its extended, breathlessly eager discussion of the species, which until that point was, the publication claimed, 'little studied by [Western] naturalists'. It was brought to the attention of scientists by the French consul in Shanghai, Charles de Montigny (1805–68), who had twelve of the beasts sent to his home country in 1854, underwriting the costs with the assistance of the duc de Morny.⁵⁷ This group had, through breeding, expanded to thirty animals nearly a decade later. The creature was praised for its ability to serve as a beast of burden, source of fur for textiles, mount, and fount of milk, all while consuming relatively little in the way of food or other resources. It was thus, Geoffroy Saint-Hilaire judged, ideally suited to becoming 'the cow of the impecunious, just as the donkey is the horse of the poor', especially in the Alpine countryside.⁵⁸ There, it could serve, as natural historian Jean Louis Armand de Quatrefages de Breau (French, 1810–92) put it, as 'horse, sheep, and cow' all in one, reducing the number of animals which peasant farmers would need to raise and maintain.⁵⁹ The yak was viewed as 'exotic' while also possessing many commonalities with the domestic cattle breeds more frequently depicted by Bonheur. The bovine figure, as described by naturalists and represented in pastoral painting, appeared as a creature of abundance, of the continual enrichment of the earth and French wealth. The conception of the yak as a consummately efficient animal, providing returns even greater than the labour and costs invested in its upkeep, echoes the Comte de Buffon's discourse on the steer/cow ('le boeuf') in volume four of the *Histoire naturelle*. Indeed, these sentiments about the cow were reiterated in the pages of *Jardin d'acclimatation illustré*, where that creature was once again pronounced the 'most useful' domesticated species.⁶⁰

In reality, the breeding project was largely a failure and the yak never saw widespread use in France. Following its introduction into the Parisian *Jardin*

d'acclimatation, many of the specimens were moved to the more suitable climes of Grenoble, where they unfortunately also failed to thrive.⁶¹ The experiment was later a source of derision and disillusionment in the notion of acclimatization, as several sneering German accounts suggest. In *Die Naturgeschichte des Thierreichs* (1859), German zoologist Christian Giebel (1820–81) mockingly cited the hyperbolic claims of French scientists: 'The silk-furred steer of the Asiatic mountains, the yak of the Tartars, would become our only transport and pack animal, would bring us clothing, nourishing milk, fatty butter, and flavorful meat.' The author goes on to dispute journalists' claims about the lack of previous Western documentation on the yak, noting that Marco Polo himself had written about the animal during his travels.⁶² The yak, in Giebel's comically exaggerated discussion, becomes the only necessary mammalian livestock, predicted to surpass, and even replace, all other domestic bovids and equines. The promise of the yak thus travelled beyond the borders of France, even though the project never truly gained purchase, even in its country of origin, where the animals did not reproduce in significant numbers.

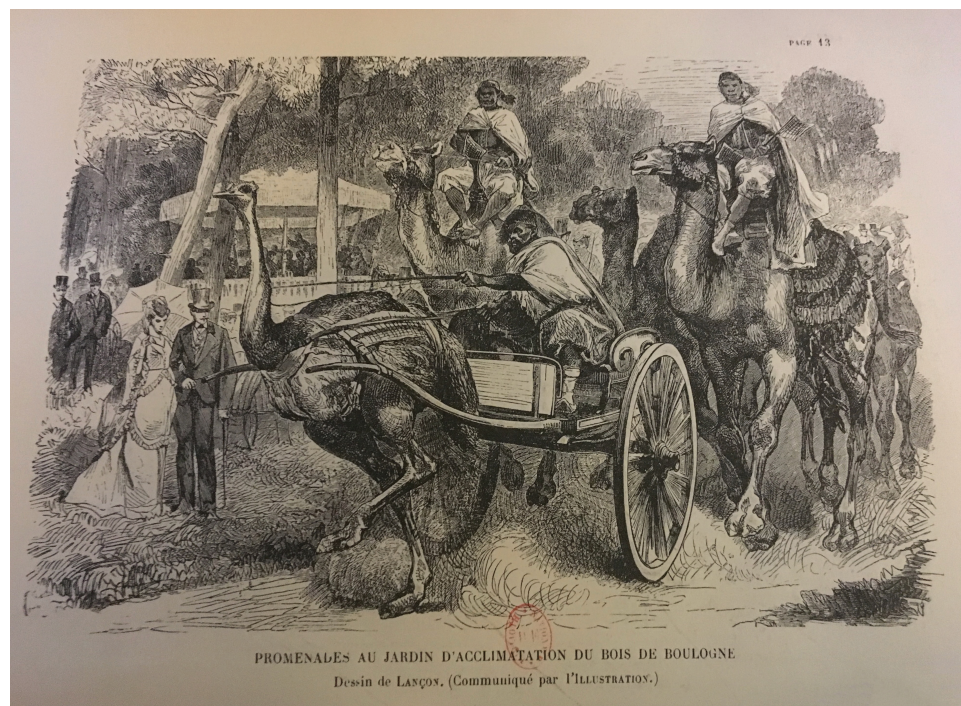
Rosa Bonheur's yak ownership and the illustration for the *Jardin d'acclimatation* journal point towards her complicity in the Second Empire's peculiar attempts to capitalize on its international trading power and colonial activities (while China was not itself a French colony, it was, following the Opium Wars, increasingly subject to unequal military and trade relations with France and other European powers). As revealed in a period illustration (plate 13), the acclimatization gardens, beginning in the 1870s, increasingly combined aspects of the traditional zoological garden with the anthropological exhibition, displaying colonized subjects alongside the animals in the full spirit of dehumanized exoticism. A white bourgeois couple gawks at the African men riding camels and steering the ostrich-driven carriage in much the same manner that they would have observed the caged beasts. The *L'illustration* article to which the image was



12 George Stubbs, Warren Hasting's Yak, 1791. Oil on canvas, 57 x 73 cm. Private collection. Photo: Hunterian Museum, Royal College of Surgeons of England.

originally attached describes how an 'Arab' man named Sad, pictured driving the ostrich carriage, and two Sudanese black men, Atman and Salem, shown riding the dromedaries, were sent by French General de Lacroix-Vaubois alongside a shipment of animals, as 'prisoners of war' captured during a colonial military campaign in southern Algeria. The text notes that the men were retained for their skills in training and maintaining the dromedaries and ostrich, pointing to forms of knowledge that were little credited in Western scientific literature as compared to the work of the European natural historians heading the acclimatization movement. Indeed, it was Sad who devised the ostrich-drawn conveyance that appears so frequently in period illustrations of the *Jardin d'acclimatation* and may have served as a source of income for the enterprise (a guide to the gardens published in 1877 notes that rides in the ostrich carriage cost fifty centimes).⁶³ Later in the century, the *Jardin* began to host human exhibitions of Nubian, Kalmyk, and other individuals considered 'exotic' by Western audiences.

Bonheur's paintings likewise play upon such tropes, as she evinced a particular fascination with Buffalo Bill's Travelling Show and the Native tribes of the Western United States, which she first encountered at the Paris World's Fair of 1889. There, she sketched both Native American subjects and their animal companions. She even appeared in an exceedingly strange advertisement for the Wild West Show (plate 14) alongside the very deceased Napoleon Bonaparte and Buffalo Bill, further solidifying her affiliation with empire, colonialism, and the power that her representations could exert within these hegemonic tendencies – 'Art perpetuating fame', as the poster proclaims. Bonheur was vocally opposed to the genocidal elimination of Native American people then being carried out by the United States government, but was nevertheless drawn to an exploitative, commercialized consumption of their culture in the form of the Wild West show.⁶⁴ Bonheur's practice, in uneasy alignment with imperialism, supported by both Republican and Second Empire governments, driven by empathy for her animal companions but also enmeshed in their capitalist exploitation, presents an intriguing case study in contradictions.



13 Lançon, *Untitled*, c. 1873. Lithograph from *Promenades au Jardin d'Acclimatation du Bois de Boulogne*. Paris: Bibliothèque nationale de France. Photo: Hathi Trust.



14 Poster for *Buffalo Bill's Wild West and Congress of Rough Riders of the World*, 1898. Chromolithograph, 72 × 105 cm. Washington, DC: Library of Congress. Photo: Library of Congress.

The yak illustration was perhaps only possible under these contractions and bizarre social-historical confluences.

Conclusion

In the long nineteenth century, the cow, often discussed in the history of European art as a figure of aesthetic stasis, served to mark significant temporal shifts brought about by colonialism, capitalism, and industrialization, as the dynamic depictions produced by Bonheur so vividly reveal. In her canvases, the seemingly anodyne, mundane creature becomes emotively and symbolically charged, reflecting the artist's intimate knowledge of both the animals themselves and contemporaneous trends in animal husbandry and the 'exotic' animal trade. The 'breeding forward' of 'improved' livestock and newly acclimatized species helped create ruminant bodies that registered major shifts in human history. The animals embodied ecological superabundance, signifying the future possibilities of industrialized farming and peasant-class subsistence. Their representations in Bonheur's oeuvre are suffused with a sunlit nostalgia that belies their instrumentalization. Imported and 'improved' bovids were meant not only to inhabit but to renew the continental landscape. This was only further emphasized by the degree of naturalistic exactitude with which Bonheur depicted these animals, as bovine imagery provided one of the models that allowed for the perfection of form and function that so preoccupied farmers and scientists of the mid-nineteenth century. She represented cattle as the well-fed creaturely engines of both economic progress and environmental redress. The relentless impetus of capitalist industrialization, international competition, and colonialism could thus seem to comfortably coexist with the preservation of familiar French agricultural folkways.

Notes

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- 1 Judith Cernogora, *Rosa Bonheur: l'éloge du monde animal*, Rouen, 2015, 15.
- 2 Georges Petit, *Catalogue des Tableaux par Rosa Bonheur dont la vente aura lieu à Paris par suite de son décès*, Paris, 1900.
- 3 Marie Borin, *Rosa Bonheur, une artiste à l'aube du féminisme*, Paris, 2011, 252.
- 4 Borin, *Rosa Bonheur*, 159.
- 5 Representative instances of this literature include Dore Ashton, *Rosa Bonheur: A Life and a Legend*, New York, 1981; Danielle Digne, *Rosa Bonheur ou l'insolence: histoire d'une vie*, Paris, 1980; James M. Saslow, 'Disagreeably Hidden: Construction and Constriction of the Lesbian Body in Rosa Bonheur's Horse Fair', in *The Expanding Discourse: Feminism and Art History*, ed. Norma Broude and Mary Garrard, New York: HarperCollins, 1992, 187–205; and Gretchen van Slyke, 'The Sexual and Textual Politics of Dress: Rosa Bonheur and Her Cross Dressing Permits', *Nineteenth-Century French Studies*, 26: 3 and 4, Spring and Summer 1998, 321–335.
- 6 Michael S. Quinn provides an astute analysis of how this genre of imagery helped establish the visual characteristics associated with the cattle breeds, which were just beginning to be thoroughly documented in eighteenth- and nineteenth-century Britain. Michael S. Quinn, 'Corpulent Cattle and Milk Machines: Nature, Art and the Ideal Type', *Society and Animals*, 1: 2, January 1993, 145–156. For a comprehensive history of English livestock portraits as a genre, see Elspeth Moncrieff et al., *Farm Animal Portraits*, Woodbridge, 1996. For a classic discussion of the class politics of prize cattle in eighteenth- and nineteenth-century Britain, see Harriet Rivo, 'Barons of Beef', in *The Animal Estate: The English and Other Creatures in the Victorian Age*, Cambridge, MA, 1987, 45–81. A rich literature around the topic of British animal breeding and meat production has recently developed in the history of science, as books such as Rebecca J. H. Woods' *The Herds Shot Round the World: Native Breeds and the British Empire, 1800–1900*, Chapel Hill, 2017, and Chris Otter's *Diet for a Large Planet: Industrial Britain, Food Systems, and World Ecology*, Chicago, 2020, attest.
- 7 For a comprehensive treatment of Anton Braith's life and work, see Uwe Degreif, *Anton Braith: Tiermaler in München, Lindenberg im Algäu*, 2005.
- 8 Amy Walsh, Edwin Buijsen, and Ben Broos. Paulus Potter: *Paintings, Drawings and Etchings*, The Hague, 1994, 74; James Kearns, *Théophile Gautier, Orator to the Artists: Art Journalism in the Second Republic*, London, 2007, 55; Charles Blanc, 'Paul Potter', in *Histoire des peintres de toutes les écoles. École hollandaise*, Paris, 1863, 7–8.
- 9 Bernard Davis, *Les vaches ont une histoire*, Paris, 2016, 5.
- 10 Davis, *Les vaches ont une histoire*, 6.
- 11 Linda Nochlin, *Realism*, Harmondsworth, 1971, 113.
- 12 George Louis Leclerc, comte de Buffon, *Histoire naturelle par Buffon: quadrupèdes*, Paris, 1799, 197. 'La corne de cet animal est le premier vaisseau dans lequel on ait bû, le premier instrument dans lequel on ait soufflé pour augmenter le son, la première matière transparente que l'on ait employé pour faire des vitres, des lanternes et que l'on ait ramollie, travaillé moulée pour faire des boîtes, des peignes, et mille autres ouvrages: mais finissons, car l'histoire naturelle doit finir où commence l'histoire des arts.'
- 13 Pascale Heurtel and Michelle Lenoir, *Les vélin du Museum national d'Histoire naturelle*, Paris, 2016.
- 14 'Vous voyez, combien la vache est un animal utile; souvent son produit est presque la seule ressource de toute une famille de bons paysans. Ce serait donc un animal déjà bien précieux pour l'homme, quand bien même il ne lui donnerait que du lait.' Maître Cam, 'La Vache', in *La revue de l'éducation nouvelle à Paris*, 1, February 1849, 55–56.
- 15 Denis, *Les vaches ont une histoire*, 6.
- 16 Borin, *Rosa Bonheur*, 123.
- 17 'Les bovins Morvandiaux ont totalement disparu et n'ont été que fort peu représentés: on imagine donc combien cette toile de Rosa Bonheur est utile au zootechnicien.' Bernard Denis, 'Les races d'animaux domestiques dans l'oeuvre de Rosa Bonheur', in *Rosa Bonheur (1822–1899)*, ed. Francis Ribemont, Bordeaux, 1997, 147.
- 18 Denis, 'Les races d'animaux'.
- 19 Denis, 'Les races d'animaux', 6.
- 20 'Rien de plus simple que ce motif, qui tire toute sa grace de la fidélité des détails. Mlle Bonheur peint les animaux d'une façon distinguée, et il faut la louer d'avoir su choisir un sujet qui lui permettait de déployer ses moyens. Ses bœufs sont très habilement dessinés; ils se groupent bien, tirent avec ensemble et vigoureusement. On pourrait bien leur reprocher un soin trop exquis de leur personne, mais ce sont peut-être des bœufs de ferme-modèle, mieux étrillés que des bœufs du commun.' F. de Lagenevais [Henry Blaze de Bury], 'Le Salon de 1849', *Revue des deux mondes*, 3, 1849, 585.
- 21 Lagenevais, 'Le Salon de 1849', 586.
- 22 Lagenevais, 'Le Salon de 1849', 587–588.
- 23 For further discussion of art production in the wake of the 1848 revolutions, see T. J. Clark, *The Absolute Bourgeois: Artists and Politics in France, 1848–1851*, London, 1982.
- 24 'Muse de la peinture champêtre, vous qui faites si bien revivre sur la toile le laboureur de la Nièvre et ses boeufs, multipliez donc vos chefs-d'oeuvre, afin que la postérité puisse encore se familiariser avec nos travaux actuels, si jamais l'antique charrue cesse de sillonner nos guérets.' Louis Gossin, *L'agriculture française: principes d'agriculture appliqués aux diverses parties de la France*, Paris, 1858, 90.
- 25 Anna Klumpke, *Rosa Bonheur, sa vie, son oeuvre*, Paris, 1908, 221–225.
- 26 'la science relative à l'utilisation ou à l'agrément que nous retirons des animaux, aux travaux et aux soins par lesquels nous nous procurons les matières premières tirées du règne animal.' Roland Jussiau, Louis Montméas, and Jean-Claude Parot, *L'élevage en France: 10,000 ans d'histoire*, Dijon, 1999, 361.
- 27 Jussiau et al., *L'élevage en France*. The term was popularized in an agricultural treatise written by the comte de Gasparin in 1843, in which the author presented agricultural science (pertaining to crops) and *zootechnie* (pertaining to animals/animal husbandry) as two distinct fields, thereby recusing himself from treating of animal subjects in his text.
- 28 Émile Baudement, *Les races bovines au Concours universel agricole de Paris en 1856*, Paris, 1861–62.
- 29 *Notice sur la vie et sur les travaux d'Émile Baudement, professeur au Conservatoire impérial des arts et métiers*, Paris, 1864, 12.
- 30 Period treatises on cattle breeds noted the difficulty of establishing a systematic way of labelling breeds, especially when the animals were usually bred and purchased on the basis of outward appearances, rather than internal anatomy. Agricultural scientist Dr Adolf v. Rueff extensively discusses the arbitrary, superficial nature of breed designations in *Beschreibung der Racen des Rindes: Deren Entwicklung, Verbreitung und Nutzungen*, Stuttgart, 1877.
- 31 Baudement, *Les races bovines*, LXXII.
- 32 The elder Nadar ultimately succeeded in claiming sole ownership of the name. Félix Nadar, *When I Was a Photographer*, trans. Eduardo Cadava and Liana Theodoratou, Cambridge, MA, 2015, 230.
- 33 Baudement, *Les races bovines*, LXXIII.
- 34 As Frances Fowle notes, 'From 1857 until 1868, she [Bonheur] painted on average at least one Scottish subject a year, culminating in a minor retrospective at the Salon of 1867, when she exhibited five Scottish works: *The Highland Shepherd* (1859), *A Highland Raid* (1860), *Ponies of Skye* (1861), *Changing Pasture* (1863), and *Oxen and Cows* (1867).' Many of these Scottish tableaux featured the West Highland breed as central figures. The popularity of these works, particularly in Britain, was furthered

- by extensive printed reproductions. Frances Fowle, 'Picturing the Highlands: Rosa Bonheur's Grand Tour of Scotland', *Journal for the Scottish Society for Art History*, 18, 2013, 44–45.
- 35 Klumpke, Rosa Bonheur, *sa vie, son oeuvre*, 236–240.
- 36 For a thorough and fascinating discussion of the associations drawn between the livestock breeds of the United Kingdom and their 'native' landscapes in the nineteenth century, see Woods, *The Herds Shot Round the World*.
- 37 Baudement, *Les races bovines*.
- 38 Lorraine Daston and Peter Galison, *Objectivity*, New York, 2007, 121.
- 39 Daston and Galison, *Objectivity*.
- 40 'J'ai essayé, en un mot, d'obtenir des portraits fidèles, où l'on retrouvât l'individu d'abord, puis la race sous l'individu. Les artistes, qui ont bien voulu accepter ces vues, ont produit des dessins où se révélait toute l'habileté de leur crayon, et un sentiment profond de la vérité spéciale qu'il s'agissait de traduire. Quand j'aurai nommé, avec Mademoiselle Bonheur, MM. Barye, Troyon, Van Marcke, Mélin, Isidore Bonheur et Villalmil, on avouera que je ne pouvais ambitionner le concours de talents plus éprouvés et même plus illustres.' Baudement, *Les races bovines*, LXXIII.
- 41 Baudement, *Les races bovines*, 8. René Descartes, *Discourse on Method*, trans. Desmond M. Clarke, New York, 1999.
- 42 Baudement, *Les races bovines*, IV.
- 43 Baudement, *Les races bovines*, V.
- 44 Louis Gossin, *Agriculture française*, Paris, 1874, 1–2.
- 45 Gossin, *Agriculture française*.
- 46 Société impériale zoologique d'acclimatation, *Guide du promeneur au Jardin zoologique d'acclimatation*, Paris, January, 1865, 7.
- 47 Michael Osborne, *Nature, the Exotic and the Science of French Colonialism*, Bloomington, 1994. For more on the acclimatization movement, particularly as it related to the hygiene of white colonizers in Africa and the tropics (most of this literature addresses the maintenance of human life, with only occasional references to animals), see Warwick Anderson, 'Climates of Opinion: Acclimatization in Nineteenth Century France and England', *Victorian Studies*, 35, Winter 1992, 135–157; Pascal Grosse, *Kolonialismus, Eugenik und bürgerliche Gesellschaft*, Frankfurt am Main, 2000; Pascal Grosse, 'Turning Native? Anthropology, German Colonialism, and the Paradoxes of the "Acclimatization Question", 1885–1914', in *Worldly Provincialism: German Anthropology in the Age of Empire*, ed. H. Glenn Penny and Matti Bunzl, Ann Arbor, 2003; Eric T. Jennings, *Curing the Colonizers: Hydrotherapy, Climatology and French Colonial Spas*, Durham, NC, 2006; and David N. Livingstone, 'Tropical Climate and Moral Hygiene: The Anatomy of a Victorian Debate', *British Journal for the History of Science*, 32, March 1999, 93–110.
- 48 See Toby Appel, *The Cuvier-Geoffroy Debate: French Biology in the Decades Before Darwin*, Oxford, 1987.
- 49 Michael Osborne, *Nature, the Exotic and the Science of French Colonialism*.
- 50 Azur Dutil, ed., *Le jardin d'acclimatation illustré, par une réunion de savants et d'hommes de lettres. Dessins de Riou. Gravures de nos plus célèbres artistes paraissant les 5 et 20 de chaque mois*, Paris, 1863.
- 51 Isidore Geoffroy Saint-Hilaire, *Acclimatation et domestication des animaux utiles* (4^{ème} édition entièrement refondue et considérablement augmentée et contenant l'historique des travaux faits et des résultats obtenus depuis la création de la société impériale d'acclimatation), Paris, 1861, VIII.
- 52 For more demographic information on the visitors to the Jardin des plantes and Jardin d'acclimatation, see Jean-Michel Derex, *Les zoos de Paris: histoire de la ménagerie du Jardin des plantes, du Jardin d'acclimatation et du zoo de Vincennes*, Prahecq, 2012.
- 53 *Bulletin mensuel de la société impériale zoologique d'acclimatation*, Paris, 1862, 236–237.
- 54 Bernard Denis, 'Les races d'animaux domestiques dans l'oeuvre de Rosa Bonheur', in *Rosa Bonheur (1822–1899)*, ed. Francis Ribemont, Bordeaux, 1997, 147.
- 55 Judy Edgerton, *George Stubbs, Painter*, New Haven, 2007, 520.
- 56 Osborne, *Nature, the Exotic and the Science of French Colonialism*.
- 57 Osborne, *Nature, the Exotic and the Science of French Colonialism*, 29.
- 58 Isidore Geoffroy Saint-Hilaire, *Acclimatation et domestication des animaux utiles*, 295.
- 59 Isidore Geoffroy Saint-Hilaire, *Acclimatation et domestication*, 294.
- 60 Dutil, *Le Jardin d'acclimatation illustré*, 84–86.
- 61 Dutil, *Le jardin d'acclimatation illustré*, 84–86.
- 62 Christopher Gottfried Giebel, *Die Naturgeschichte des Thierreichs. Erster Band: Die Säugethiere mit 926 Abbildungen*, Leipzig, 1859, 430–431. 'Vor einigen Jahren ging von Frankreich aus die frohe Botschaft durch Europa, daß ein neues Haushier eingeführt sei, welches Pferd und Rind zugleich ersetze, ja das mehr als beide zusammen nütze und doch weniger zu seinem Unterhalt erfordere als jedes derselben. Der seidenhaarige Stier der asiatischen Hochgebirge, der Yak der Tartaren sollte unser einziges Zug und Lastthier werden, uns Kleidung, nahrhafte Milch, fette Butter und schmackhaftes Fleisch liefern.'
- 63 Elie Frébault, 'Les courses d'autruche au jardin d'acclimatation', *L'illustration*, 60: 1536, 3 August 1872, 74–75. *Guide de promeneur au Jardin zoologique d'acclimatation du Bois de Boulogne*, Paris, 1877, 50.
- 64 Gabriel Weisberg, 'Rosa Bonheur's Reception in England and America: The Popularization of a Legend and the Celebration of a Myth', in *Rosa Bonheur: All Nature's Children*, ed. Gabriel Weisberg et al., New York, 1998, 19–21.