**Introduction**

Animal representations in art, film, and visual culture have long been used to produce and reinforce ideologies and power relations. Numerous scholars have explored uses of animal imagery in visual art and mass media to legitimize animal oppression and normalize wider systems of human power and inequality, such as sexism, racism, imperialism and ethnocentrism (Almiron; Baker; Lippit; Adams; Wolfe; Chris; Goodale and Black; Pick; Weil; Malamud; Pick and Narraway). For Berger and others (see e.g. Mullin, Haraway), looking at the animal image offers a way for humans to uncover, express, and understand otherwise invisible or ‘indescribable’ things about animal and human lives, behaviors, social relationships and transformations (*Why Look at Animals?* 10). Representations of the animal body, far from being mere pictures or mere fantasies, genuinely impact how humans conceive and treat the animal subject, and how humans imagine, construct, manipulate, and blur the human-animal relationship (Kalof, Zammit-Lucia, and Kelly). As Baker argues, ‘the representational, symbolic and rhetorical uses of the animal must be understood to carry as much conceptual weight as any idea we may have of the “real” animal, and must be taken just as seriously’ (10). In the case of farming, Garval shows how the visual and verbal representations of pigs on postcards provide a rich narrative, inextricable from the profound changes that took place in pig farming during the French Belle Époque. Pig images on postcards show the ‘uncanny closeness (both in resemblance and proximity) between pigs and humans’ and ‘paint a fascinating, nuanced picture of a world in transformation’ (87). They demonstrate how the instability of pig signifiers reflects broader sociocultural shifts and ideals. Given the complexity of such examples, the work of addressing what Baker calls ‘the slippery meanings of the animal image’ comes to resemble a kind of unraveling (194).

Erika Cudworth notes that ‘Cattle are selected via trade exhibitions or through breed catalogues’ (38), and the same is true of pigs and chickens: the images and texts used to describe breeds and genetic lines in websites and catalogs become a key avenue by which breed and herd/flock managers select new animal lines for their farms, and exchange information about their qualities, characteristics, strengths, and weaknesses. In this study, we consider how farmed animal breeds, specifically pigs and chickens, are visualized in newsletters, periodicals, catalogs, and other breeding company literature designed for circulation within animal production industries. We examine how these visualizations contribute to industrial stories of perfection, well-being, and farm adaptation, advancing ideals of power, race, gender, and progress, both within food industry communities, and in broader capitalist and neoliberalist development projects. Shukin points out the dual meaning of the term ‘rendering’ with regard to animal economies: it refers both to the representation of animal bodies, and to processes of wringing value from their bodies (21). The presentation of ideal pig and chicken bodies as ‘breed standards’ is based on industrial ‘cultural reference points’ that encourage pig and chicken breed acquisition by animal producers (Molloy 6; see also, Holloway and Morris). Portrayals of chicken and pig bodies by genetic companies resonate with the values, ambitions, and experiences of their future buyers (Calvert) and reinforce the broader sociocultural views and interests of the chicken and pig industries (Lerner and Kalof; see also, Molloy and Ritvo). Circulation of pictures and texts in these inter-industry materials thus becomes, in a very real way, circulation and exchange of animal bodies and animal substances themselves.

In addition to considering how animals are envisioned, we also examine how visual imagery focused on other aspects of breeding and farming, including depictions of human workers, supports organizations’ overall stories about their own contributions to large-scale industrial animal production (see Brown, Gabriel, and Gherardi). In considering not only pictures of ideal/idealized pig and chicken bodies, but also human-to-human and human-animal relationships in animal industry media, we find deeply imbricated discourses and assumptions about gender, race, colonialism, and other dynamics that inform, direct, and sustain hegemonic power relationships in industrial farming.

In the introduction of her book *Beyond Boundaries*, Barbara Noske calls for a ‘need to rethink our image of animals’ (viii). By ‘our’ image, the author means the understandings, relationships and projections that Western societies have with, and place on, animals. In the specific case of farming, such projections have changed profoundly with Western industrialization and the globalization of food production (Noske). Rather than companions, farmed animals have mostly become ‘bodily substances’ such as meat, eggs and milk (Noske 3; see also Porcher). The period following World War II, in particular, saw a major acceleration of processes of farmed animal ‘thingification’ (Adams, *The Pornography of Meat*; see also Noske 15): both their environments and their biology were dislocated and their bodies transformed into human projects for profit and agrifood development. Animal farms became more concentrated and specialized, and so did animal breeds (for instance in cattle farming, with the Holstein for milk and the Angus for meat). With the advent of robotics, animal farms have been modernized and farming practices automated to maximize outputs at the lowest cost (Le Heron; Boyd; Pflimlin, Faverdin, and Béranger). Little room has been left for an entry of the farmed animal into the human imagination as anything other than ‘meat or leather or horn’ (Berger, *Why Look at Animals?* 4). Driven by Western technologies and zootechnical progress, the food industry has appropriated and rationalized farmers’ working relationships with farmed animals, transforming the objectives, conception, and rules of human-animal relationships on farms (Noske; Porcher). It has also made the farmed animal more invisible to the consumer by ‘keep[ing the] meat separated from any idea that she or he was once an animal who was butchered, [keeping] some*thing* (like hamburger) from being seen as having been some*one* (a cow, a lamb, a once-living being, a subject)’ (Adams, *The Pornography of Meat* 23, emphasis original). Animals like broiler chickens, who are small, fertile, and malleable (Boyd), have thus been ‘turned out in their millions’, becoming industrial ‘converting machines’ (Harrison 3), ‘whose yield had to be improved to increase profits’ (Porcher 17).

 Recent decades have seen increased attention toward the detrimental effects of large-scale industrial models of animal production. Landscape transformation and rapid deforestation occasioned by the expansion of industrial farms have multiplied concerns over environmental degradation, wildlife extinction, and climate change (Moore). Demand for large volumes of inexpensive and non-perishable animal products has fueled concerns about the marketing of ultra-processed food that is often too sweet, too salty and harmful to human health (Nestle). In recent years, there has been an increased focus on the public health crises emerging from ‘factory farming’ (see Wallace; Bellet, Hamilton, and Rushton). Crowded by the thousands, genetically undiversified, and constantly moving between business premises, industrial animals are a fertile medium for the emergence, multiplication, transformation, and propagation of new pathogens and diseases (Blanchette). The ‘mad cow’ crisis; antimicrobial resistance; and the emergence of zoonotic epidemics including H5N1, H1N1, and now COVID-19, are just a few examples that have brought to light the inextricable connections between human and nonhuman animal lives in farming.

 Agreeing with Lerner and Kalof’s assertion that ‘our most profound social problems are better understood in reflection on the human/animal relationship’ and particularly how the human pictures the animal (565), we explore how visual and verbal representations of pigs and chickens have been constructed over time by animal industries. Our goal here is not to advocate for abolition of animal farming, but rather to examine how pigs and chickens are represented within industrial farming systems and to question ‘*whose* interests’ (Noske 23, emphasis original) and values are promoted by these ‘ideologically loaded images’ (Du Long, cited in Calvert). Over the time period that we consider within this study, roughly the late nineteenth century to the present day, animal industries have deployed and circulated images to reenvision a broad shift from traditional, small-scale practices of animal farming to large-scale industrial systems of animal production in the Western progressivist and modern sense. Indeed, visual images have been deployed not only to depict, but to facilitate and enable this shift. Our study, the first we know of to conduct such an analysis of media generated by animal industries, aims to bring to light the sense-making stories told by animal industries about industrial pig and chicken beings and bodies, and to show how these stories reinforce wider ideals of gender, race, perfection and progress that underpin Western models of industrial capitalism.

**Visualizing the industrial animal**

Although a great deal of scholarship focuses today on histories of animal advertising, most of this has considered materials designed for wide public circulation (Lerner and Kalof; Stewart and Cole; Freeman; Molloy; Almiron; Nibert; Khazaal and Almiron). There has been less examination of materials produced for circulation among specialized audiences, such as the animal industries we examine here. But the question of audience proves pivotal: as publications foreground the interests of their target audiences, they adjust visual and textual rhetorics to suit expectations. A publication addressing farmers might present animals differently from one targeting an audience of meat-industry executives, for instance (see e.g. Hajdik); and the presentations of both would differ from those in a magazine for general circulation (see e.g. Molloy). Images are simply deployed in different ways, and to different ends, when the image of the chicken or the pig is being used to sell *other chickens or pigs*, rather than, say, meat or eggs (Molloy).

 In this study, we use images to explore some of the values and ideologies that motivate and underpin industrial-scale animal agriculture. Through circulating media, these industrial values and ideologies likewise circulate: animal images sell a vision of the ‘Western animal’ (Noske 30) and of farming as an industry, not just reflecting but actively transforming cultures of chicken and pig farming around the world. We focus our analysis on illustrated newsletters, periodicals, and other materials designed for circulation within the worlds of farming, animal breeding, and animal production. The study considers a wide range of materials, in terms of when they were produced – from the 1880s to the 2010s – and for whom they were intended, from small farmers to operators and managers of industrial-scale production facilities. Due to our historical approach, we have focused on geographic cradles of industrial-scale farming, namely the United Kingdom (UK), Continental Europe (EU) and the United States of America (USA). We started our photographic analysis from the last decades of the 19th century, when industrial farming was in its infancy. We have also based our study on particular images, those of industrial breeds of chickens and pigs considered ‘perfect’ via genetic selection, which represent the very material of industrial farming systems.

Once these temporal and geographical frameworks were defined, our collection of photographic images was carried out in several stages. As present-day industrial production of chickens and pigs is largely concentrated and vertically integrated – that is, controlled by a few large transnational food companies, from the breeding and production of chickens and pigs to the distribution of their products, including their processing – we first identified the main UK, EU, and US breeding companies for pigs and chickens. We also identified companies that played an important role in the history of industrial chicken and pig breeding. Once all of these breeding companies were identified, we researched all accessible newsletters, publications, blogs and web pages, locating representative images and also considering how these companies presented their own histories and told their own stories. Finally, this material was supplemented by historic publications from the collections of the Iowa State University libraries, known for the depth of their holdings on pre- and post-industrial animal farming; and by material from UK chicken and pig breed federations, such as the British Pig Association and the Poultry Club of Great Britain.

We analyze only circulating materials in this study – not archival materials, such as photographers’ records, original negatives or photographs, manuscripts, or communications between companies and advertising firms. Although born, in part, out of practical concerns (COVID-19 has made archival research extraordinarily difficult), this delimiting of our materials to circulating imagery serves to focus and reinforce our overall argument. While a photograph or advertising image may be the work of an individual photographer or designer, these images were created by individuals within, or working on behalf of, animal industries. The points of view of the images we analyze in this study are industry’s points of view. What animal industries say about themselves and amongst themselves, publicly and openly, tells us a tremendous amount about how they see themselves and their products, how they understand their work, and what they aim to accomplish.

The meanings ascribed to stock photographs, like the ones we analyze in this study, are fluid by definition: a stock photograph is kept on hand in order to be put to whatever purpose a company or advertiser might need, to be ‘treated as raw material, with no intrinsic [...] value’ (Wilkinson 27). Companies reuse pictures: changing their contexts, flipping or rotating them, repurposing them, moving them from print material to websites and back again. A textual surround, too, can profoundly affect (and be affected by) an image. In daily life, pictures almost always come to us not on their own, but rather surrounded by words. Words and visual images work together to convey an overall sense and to carry a persuasive meaning, so in analyzing many of these materials it is necessary to consider word and image as a single persuasive entity (Barthes; Hall; Berger; Strauss). The conditions of an image’s production, too, constitute a potential avenue for analysis. Although our study addresses primarily photographs, many of the more recent images we analyze here have been created almost wholly through digital imaging, and are ‘photographs’ only in a loose sense of the word (see Batchen; Squiers, Batchen, Baker, and Steyerl). Even without archival documentation, an image itself may comment eloquently on the circumstances of its own creation.

In this study, we engage in what might be considered a disruptive reading of images and texts circulated by animal industries. But reading against the dominant narrative is still reading: the meanings we read in these materials *are present.* Against ‘the discourses [...] that emanate from power, that give voice to an institutional authority,’ we engage in ‘a practical search for internal inconsistencies’ (Sekula 78), working around, beneath, or in opposition to the dominant meanings encoded in the images. The conclusions we draw from such materials, too, may be different from those drawn by a representative of the animal industries. In representing the animal, an image might fix and reduce the animal to a state of two-dimensionality; but it might also render the animal present, reminding us of her existence and agency. Images ‘bring animals in, [...] [they] show, include and involve them in ways that reveal their significance as social actors both in relation to humans and in their own right’ (Hamilton and Taylor 89).

Photographs are frequently critiqued as implements of oppression, reifying and objectifying subjects in order to quantify, manipulate, and manage them – a dynamic particularly prevalent in Western colonialist projects (Sontag, *On Photography*). The photograph, because of its ostensibly direct, indexical relationship to its referent, carries an authority, a truth effect, that a painting, drawing, or print might not. This evidentiary capacity has undoubtedly made photography a powerful tool for reinforcing hegemonic power dynamics. ‘The camera has always been part of a larger assemblage [...] This is how the machinery of capture works. To the magical capture of the image is harnessed the mechanics of subjection of a bureaucratic apparatus’ (Tagg, *Disciplinary Frame* 3). Such dynamics unquestionably inhere, too, in photographs created and circulated by breeding companies. But understanding of the medium as solely a metonym for capitalist mystification leaves out a great many of the ways people *actually use* photography, and a great many of the purposes for which the medium may be deployed (Mitchell). Photographs can also serve as powerful tools to expose the animal, to render visible the invisible, describe the indescribable, and reveal what is stifled by oppressive systems of industrial animal production.

Ariella Azoulay writes about ‘the civil contract of photography’, wherein the medium can be a way for an unrepresented or misrepresented population to show itself or allow itself to be shown (12-14). She applies her argument to human communities denied the recognition and political representation of national citizenship, but the formulation can be extended to animals. An image, even one designed and intended to conceal or manipulate the meaning of the animal body, may also reveal it. Azoulay encourages spectators to actively *watch* photographs rather than passively looking at them, with the understanding that ‘the photograph—every photograph—belongs to no one, that [a spectator] can become not only its addressee but also its addresser, one who can produce a meaning for it and disseminate this meaning further’ (14-16). While photography may facilitate the instrumental, rationalistic visions of animality preferred by animal industries, Azoulay’s ideas also help us to conceive of photographs and other forms of imagery as avenues for animal visibility, over and above the intentions of those who make and deploy these images in the first place.

**Shaping an ideal of breed perfection**

Across time and space, certain kinds of animal representations have remained remarkably stable – the ‘breed-standard’ photograph, for instance, used to communicate the characteristics of an individual animal and to show her similarity to a breed or hybrid ideal. Indeed, images of prize or paragon animals conform to a set of standards for the presentation of the animal so rigid that they have persisted nearly unchanged in breeding-animal images from the pre-photographic period of the early nineteenth century up to the present day. Art histories of animal imagery more often concentrate on images of special animals: prized racehorses, beloved hunting dogs, ‘elite cattle’ (Ritvo 46). Nineteenth-century animal specialist Sir Edwin Landseer often painted his royal clients’ favored domesticated animals. While Landseer and other animal painters did sometimes foreground breeding quality, particularly in images of stud horses, these were high-value, even ‘famous’ animals, bred by gentry who saw their own good breeding reflected in that of their stock (Vaughan; Ritvo; Malamud). We are much more interested here, however, in depictions of the bodies of workaday breeding animals, those ‘lesser beasts that [are] the mainstay of livestock industry’ and who often do ‘not seem to be judged by the same standards’ as prestigious specimens or beloved companions (Ritvo, 46). ‘Uncharismatic’ farmed animals such as industrial pigs and chickens have often been neglected (Woods, Bresalier, Cassidy, and Mason Dentiger 32), including in visual studies. Their ubiquity in present-day food systems, however, demands closer scrutiny of how they are represented.

Breed-standard images are designed to present the clearest possible vision of an animal’s features – at least those features seen as most relevant to their value, as the breeder perceives it. Images concentrate on the individual animal as a representative or type of the overall breed. The rigidity of the standards for such images corresponds to a rigidity in how ‘perfection’ is perceived in any given breed: consideration of breed perfection rests on identifying *and visualizing* the breed standard. As the British Pig Association (BPA) argues when exhibiting its 14 pig models on its website, ‘the breed standards are what is expected for each breed, in terms of looks and conformation’ (BPA).

In one 1816 farming manual, published decades before the invention of photography, two images of pigs show that the form of the breed-standard image was already well-established [fig. 1]. The manual accompanies descriptions of several porcine breeds, including the Berkshire and ‘Chinese, or Black’ breeds, with engraved images showing representative animals in a strict profile. The breed’s typical body shape appears clearly in each image, and a viewer familiar with the breed could judge how well the animals conform to the set of characteristics held as ideal for each type. Of the Berkshires, accompanying text notes that ‘The animals from which the above figures were drawn, were […] exhibited at Lord Somerville’s Cattle Show in 1807, where they attracted general admiration, for their lively activity, and general condition.’ Each image shows its ideal(ized) animal in a barnyard context, but this is minimally-rendered, the better to focus on the animal’s body. The Berkshire stands, with a fellow-pig, at a feeding trough, bearing witness to the text’s assertion that her breed is ‘kindly disposed to fatten, and attaining a large size, but can be kept only where a large and constant supply of food can be procured, otherwise they will dwindle away, and yield no profit.’ The ‘Chinese, or Black’ pig, her slab-like body nearly skimming the earth, feeds on corncobs scattered over the ground. Her image similarly attests to her capacity for putting on as much weight as her frame will carry, and thus bringing prosperity to the farmer who raises her.

 Pre-photographic breed standard images of poultry, too, tend to conform to a set of standard characteristics. D.H. Jacques’ 1866 animal farming manual *The Barn-Yard* includes, in its poultry section, a number of images that accompany written descriptions of the characteristics of various poultry breeds. Jacques’ description of the ‘Seabright Bantam’ notes that the breed is ‘the most beautiful of the Bantams.’ While the accompanying monochrome print image [fig. 2] cannot show the plumage colors described in the text, the text notes that ‘it will give the reader a good idea of the form and bearing of these remarkable and beautiful fowls, as well as of the markings of their plumage’ (131). The animals stand in profile view, holding their bodies erect as though aware they are on display. Typical of poultry breed images, this print depicts both a rooster and a hen: since body shape, size, and plumage may vary between male and female of a given breed, purebred chickens are often shown in breeding pairs.

As it became possible to depict animals with photography over the course of the mid-to-late nineteenth century, the medium came into more and more frequent use for this purpose, just as it did for all sorts of other pictures. Through the invention of photomechanical processes, particularly the speedy and inexpensive half-tone process, photographs could be printed in ink quickly and cheaply, placed alongside texts in books and other print media (see Bruno). Within just a few years at the end of the nineteenth century, photographic illustrations wholly supplanted etchings, wood engravings, and other images in print media (Ivins). But pre-photographic standards for the depiction of animal bodies did not substantially change in the era of photography. Indeed, the industrialization of the imaging process by means of photography led the form to calcify into a set of relatively rigid standards.

Breed-standard photographs of pigs tend to retain many of the characteristics that first emerged in the pre-photographic era. As with printed imagery, in photographs the animals are typically shown from the side, usually in strict profile (see e.g. BPA). Sometimes a boar might stand with one leg forward, making the testicles more prominent, while a sow might be lit in such a way as to show the belly and teats clearly [fig. 3; and fig. 4, top]. The heads may be raised, to reveal the natural erectness or floppiness of the ears (a key identifying trait of some breeds); or the animals may be shown with nose to ground [fig. 3]. Pigs may also be shown from the rear, facing directly away from the camera, to highlight the conformation of the rear legs and the size of the hams [fig. 5]. Adult pigs in profile pictures tend to be shown alone, while photographs of animals from the rear or photographs of piglets sometimes depict them in small groups – the latter to show the overall quality and consistency of traits among a group of animals from a single breeder.

Chickens, too, have their own set of standard depictions, derived from print imagery of the pre-photographic era. ‘Pure’ breeds (breeding breeds) are often shown standing in profile or in something like one-quarter profile, turning slightly toward but not facing the viewer, the better to display their stance [fig. 6]. Their legs and toes are homogeneous, clean, and straight. They may also be shown with their offspring, due to their reproductive role [fig. 7]. Modern, ‘hybrid’ chickens (laying or meat chickens), on the other hand, usually stand alone (since they are not bred), and may face the camera directly, the better to show off their ample, broody bodies and meaty breasts.[[1]](#footnote-1)

The emergence of machine-made, industrialized images of animals parallels – and in some ways prefigures – industrialization of animal bodies themselves. Before the 1940s, small-scale breeders dominated in animal production (see Horowitz, *Chicken of Tomorrow*), and visual representations of breed standards tended to circulate on a relatively limited scale. In the US, for example, animal ‘fanciers’ and small farmers who bred and showed their animals at regional fairs and exhibitions might advertise stock in magazines such as *The Barred Rock Journal* (for breeders and exhibitors of Barred Rock and Plymouth Rock chickens) or *The American Swineherd* (targeting pig breeders and farmers). Fanciers’ ads often focus on a single animal or a small group of animals, depicting them as paragons of their breed, touting their pedigrees and listing their accolades. But as breeding itself industrialized, as farmed animals proliferated, breed-standard photographs similarly multiplied. The form made its way from breed fanciers’ magazines and livestock competitions into the representational and promotional programs of larger enterprises, up to the animal industries of the present day. Established in the era before photography, the format of the breed-standard picture persists almost unchanged, except inasmuch as it has been, like the animals themselves, made ‘more perfect’ through the interventions of technologies such as improved lighting, more sensitive films and faster lenses, controlled or digitally inserted backdrops, and the addition of color as costs permit [see e.g. fig. 8]. The utility of photography itself, not just as a means of illustration but as a core carrier and transmitter of the meanings and values that may be attached to animal bodies, is widely recognized. One livestock judging textbook notes that, for the student, ‘ideal [breed] types can be learned by observing good individuals in both the live and picture forms’ (Nordby, Beeson, and Fourt xv).

Unremarkable and deliberately repetitive, such breed-standard imagery seems to resist analysis. What other way would one depict a pig? But the side view hardly represents all the ways it is possible to look at a pig. One might look down on a pig from above; or look one in the face; or pick a piglet up [see e.g. figs. 9 and 10]. One might see pigs at a distance, in family groups, rooting. Pigs might look at the camera, confronting it and, by extension, the viewer; or they might move away from the camera, resisting depiction entirely. The same applies to chickens: left to themselves and loosed from cages, they roost, they settle, they groom themselves. Indeed, such images abound in depictions of traditional farming [fig. 11]. But within the bounds of industrial agriculture, such variation in the visibility of the animal might imply an uncomfortable and undesirable variation in the human-animal relationship, potentially ‘challeng[ing] the human audience’s habitual expectations of omniscient insight with regard to other animals’ (Malamud 51). Varied representations of animals, potentially questioning or complicating assumptions of absolute human control and dominance over nonhuman animals, tend to be sidelined or eliminated. Breed-standard images, on the other hand, aim not to evoke but to suppress the idea of variability. They minimize or deny the possibility that there is any way, other than industrial, to look at, relate to, or produce food and ‘human-wanted things’ (Noske 15) from a nonhuman animal.

Banal images of animals may prove more powerful than any other sort in reinforcing human assumptions about animals, upholding humans’ feeling of dominion *over* animals, standardizing human conceptions and visions of animal farming, and fostering the turn toward factory farming. Cultural attitudes become that much more forceful when they are unthought, when they feel like natural law. The side view of the pig seen in breed catalogs presents the animal as much as possible like an object, and more important like an owned object, a piece of property possessed by industry. The reinforced artificiality of the side view becomes that much more obvious, too, when we recognize just how often the pig resists it. In breed-standard images from smaller-scale farming contexts, the animal is commonly offered food or water to convince him to stay in one place [see e.g. fig. 8]. Images from industrial farming contexts, however, rarely show the food; whatever the animal has been offered to get her to stand still, parallel to the picture plane for an ideal side view, has usually been removed from the final image, the better to convey the idea of the animal as a perfect, self-contained, self-maintaining unit.[[2]](#footnote-2)

Breed-standard photographs are not the only images that circulate in media produced by animal industries, of course. While they may be the most traditional, and the most direct in presenting animal bodies as controlled and controllable, manipulated and manipulable, breed-standard images are supported by entire programs of other imagery that aid in reinforcing the assumptions they carry in a fashion as unremarkable, as unobtrusive, and as pervasive as possible. Recent developments in digital imaging and manipulation have permitted a wide range of visual interventions in animal-industry media. Simply repurposing a single image in multiple contexts, for instance, reinforces assumptions about the reproducibility of perfect, uniform animal bodies. Large-scale poultry breeding company Aviagen Ltd. offers several proprietary hybrid chickens all originating from the same female parent stock. Images for each of the hybrids use the same picture of the female parent, an attractive brown-feathered hen shown in three-quarter profile. Each image depicts a different male behind her (shown facing the other direction to symbolize the ‘cross’ of the two breeds) and a different hybrid progeny.[[3]](#footnote-3) The move obviates the need for an animal to be photographed repeatedly; it allows Aviagen to show off the features of the parent breed through a breed-standard photograph of a particularly attractive individual animal; and it emphasizes the stability of the parent stock, which remains the same across hybrids.

Even within individual photographs, repetition proves useful in certifying a breed’s industrial reproducibility and the industrial control over the animal’s body. Although not as rigid in format as breed-standard imagery, stock photography of animals in breeding company media often proves just as useful in conveying a reassuringly uniform sameness across multiple animal bodies. In their monthly newsletters, the breeding companies Genus PIC and Cobb-Vantress provide images in which large quantities of piglets and poultry lie perfectly aligned, the bodies well defined and any imperfections blurred or cropped out.[[4]](#footnote-4) The apparent order provided by these body alignments conforms to longstanding Western pictorial conventions, in which repetition conveys a sense of harmony and balance. Such visual logic would be especially pleasing to those with special interest in the uniform reproducibility of animal bodies, such as the breeders, farm managers, and herd managers who are these publications’ target audiences.

The Genus PIC image, in particular, appears heavily stage-managed, its creation almost certainly demanding extensive intervention from human handlers.[[5]](#footnote-5) Piglets typically feed messily, scrabbling over one another, competing for access, and moving from teat to teat. Within a litter they vary widely in size and constitution, with larger litters having higher percentages of runted pigs. Sows, too, often express annoyance or discomfort while nursing, sometimes crushing piglets as they shift their body weight. But the Genus PIC image depicts a sow who is presumably happy and calm, nursing a large number of piglets who all (rather miraculously) face the same direction, each with equal access to a teat. The metal flooring and fencing facilitate, rather than hinder, the bond between sow and piglets: a near-utopian vision of industrial animal production (Noske). The resulting manufactured image parallels the extensively human-facilitated reproductive processes for industrially-bred animals (Blanchette). Echoes of this rhythmic repetition appear, too, in other stock photos from animal industry media that show inert bodies on the slaughter lines.[[6]](#footnote-6) The hanging carcasses, ‘arranged in rows and lines of sufficient mass that the mind struggles to imagine the sheer scale of the overall puzzle of which they are the pieces’ (Pachirat 33), convey in their own way a sense of the abundance and plenty that industrial animal production aims to provide through mass production of ideal animal bodies. Dead or living, the perfect breed never seems to flinch.

**Gendering perfection**

Animal images have long been used to speak to human interests and values, and animal bodies have been shaped to show human preferences. The banal breed-standard image functions, in some ways, as a blank canvas onto which a wide variety of assumptions, assertions, and discourses may be projected. Discourses related to gender are among the most common: the hypermasculine boar; the prolific and nurturing sow; the perfect ‘heterosexual nuclear’ (Calvert 299) chicken family with the prolific mother, the protective father and their multitude of little growing chicks [fig. 7]. Advertisements in present-day fanciers’ and breeders’ media, like *Breeders’ Digest,* show standard imagery – in this case, pigs in profile – but many surround the pictures with texts that emphasize animals’ conformity to gender stereotypes: their virility (for boars) or prolificacy (for sows) (see Cudworth). Boars carry hypermasculine names like ‘Goliath’, ‘Kankles’, ‘Loudmouth’, ‘Assault’, or ‘Talking Trash’ [fig. 12]. Sows, often numbered rather than named, appear with teats clearly visible, while texts promote their valuable characteristics and often delineate their family relationships to prize-winning male animals – their potential to birth and mother even more valuable, virile boars. One 2016 advertisement promotes a sow who is descended from a notable boar, ‘Hostile Takeover.’ She has ‘Top Meat Quality Genetics,’ and is ‘stout, powerful, and correct,’ but is given no name of her own [fig. 13].

 Promotional materials from larger genetics companies incorporate similar breed-standard imagery, but they place emphasis on the breed type as a whole, rather than singling out individuals – gendered perfection on an industrial scale. In industrial farming, individual animals usually do not have names, but gender makes its way into the names of entire breeding lines. Swine breeders Rattlerow and Hypor assign evocatively strong, masculine names to their sire lines, similar to heroic hunters, fighters and gladiators of the past – Rattlerow’s ‘MaxiMus’, Hypor’s ‘Maxter’, ‘Magnus’, and ‘Kanto’, for example. One of Hypor’s maternal lines, on the other hand, receives the evocative name ‘Libra\*’ (pronounced ‘Libra Star’), implying a feminine ethereality and a freely productive maternal nature [fig. 14]. For the ‘Libra\*’ line, Hypor even coins a neologism: this is ‘the world’s most “prolificient” sow – she is both prolific and efficient and brings you a higher income while lowering your expenses […] with the superior mothering ability and weaning capacity of the Hypor Libra\* you’ll spend less time taking care of struggling pigs and replacing sows and more time managing your operation’ (Hypor, ‘Hypor Libra\*’).

Within animal breeding industries, assumptions about gender roles extend beyond discourses centered on the animal body. Even photographs depicting human-animal relationships and human interactions sustain deep-seated gender hierarchies. Research and development, building, teaching, supervision: in media released by animal industries, men often perform such jobs. Women, on the other hand, provide care and nurturance; they serve as technicians or auxiliaries to men; they learn, while men teach (see e.g. Cudworth; Coulter). Poultry breeding giant Cobb-Vantress often upholds such hierarchies in its newsletters. In one edition from 2007, a story about the role of technology in continuous quality improvement carries a picture of a male scientist, identified by name and title, working alongside a woman identified only as ‘the farm crew’ to take an ultrasound of a chicken (Lubritz 7). The company does foreground the contributions of women in some instances, but only when work is ‘considered feminized’ or driven by emotions (Coulter 29): one 2012 news story (appearing in an independent media outlet, but sponsored by Cobb) highlights the hire of a female scientist to lead the company’s animal welfare efforts (Morton). But the company’s media overall tend to uphold, not disrupt, traditional gender hierarchies and roles. Narratives about welfare and care are among the most likely, in Cobb’s media output, to feature female workers. For much of 2021, the banner image at the top of Cobb’s animal welfare dedicated website, cobbcares.com, featured a female worker cradling a fuzzy yellow chick.[[7]](#footnote-7) Her face was blurred in the background of the image, but the picture seemed composed specifically to emphasize both her presence and her femininity: the image deliberately included her face (it could have shown just the cradling hands, ambiguously gendered), and her rosy lipstick and pink cheeks showed even through the blurring. Soft focus, fuzzy chick, gentle woman: the picture deployed a visual language of feminine delicacy to convey the company’s dedication to care, welfare, and animal wellbeing. The same website incorporated an animated video in which a male worker educated a group of new employees in proper animal care. One of these newly-minted trainees, ponytailed to highlight her femininity, then stood cradling a chicken. Even in animated media, men train and direct while women provide care. In all instances, regardless of whether the aim is to communicate control or care, the desired effect is the same: ‘industry cover stories work to disincline [viewers] from sympathetic intervention’ (Luke 138).

Adult pigs are, understandably, held and cradled far less often in images than adult chickens. When not photographing pigs from the side to create breed-standard images, photographers often stand above them, looking downward or outward to create vistas packed with animal bodies. But piglets, much like chicks, do often appear in photographs held or cradled in human arms, particularly where animal industries hope to emphasize values of care, health, and vitality [fig. 15]. Piglets appear less toy-like than baby chicks, and more like human babies, their downy skin ranging from pink to brown. Women and even children carry piglets in some images: cradling them, showing them off, looking them affectionately in the face. Interestingly, holding a piglet seems to be a more appropriately ‘masculine’ activity than holding a baby chick: people holding piglets in animal-industry photographs are just as likely to be men as women [see fig. 10]. But in many pictures, the activity of holding and cradling the piglets feels more like control than care – the animals appear more like specimens of vitality than vulnerable creatures. In one image, two men hold piglets while their mother, the sow, stands below them: a dynamic speaking to the exertion of power over pig bodies large and small.[[8]](#footnote-8)

If women in animal industry newsletters care for and nurture animals, they also perform a similar role for the family. Popular media in the West has long represented the archetypal shopper/consumer as female: references to ‘Mrs. Consumer’ date to at least the early twentieth century (see e.g. Fredericks; see also Coulter). Images of women in animal industry media tend to uphold such assumptions. Women shoppers buy meat from male butchers in many images: the butcher, knowledgeable and benevolent, stands in for the meat industry, with the woman consumer as his momentary student, in need of friendly guidance.[[9]](#footnote-9) Images of company leadership, on the other hand, skew heavily male (and white): a 2010 Cobb newsletter carries a posed image of a ground-breaking for a new Cobb facility, in which a row of twelve executives, all men, press ceremonial shovels into the ground.[[10]](#footnote-10) The company’s leadership remains male-dominated: as of December 2021, every executive on the ‘Leadership’ section of the Cobb-Vantress website was male (Cobb, ‘Leadership’).

**Colonizing bodies and space**

Separate from, but sometimes entangled with, these discourses about gender and perfection, animal images also express a host of Western assumptions and desires related to race and colonialism. The analysis of ‘color codes’ (Borneman 31) used in these images is particularly informative. As Sahlins argues, ‘Colors are, in practice, semiotic codes. Everywhere, both as terms and concrete properties, colors are engaged as signs in vast schemes of social relations: meaningful structures by which persons and groups, objects and occasions, are differentiated and combined in cultural orders’ (3). The chicken known as Cobb100 is a perfect example. This all-white bird, a refinement of the earlier ‘White Rock’ breed, was introduced by the US poultry breeding company Cobb-Vantress in the broiler breeder market after the Second World War, in 1966 (Berlan).[[11]](#footnote-11) Known for outstanding growth records and reproductivity, the Cobb100 breed became a central instrument through which the company, and the Western poultry industry more broadly, established, developed, and extended its power over new territories (Brockotter; Cobb Focus 2016, no. 2). After his introduction across the US, the white Cobb100 ‘expanded fast with new ventures and distribution arrangements set up across the world – in Argentina, Brazil, Peru, Venezuela, Rhodesia [...] and other countries’ (ibid). ‘Self-replicating’ (Mullin 205; see also Kim) the identity of the US as an agricultural-industrial power, the domesticated white bird spurred geopolitical gamesmanship: Soviet Premier Nikita Khruschev’s admiration of a Cobb 100 rooster at a trade event in Moscow prompted him to chastise Soviet agriculturists for being insufficiently innovative and modernist (Godley 315-16).[[12]](#footnote-12) Present-day Cobb advertisements still show their all-white bird standing in front of a world map (now often focused on Asia) to illustrate the company’s ongoing devotion to its 1950s-era ambitions of global dominance (Cobb Focus 2015). The global ‘seeding’ of the US white chicken continues to transform farming ecosystems, ‘and native species [are quickly] displaced [...] wiped out’ (Mullin 205) or radically altered.

Much like Haraway in her study of primates, we contend that ‘literally and figuratively’, industrial breeding is a ‘colonial affair, in which knowledge of [industrial animal perfection becomes] part of the system of unequal exchange of extractive colonialism’ (19). White chicken breeds, developed by US companies and marketed around the world, were created to satisfy Western cultural and industrial preferences, offering maximum uniformity in both aesthetics (e.g. color, size) and production (e.g. growth rate). Cobb argued that white-feathered breeds were the future: they appeared clean and bright, and male and female birds were nearly identical. White feathers also improved the appearance of meat in burgeoning Western markets, where black feather remnants or skin spots were (and are) seen as off-putting (Bugos; Horowitz, *Putting Meat on the American Table;* Abbots and Lavis; Cobb Focus 2016, no. 2). Thirty years later, Cobb launched its ‘modern era’ (Cobb Focus 2006, no. 3) with the Cobb500 and then the Cobb700, both ‘better’ in terms of uniformity and breast meat yield (Cobb Focus 2007). These birds provided ‘the foundation for continual expansion over the last 20 years’ (Brockotter).

 Pig bodies, too, have become whiter, faster-growing and more uniform in body size and shape, following on the vertically-integrated production models developed for US chickens (Dirks and Fienup; Ward): a process Mizelle calls ‘the chickenification of the American pig’ (78). Although this process has happened slower and later than for chickens, the result is similar: a fast-growing, large, meaty, pale animal. As industrially-produced pork became ‘the other white meat’ in the US in the 1980s and 90s (ibid), industrially-bred pigs themselves became the other white animals, their skin more uniformly pinky-pale, their bristles light or white (ACH).

The bodies of white industrial chickens and pigs are now as nearly standardized as it is possible to be – their growth rates predictable, as if more ‘civilised’ (Douglas), their uniform sizes fitted and responding to the machinery of an almost-wholly-automated slaughter and disassembly process. As Cobb explains in one of its newsletters, Cobb700 development was partly motivated by a demand from processors to obtain a ‘higher uniformity’ in chickens’ bodies, ‘to optimize cutting and portioning’ (Cobb Focus 2007). Over time, white chickens and pale pigs have become so emblematic of industrial animal agriculture that their color now implies not just purity, but also modernity, artificiality, even fragility. In fact, the white chicken is a cyborg-like creature, her existence both resulting from and wholly dependent on zootechny. Pig and chicken cyborgs are ‘the stem cells in the marrow of the technoscientific body; they differentiate into subjects and objects at stake in the contested zones of technoscientific cultures’ (Haraway, *Modest\_Witness@Second\_Millennium.FemaleMan\_Meets\_OncoMouse* 14). Industrial chicken meat, especially, is sometimes perceived as being bland and anonymous, just like the animals’ existence: food for dieters and children.

 As white animals are more visible, and thus more vulnerable, to predators, the tendency toward white chickens and pale pink pigs made it necessary to protect animals from risks posed by the beast-like savagery of the natural world. Technological development in Western food industries was, in a sense, contingent upon and driven by the whiteness of Western industrial breeds. In the name of protection, zootechny intervened more and more aggressively in animal lives and in processes of animal farming. White chickens and pale pink pigs were first primarily and then wholly moved indoors, charting the course toward an increasingly isolated, confined, controlled, technology-enabled life cycle (Boyd 638-42; Finlay). But closer confinement and faster growth fostered the spread of stress and disease, so tremendous technological effort and resources then had to be dedicated to controlling disease (Mizelle). Companies set up elaborate disease-control systems, including establishment of heavily-monitored facilities in isolated locations. This process of ‘easy purification’ through technological ‘washings’ and large buffer zones around industrial animals’ living spaces enabled animal industries ‘to defy with impunity the hard realities of their social system’ (Douglas 138).[[13]](#footnote-13) ‘As soon as one problem is solved, others emerge’ (Boyd 642). Zootechny has become a colonialist and ‘imperialist trap’ (Hamilton and Taylor 173) enabling the expansion and intensification of large-scale industrial models of animal production.

 So-called ‘heritage’ or rustic breeds of chickens and pigs, those ‘suited to traditional, free range and organic farming as well as less intensive indoor production’ (Cobb, ‘CobbSasso’), by contrast, retain diverse body shapes, colors, and growth rates. Red-haired, brown-skinned Duroc pigs, for instance, or ruddy-brown Rhode Island Red chickens carry connotations of hardiness and resilience, in direct opposition to those associated with white animals. Breeding companies promote their dark or multicolored animals as more robust, slower-growing, more disease-resistant, and more adaptable than pale breeds. Even the taste of their meat is described as more ‘succulent’ (Cobb, ‘CobbSasso’). These breeds are generally dark in color, ‘robust’ and very ‘adaptable’ to a number of climates and housing systems. The rustic Bovan Black and Babcock Brown chickens are both ‘well suited for challenging poultry farming conditions’; while they ‘handle difficult conditions’, they produce ‘large numbers of good quality eggs.’ Hendrix Genetics describes such animals as ‘easy to manage, requiring minimal control and human intervention’ (Babcock; Bovan). The same company also promotes its brown ‘Warren’ breed as ‘the best solution for the rapidly expanding free range sector in the UK [...] resilient and well-behaved [...] ready for the rigors of the range’ (Hendrix Genetics).

 Similarly, within Hendrix’s pig breeding division, known as Hypor, both its ‘Kanto’ and ‘Magnus’ are brown breeds. The ‘Kanto’ pig is described as ‘perfect for systems with health, environment or labor challenges’ (‘Hypor Kanto’). ‘With its unmatched adaptability’, the Hypor Magnus, too, ‘will thrive in a variety of barns’ (‘Hypor Magnus’). Indeed, the association of brown pig and hardy disposition is so ingrained that the company has used the same image of brown piglets to illustrate articles about both of these product lines – another example of the image repetition referenced above, connoting an infinitely reproducible, uniform animal body. Hypor’s lighter-colored, spotted ‘Maxter,’ on the other hand, is described as ‘fast growing, efficient, and uniform,’ but with no indication of robustness or adaptability (‘Hypor Maxter’). Overall, animal industries tend to promote colored breeds as more tolerant of variable or unpredictable breeding and housing infrastructures. Indeed, where a white animal does prove unusually robust, industry media will state this outright: JSR Genetics describes its ‘Genepacker 150’ as ‘our *white but robust* outdoor F1 parent [...] [which] continues to perform in the harshest of environments’ (JSR, our emphasis).

In the early years of industrial breeding, there was a dichotomy of white animals for industry and dark-colored animals for small-holders and hobbyists. Today, however, this distinction has largely broken down: as large-scale breeding companies seek to expand their geographical scope and dominate world markets, they are propagating – and, to the extent possible, standardizing – many of the darker breeds. Announcing a partnership with the French specialized colored broiler breeding company Sasso in 2008, Cobb stated explicitly that it aimed ‘to develop, produce, sell and market [...] colored bird and specialty breeding stock globally’ (WorldPoultry). Increased interest in robust dark, brown or multicolor breeds has correlated with globalization: multicolor animals are being bred not only for free-range environs in Western nations, but for environs beyond the West where, industry media implies, zootechnical controls may be looser (or too expensive to implement). Hypor notes that ‘wherever you are and whatever you need’, its Magnus pigs ‘will adapt, thrive and deliver’ (‘Hypor Magnus’).

Animals in ‘primitive’ (Douglas) and less-controlled environs often appear in images with dirt on their bodies – a condition appropriate for pigs or chickens living in outdoor, barnyard conditions, but highly unusual in animal industry media, which more often shows animals in clean, almost sterile indoor conditions. In a 2017 newsletter, PIC Genetics accompanies the article ‘PIC is selecting for real life robust performance’ with an image of dirt-caked pigs.[[14]](#footnote-14) The newsletter notes that at PIC’s own genetic breeding facilities, the company raises animals under pristine, controlled conditions. ‘PIC genetic farms have a high health status [...] are generally located in temperate climates and animals are purebreds targeted for selection purposes’ (PIC). But to expand its reach, the company has to breed animals capable of surviving in a wider variety of environs and conditions: hotter and potentially less sterile places, beyond traditional Western territories. ‘To add value to our global customer base, our pigs need to perform well in a range of environments, from Iowa, USA, to Yucatan, Mexico, to China’, the article continues – implying that Iowa represents the temperate, controlled end of the range while Mexico and China represent the less-predictable end (PIC). Next to this image of dirty pink pigs, then, the article suggests that its new markets are dirtier and less-controlled places.

 Marketing materials often represent the maximally versatile hybrid animal (whether for meat or eggs) as a cross of light and dark breeds. One article in a 2018 newsletter from poultry breeder Hubbard notes that ‘the world population is growing at a frightening level of 220,000 persons per day,’ and that ‘Asia and Africa are the regions likely to experience the fastest growth’ (Hubbard). The company will address this ‘frightening’ growth by breeding chickens appropriate for these huge new markets. In ongoing R&D testing, some birds are raised on controlled ‘pedigree’ farms while their close relatives are raised on ‘robustness’ farms. Tests are conducted in ‘temperate’ Europe and ‘hot and humid’ Southeast Asia, as the company aims to breed more tolerant birds (Hubbard). Although the text of the article makes no reference to the birds’ color, an accompanying image supports this best-of-both-worlds breeding scenario by presenting two birds, one brown and the other white, standing side by side in nearly mirror-image postures.[[15]](#footnote-15) The company aims to achieve uniform perfection: across birds, across continents, across races; for familiar markets as well as the developing markets growing with ‘frightening’ speed. As with gender, inequalities grounded in racial difference and exacerbated by colonialism, too, are projected onto animal bodies. Emphasis on color can be, for animals as for humans, a key way of conveying difference.

**The fantasy of breed perfection**

Even as they seek to perfect animal bodies, animal genetics companies recognize that perfection is illusory. For one thing, no actual animal body conforms wholly to every marker of a breed standard. Standards are aspirational: every individual animal (or her breeder, at any rate) aims to conform. Comprised of the best characteristics of many different real animals, the standard itself has long existed in a space above and outside the real (see e.g. Ewart 98). And perfection is as difficult to define as to achieve. A ‘perfect’ animal may grow extremely rapidly, exhibiting perfect growth; or she may have an ideal muscle-to-fat ratio, becoming perfect meat. She may be inexpensive to raise – a perfect investment. Or perfection may be tied to reproduction: a perfect sow is a perfect mother, producing and nurturing many viable piglets; a perfect boar is a perfect sire, producing semen with a high rate of viable sperm and reliably passing on his genetic endowments. Perfection may be context-dependent: an animal may be perfect only within the confines of an industrial facility with tight biocontrols, as close to a sterile environment as possible; but placed outside of such a facility she would collapse, her fragility painfully evident (Blanchette). With regard to market growth in regions beyond the West, the perfect breed is the most perfectly expansionist, capable of surviving and thriving in the largest number of places and the widest range of conditions.

Perfection is not purity. In industrial farming systems reliant on hybrid animals, perfection is not sustainable by definition – a hybrid animal may be a perfect animal, but she is also a genetic dead end. While crossing two pure breeds can result in a predictable hybrid offspring, subsequent crossing among hybrids results in something like genetic chaos. ‘Since all hybrid chicks inherited the same dominant traits, flocks of hybrids offered even greater genetic uniformity than pure-bred flocks’, but ‘if the double-crossed male and female siblings sold to farmers were [then] mated together [...] no single trait would dominate among the third generation flocks [...] The offspring of hybrid chicks [...] would reflect an almost random expression of all traits, with none of the advantages of hybrid vigor’ (Bugos 141-43). The perfection embodied by hybrid animals must be sustained by constant revisitation, constant re-creation. Factoring in the variation in what may be considered perfect, achieving an animal ideal requires genetic tinkering, with every industrially-bred animal body as a prototype for the next. Perfection remains perpetually just out of reach.

 For this reason, depicting perfection may likewise be a highly variable endeavor. In early animal farming media, breeders often resorted to fanciful imagery to emphasize their champion animals’ superior traits. One 1915 advertisement for champion Barred Rock fowl included a photomontaged image of a rooster flying atop an airplane, ‘above all’ his competition [fig. 16]. Unable to fly far on his own, the rooster soars aloft on the back of a machine: not quite yet a cyborg, but already the beneficiary of technological intervention that helps him achieve new heights, greater proximity to an ideal of physical excellence. The image presages the zootechnical developments of coming decades, as well as the expansion of food markets to global scale via speedy, heavily networked transport. Similarly, a 1920 advertisement for Poland China pigs showed a boar so large he could wear a saddle, with text implying that the breeder had many more such animals ‘of the saddle horse kind’ [fig. 4, bottom]. A nineteenth-century American breed created for lard production, the Poland China already bespoke the potential of crossbreeding to yield wondrously large, valuable animals. Evoking with humor the notion of an even more useful animal, both horse and pork, this image again predicts the heavily hybridized and zootechnically manipulated pig of coming decades, his body a screen onto which humans project their fantasies, hopes, and dreams of profit.

Just as breed-standard imagery persists from the days of animal farming into present-day animal industry, so too do contemporary variants of the fanciful, heavily-designed ‘champion breed’ imagery of the past – the flying chickens and saddle-wearing pigs exist in animal-industry visualizations of animal perfection. If perfection remains a fantasy, what better way to sustain it than with fantastic pictures? Here, advertising imagery, particularly that produced by manufacturers of veterinary pharmaceuticals and animal feed, offers some visually compelling examples. Reinforcing the idea of perfection as pure profitability, for instance, animal feed company Novus International has advertised its Mintrex feed supplement line with an image of a rooster made from currencies of various nations, reinforcing the company’s pride and ambitions to global market reach [fig. 17]. The ad encourages breeding companies to ‘realize the hidden value’ of their animals, maximizing yield while minimizing ‘condemnations’. The animal here is, the ad implies, made ‘more perfect’ through administration of a feed supplement designed to unlock all the potential already hidden within his body. Nothing is wrong with the animal – he is already perfect – but he must receive (industrial) assistance to become the most perfect creature he can be, in terms meaningful to the industry.

 But perfection requires constant vigilance and care – human intervention at all stages of development. The chicken becomes, in some ways, a human invention himself, no longer bird at all, managed and helped along for the entirety of his short life. Such imagery is pervasive in contemporary breeding-industry media. One 2018 advertisement from the veterinary pharmaceutical company Boehringer Ingelheim shows a chicken comprised of human hands, a fanciful and graphically-striking image that speaks to the interventionist nature of the chicken’s life cycle, his existence not as a creature but as a technology.[[16]](#footnote-16) Novus advertises its feed additives with an image of a circle, bisected horizontally: the top half is a petri dish, into which gloved hands drop clear liquid, while the bottom half is a feed tray in which newly-hatched chicks peck and squirm [fig. 18]. ‘The digestive system is directly linked to the health of your operation’, reads the text. Again, the ad reinforces the industrially-bred and raised chicken as a human creation, built or synthesized – grown in a dish – rather than hatched or born. Even where chicken bodies are identified with natural rather than human-made or human-managed phenomena, the overall message is one of control: another Boehringer Ingelheim advertisement from 2020 depicts a chicken-shaped tree on which spring, summer, autumn and winter all appear to be acting at once.[[17]](#footnote-17) Despite the refreshingly outdoorsy imagery, however, the text refers not to the life cycle of a cage-free chicken but to the seasonal disease cycles of a confinement barn: ‘from summer heat to winter frost, the ecology of a broiler house is constantly changing.’ Nature is used to represent the chicken, but the chicken does not, in turn, represent – or even experience – nature.

Advertising images of pigs prove no less fanciful, and no less consequential in their representation of industrial animal existence. One image, from the Danish swine breeding company Topigs Norsvin, advertises its TN Tempo, a boar line, with a depiction of a pig that not only ‘wears’ armor but appears to be literally made of metal.[[18]](#footnote-18) The digital image conveys simultaneously the animal’s supposed toughness as a living creature, and his tender meatiness as a source of food – an animal ‘designed for producers demanding fast barn throughput and efficiency to medium or heavy market weights in combination with a medium lean carcass’ (Norsvin). The illustration draws on a type of image, ubiquitous in meat markets and advertising, that depicts animal bodies with lines drawn on them to show the primal cuts. Such renderings condition viewers to think of the animal body as a means of sustenance. In the Topigs advertisement the primal cut divisions on the animal’s body become plates in a suit of armor custom-fitted to the animal’s body, even down to his testicles (a key feature, in a boar line). The company markets this white boar line for intensive, indoor rearing facilities, environments in which ‘toughness’ refers not to the animal’s ability to survive and self-regulate outdoors but rather to resist disease, ‘even in a pig-dense area’ (Norsvin).

 Another set of images, associated with swine breeder Danbred, emphasize perfection in the form of profitability. One image [fig. 19] superimposes onto a photograph of a pale pink pig, a graph depicting an upward-trending growth – although since the graph is unlabeled, it is unclear what it measures. Along with the image of the pig herself, who raises her head and gazes forward with a mild eye and closed mouth uptilted at the corner, the image conveys a vague sense of positivity and hope. Nearby text reads ‘Measured in Euro, genetic progress is not only affected by the economic value of the traits in the breeding goal, but also by a number of other factors such as their heredity, genetic variation, the scope of testing and selection intensity, along with the shared genetic correlations of the traits’ (Danbred). While the sentence seems to offer a variety of ways to gauge genetic progress, it begins with the words ‘measured in Euro’, indicating that the sole form of measurement that truly matters is the profit margin. On a linked page, the company offers pie charts depicting the ‘composition of the breeding objectives’ for some of its breeding lines, the ‘Landrace and Yorkshire Sow breeds’ on top, and the Duroc, below [fig. 20] (Danbred). Each is in the shape of a pig’s body, the company’s values measured literally on the animals themselves. This may seem like a fanciful afterthought, designed to make the charts cuter and more memorable. But the sow chart has teats, and the Duroc boar chart has testicles: even in aestheticizing the charts, the company emphasizes the functionality of the animal. At the same time, the downsides of industrial animals’ lives are minimized: note that each chart-animal retains a curly tail, though pigs’ tails are nearly always docked in industrial breeding and farming facilities (AVMA).

**(Re-)visualizing values**

In *The War Against Animals,* Wadiwel argues that shaping animals’ own bodies represents an ‘effective and simple torture technique’ used widely by the food industry. Wadiwel offers the example of the ‘hangers’ on chicken slaughter lines, which use ‘chickens’ own [feet] as a means of imprisonment’ (2-3). The foot of the chicken must be perfect in shape and size to fit the calibrated and automated machines and ensure the rapid death of the animal, guaranteeing a ‘seemingly limitless supply’ of chicken meat (1). The hanger and the chicken’s body are co-designed to conform, reducing ‘friction’ (14) that might slow down the killing and processing line. Industrial chicken bodies are genetically selected and standardized to fit perfectly in the slaughter equipment. Their muscles are also designed to appeal to consumers: lean, uniformly pale in color, and nearly odorless. It is the same for pigs, too. Selected for their docile, resilient, appealing bodies, industrial chickens and pigs are bred by the billions to provide prodigious amounts of raw material for food industries and ensure the eating pleasure of billions of consumers. In 2019 alone, more than 1.9 billion pigs and 83 billion chickens were slaughtered for meat worldwide (FAO).

In this article, we wanted to explore the values that govern and construct these overlaps of bodies and industrial processes, and to consider how animal breeding industries use text and images to promote, propagate, and reinforce among themselves certain assumptions about animals and their bodies. Our interest has been to highlight the social and ideological values promoted by those who breed industrial chickens and pigs, shaping their bodies to fit an ideal of animal production that serves industry interests over those of the animal (Wadiwel; Adams; Boyd; Moore). We have aimed to highlight the power relations, roles and ‘systems of truth’ (Wadiwel 8) that are embodied in representations of chickens and pigs bred for food industries (Holloway and Morris 10). Industrial animal representations, we have argued, permeate, elevate, *and breed* ‘systems of subordination and domination’ (Wadiwel 9). Economic, social and cultural rationales drive animal body shape, as well as how animals are depicted and represented.

A viewer’s experience of visual imagery is affected, often profoundly, by values the viewer already holds. For a farmer, images of animal bodies may connote business or productivity. Small-scale farmers may view and represent animal bodies differently from large-scale producers. Where a breeder of animals for intensive, indoor systems might see a highly-standardized, pale, clean animal body as connoting compliance, productivity, and large-scale production, a breeder of animals for extensive, outdoor production might see the same animal body as connoting artificiality, fragility, and susceptibility to disease. Our study has aimed to bring to the fore some of the assumptions that are buried within imagery, particularly highly standardized, anonymous, unremarkable imagery, to demonstrate how even dry, boring, or merely illustrative pictures may uphold complex and deeply-imbricated value systems. Assumptions about animals and human-animal relationships, particularly with regard to *industrial* animals, have deep roots. Hence, as we have demonstrated, visual representations of industrial animals have remained remarkably stable over time.

Visual images and particularly photographs have the power to conjure the absent and make it present (see e.g. Callon and Law). More impactfully (and perhaps insidiously), they may come to replace the referent entirely in the viewer’s mind. What one feels in the presence of the animal image – a pleasing feeling of mastery, a sense of complete understanding, a comprehension of the animal’s value to humans – becomes how one behaves toward the animal herself. As one can hold a sheaf of images in one’s hand, flip past them in the pages of a newsletter or scroll through them on a screen, so one can similarly achieve a sense of command and control over the bodies they represent. Further, one achieves a sense of control over values they express – values that derive from, *and that then reflect back upon*, how human viewers feel and behave not only with animals but with one another. ‘Sexual violence’ (Wadiwel 9) against the sow and the hen, which must reproduce prolifically and be good mothers, and against the boar and the rooster, which must be ever more muscular, strong, and productive, resembles that exercised on a daily basis against women and men in heteronormative capitalist societies (see e.g. Gimenez; Jordan). Industrial chicken and pig images strengthen and maintain ‘patriarchal relations’ and ‘construct gender roles’ (Wadiwel 9) that are naturalized and normalized by the animal body, like universal laws immune to species distinctions: women, like sows and hens, give birth and provide nurturance; while men, boars, and roosters regulate affairs, produce, and defend boundaries. Animal images and texts ‘encode’ a vision of ‘how [chicken, pig and human] life ought, or ought not, to be lived’, they express a ‘social order’, a ‘society’s shared understanding of good and evil’ (Jasanoff 3-4) – of healthy and unhealthy environments, safe and risky lives, clean and dirty bodies, states of care or neglect, relationships of dominance and subordination. The way we treat images of pigs and chickens is, very often, the way we treat actual pigs and chickens; and the way we treat pigs and chickens, in turn, both affects and reflects the way we treat one another.

All images result from choices made by those who create, edit, and circulate them. But viewing involves making choices, too. Animal images may ‘move and engage the reader’, eliciting emotional responses in ways that reveal what has been produced and manufactured by structuring forces and systems of oppression (Hamilton and Taylor). Using animals and their images ‘push[es] from consciousness those parts of the text that have not been illuminated’; they ‘not only can make arguments more vivid, but also more lucid’ (Grady 84-86). The ways breeding companies capture and stage bodies of chickens and pigs, or transform them through visual manipulation (angles, lights, digital imaging), are all clues that tell us about the ‘image-maker’s psychic landscape’ (ibid 85): animal industries’ own visions and fantasies of what chickens and pigs are and should be. Animal images reveal human projections onto the animal body. In delivering industrial animal bodies to the viewer, images can convey what these animals are, and what they have lost in so becoming. Encountering the almost android-like bodies of industrial chickens and pigs designed by breeding companies, the spectator may become poignantly aware of how these animals suffer the loss of one form of life as they essentially become new lifeforms.

As part of a larger storytelling effort to construct, constitute, and encourage processes of chicken and pig selection and adaptation to large-scale industrial farming, visual chicken and pig narratives are ‘integral to any complete analysis of [agricultural] organizational becoming’ (Brown, Gabriel, and Gherardi 325). Chicken and pig images are idealized representations of the ‘actual futures and possible worlds’ of the chicken and pig industry (ibid). The American breeding company Cobb knew this when in the 1950s it foresaw its future through its revolutionary all-white chickens, asserting through imagery its thirst for industrial growth and global expansion [see link in fn. 11]. Large breeding companies breed animals in order to breed themselves (see also Mullin). Chickens and pigs represent bodies to be conquered, like those of so many humans, for the sake of the social and cultural development projects of Western capitalist societies.

Animal industries collectively seem to constitute a kind of unstoppable juggernaut, covering the globe with industrial animal bodies. In reading against the dominant narrative, in reflecting on the things we aren’t supposed to reflect on, we create a kind of friction. Reflection itself constitutes a kind of resistance: ‘There’s nothing wrong with standing back and thinking,’ as Sontag wrote (*Regarding the Pain of Others* 118). Indeed, our reading of industrial animal imagery is not wholly oppositional. Animal industries propose that they ‘care’ deeply for animal bodies, and they bring this care to the images they produce. Barthes notes, ‘it is not indifference which erases the weight of the image [...] but love, extreme love’ (*Camera Lucida* 12). But as the course of industry trends toward profit above all, the discourse of industrial images trends toward instrumentalism. The image of the animal, and the image of a care anchored primarily to monetary value and industry interests, have come to replace the actual animal, and the notion of a care that is applied to the animal for its own sake. ‘Cobb cares,’ the company’s welfare website declares; and indeed, animal industries dedicate tremendous energy to animal health and welfare. But industrial animals are substances before they are creatures. What Blanchette asserts about industrial pigs is true for all industrial animals: ‘there is barely any room left for value-free biology’ (209).

In their work on organizational storytelling and organizational change, Brown, Gabriel, and Gherardi argue that ‘no single perspective on organizing and processes of change has a monopoly on ‘truth’ and that the vivid insights that a storytelling approach may yield need always to be complemented by other ways of seeing and understanding’ (326). In this paper, images have allowed us to challenge hegemonic notions of breed perfection in industrial farming by allowing us to listen to marginal voices, whether human or not. Such voices are often ‘concealed or ignored by webs of ideologically-based discursive practices that militate against change’ (Brown 327; see also Peirano-Vejo and Stablein). But as ‘Reality changes; in order to represent it, modes of representation must change’ (Brecht 229). Carefully considering visual representations can help organizations to consider their own deep ideologies, in the process redefining norms and reorienting practices toward ethical responsibility. As with any change, new stories can be told, potentially reconstructing new, ethical and inclusive systems of animal farming.

**References**

Abbots, Emma-Jane, and Anna Lavis, eds. *Why We Eat, How We Eat: Contemporary Encounters Between Foods and Bodies*. Surrey/Burlington: Ashgate, 2013.

Adams, Carol J. *The Sexual Politics of Meat: A Feminist-Vegetarian Critical Theory*. Bloomsbury, 1990.

Adams, Carol J. *The pornography of Meat*. New York/London: Continuum, 2004.

Agroalimentario Chico (ACH). ‘Differences between the Duroc and the White pig breeds.’ agroalimentariachico.com/en/differences-between-the-duroc-and-the-white-pig-breeds/. Accessed 4 May 2021.

Almiron, Núria. ‘The Political Economy Behind the Oppression of Other Animals: Interest and Influence.’ *Critical Animal and Media Studies: Communication for Nonhuman Animal Advocacy,* edited by Núria Almiron, Matthew Cole, and Carrie P. Freeman, Routledge, 2016, pp. 26–41.

American Veterinary Medical Association (AVMA). ‘Tail docking and teeth clipping of swine.’ www.avma.org/resources-tools/avma-policies/tail-docking-and-teeth-clipping-swine. Accessed 27 April 2021.

Azoulay, Ariella.  *The Civil Contract of Photography*. New York: Zone Books, 2008.

Babcock. ‘Babcock Brown.’ www.babcock-poultry.com/babcock-home/product/babcock-brown/. Accessed 31 March 2021.

Baker, Steve. *Picturing the Beast: Animals, Identity, and Representation.* Urbana/Chicago: University of Illinois Press, 2001.

Barthes, Roland. *Mythologies.* Translated by Annette Lavers, New York: Hill and Wang, 1972.

Barthes, Roland. *Camera Lucida: Reflections on Photography*. Translated by Richard Howard, New York: Hill and Wang, 1981.

Batchen, Geoffrey. ‘Ectoplasm.’ *Each Wild Idea: Writing Photography History*, Cambridge, MA/London: MIT Press, 2001, pp. 128-144.

Bellet, Camille, Lindsay Hamilton, and Jonathan Rushton. ‘Re-thinking public health: Towards a new scientific logic of routine animal health care in European industrial farming.’ *Humanities & Social Sciences Communications,* vol. 8, no 214, August 2021, pp. 1-11.

Berger, John. *Ways of Seeing*. London: BBC and Penguin, 1973.

Berger, John. *Why Look at Animals?* London: Penguin, 2009.

Berlan, Jean-Pierre. ‘The Origins of American Agricultural Policy: Long-Term Growth and Crisis.’ *Production et politiques agricoles dans les pays industriels : du dedans au dehors*, vol. 12, no. 1, 1981, pp. 89-101.

Blanchette, Alex. *Porkopolis: American Animality, Standardized Life, and the Factory Farm*. Durham and London: Duke University Press, 2020.

Borneman, John. 1988. ‘Race, Ethnicity, Species, Breed: Totemism and Horse-Breed Classification in America.’ *Comparative Studies in Society and History*, vol. 30, no. 1, pp. 25-51.

Brockotter, Fabian. ‘Cobb celebrates 100 years.’ *Poultry World*, 2016. www.poultryworld.net/Genetics/Articles/2016/2/Cobb-celebrates-100-years-2748894W/. Accessed 31 March 2021.

Bovans. ‘Bovans Black’. www.bovans.com/en/product/bovans-black/. Accessed 31 March 2021.

Boyd, William. ‘Making Meat: Science, Technology, and American Poultry Production.’ *Technology and Culture*, vol. 42, no. 4, October 2001, pp. 631-664.

Brecht, Bertolt. ‘Popularity and Realism.’ *Modern Art and Modernism: A critical Anthology*, edited by Francis Fascina and Charles Harrison, London: Harper & Row Ltd., 1982, pp. 227-231.

British Pig Association (BPA). ‘Breed standards.’ www.britishpigs.org.uk/breed-standards. Accessed 31 March 2021.

Brown, Andrew D., Yiannis Gabriel, and Silvia Gherardi. ‘Storytelling and Change: An Unfolding Story.’ *Organization*, vol. 16, no. 3, 2009, pp. 323-333.

Bruno, Michael H. ‘Photomechanical Printing Processes.’ In John Sturge, ed., Neblette's *Handbook of Photography Reprography: Materials, Processes, and Systems*, 7th Ed. New York: Van Nostrand Reinhold, 1977, p. 481-495.

Bugos, Glenn E. ‘Intellectual Property Protection in the American Chicken-Breeding Industry.’ *The Business History Review*, vol. 66, no. 1, Spring 1992, pp. 127-168.

Callon, Michael, and John Law. ‘Introduction: Absence—Presence, Circulation, and Encountering in Complex Space.’ *Environment and Planning D: Society and Space*, vol. 22, 2004, pp. 3-11.

Calvert, Scout. ‘Certified Angus, Certified Patriot: Breeding, Bodies, and Pedigree Practices.’ *Science as Culture*, vol. 22, no. 3, 2013, pp. 291-313.

Chris, Cynthia. *Watching Wildlife*. Minneapolis, MN: University of Minnesota Press, 2006.

Cobb. ‘Cobb Focus.’ No. 2, 2007. www.sabzdasht.com/Filefile/27cobb\_focus\_two\_2007\_english.pdf. Accessed 31 March 2021.

Cobb. ‘Cobb Focus’. No. 2, 2015. www.cobbfocus.com/publication/?m=66113&i=701768&p=1. Accessed 13 April 2021.

Cobb. ‘Cobb Focus’. No. 2, 2016. www.cobbfocus.com/publication/?m=66113&i=701764&p=1. Accessed 31 March 2021.

Cobb. ‘Cobb Focus’. No. 3, 2016. www.cobbfocus.com/publication/?m=66113&i=701763&p=1. Accessed 31 March 2021.

Cobb. ‘Cobb Focus.’ No. 4, 2017. http://www.cobbfocus.com/publication/?m=66113&i=701743&p=1. Accessed 13 April 2021.

Cobb. ‘Leadership.’ 2021. www.cobb-vantress.com/en\_US/our-story/leadership/. Accessed 1 April 2021.

Cobb. ‘CobbSasso.’ 2021. www.cobb-vantress.com/assets/Cobb-Files/product-guides/6c1436d72b/CobbSasso\_Breeder\_Management\_Supplement\_v1\_EN.pdf. Accessed 1 April 2021.

Coulter, Kendra. *Animals, Work, and the Promise of Interspecies Solidarity*. London: Palgrave Macmillan, 2016.

Cudworth, Erika. ‘‘Most farmers prefer Blondes’: The Dynamics of Anthroparchy in Animals’ Becoming Meat.’ *Journal for Critical Animal Studies*, vol. VI, no. 1, 2008, pp. 32-45.

Danbred. ‘Danbred breeding goals and documented results.’ 2018. danbred.com/en/danbred-breeding-goals-and-documented-results/. Accessed 6 April 2021.

Danbred. ‘New Danbred breeding goals on the way.’ danbred.com/en/new-danbred-breeding-goals-on-the-way/. Accessed 6 April 2021.

Dirks, Harlan J., and Darrell Fienup. ‘Technological and market forces affecting vertical integration in the hog industry.’ University of Minnesota Agricultural Experiment Station, *Technical Bulletin*, no. 249, 1965. hdl.handle.net/11299/140012. Accessed 31 March 2021.

Douglas, Mary. *Purity and Danger: An Analysis of Concepts of Pollution and Taboo*. London/New York: Routledge, 1966.

Ewart, John. *Meat Production: A Manual for Producers, Distributors, and Consumers of Butchers’ Meat, Being a Treatise on Means of Increasing its Home Production*.  London: Crosby, Lockwood, and Co., 1878.

Finlay, Mark. ‘Hogs, Antibiotics, and the Industrial Environments of Postwar Agriculture.’  *Industrializing Organisms: Introducing Evolutionary History*, edited by Susan Schrepfer and Philip Scranton.  Hagley Perspectives on Business and Culture, vol. 5, New York/London: Routledge, 2004, pp. 237-260.

Food and Agriculture Organization of the United Nations (FAO). ‘FAOSTAT Database: Livestock primary.’ 2021. www.fao.org/faostat/en/#data/QL. Accessed 8 April 2021.

Fredericks, Christine. *Selling Mrs. Consumer*.  New York: Business Bourse, 1929.

Freeman, Carrie Packwood. ‘This Little Piggy Went to Press: the American News Media’s Construction of Animals in Agriculture.’ *The Communication Review*, vol. 12, no. 1, 2009, pp. 78–103.  doi:10.1080/10714420902717764.

Garval, Michael D.  ‘Visions of Pork Production, Past and Future, on French Belle Époque Pig Postcards.’ *Nineteenth-Century Art Worldwide,* vol. 14, no. 1, Spring 2015, www.19thc-artworldwide.org/index.php/spring15/garval-on-visions-of-pork-production-past-and-future-french-belle-epoque-postcards. Accessed 29 April 2021.

Gimenez, Martha E. ‘Capitalism and the Oppression of Women: Marx Revisited.’ *Science and Society*, vol. 69, no. 1, 2005, pp. 11-32.

Godley, Andrew. ‘The emergence of agribusiness in Europe and the development of the Western European broiler chicken industry, 1945 to 1973.’ *Agricultural History Review,* vol. 62, no. 2, 2014, pp. 315-336.

Goffman, Erving. *Gender Advertisements.* London: Macmillan, 1979.

Goodale, Greg, and Jason Edward Black, eds. (2010). *Arguments about Animal Ethics*. Lanham, MD: Lexington Books, 2010.

Grady, John. ‘Becoming a visual sociologist’. *Sociological Imagination*, vol. 38, no 2-3, 2018, pp. 81-112.

Hajdik, Anna Thompson. ‘A “Bovine Glamour Girl”: Borden Milk, Elsie the Cow, and the Convergence of Technology, Animals, and Gender at the 1939 New York World's Fair.’ *Agricultural History*, vol. 88, no. 4, Fall 2014, pp. 470-490.

Hamilton, Lindsay, and Nik Taylor. *Ethnography After Humanism: Power, Politics and Method in Multi-Species Research.* London: Palgrave MacMillan, 2017.

Hall, Stuart. ‘The Determinations of News Photographs.’ *The Manufacture of News: Social Problems, Deviance, and the Mass Media*, edited by Stanley Cohen and Jock Young, Revised edition, London: Constable/Beverly Hills, CA: Sage, 1981: pp. 226-243.

Haraway, Donna. *Primate Visions - Gender, Race, and Nature in the World of Modern Science*. London/New York : Routledge, 1989.

Haraway, Donna J. *Simians, Cyborgs, and Women: The Reinvention of Nature*. New York: Routledge, 1991.

Haraway, Donna J. *Modest\_Witness@Second\_Millennium.FemaleMan\_Meets\_OncoMouse: Feminism and Technoscience*. New York: Routledge, 1997.

Harrison, Ruth. *Animal Machines: The New Factory Farming Industry.* London: V. Stuart, 1964.

Hartwell, Thomas Horne. *The complete grazier, or, Farmer's and cattle-breeder and dealer's assistant*. London: Bradwell, Craddock and Joy, 1816.

Hendrix Genetics. ‘The Warren Today.’ 2021. layinghens.hendrix-genetics.com/en/our-brands/warren/. Accessed 1 April 2021.

Holloway, Lewis, and Carol Morris. ‘Viewing Animal Bodies: Truths, Practical Aesthetics and Ethical Considerability in UK Livestock Breeding.’ *Social and Cultural Geography*, vol. 15, no. 1, 2014, pp. 1-22. doi.org/10.1080/14649365.2013.851264.

Horowitz, Roger.  ‘Making the Chicken of Tomorrow: Reworking Poultry as Commodities and as Creatures, 1945-1990.’ *Industrializing Organisms: Introducing Evolutionary History*, edited by Susan Schrepfer and Philip Scranton, Hagley Perspectives on Business and Culture, vol. 5, New York/London: Routledge, 2004, pp. 215-236.

Horowitz, Roger. *Putting Meat on the American Table: Taste, Technology, Transformation*.  Baltimore, MD: Johns Hopkins University Press, 2006.

Hubbard. ‘The challenging world of a primary breeder, matching genetics to market requirements.’ 2018. www.hubbardbreeders.com/media/art\_zootecnica\_en\_april\_2018\_hubbard\_rd1\_\_040855100\_1027\_28062018.pdf. Accessed 1 April 2021.

Hypor. ‘Can Your Boar Ensure Quality? Hypor Kanto Can.’ 2018. www.hypor.com/en/news/can-your-boar-ensure-quality-hypor-kanto-can/. Accessed 1 April 2021.

Hypor. ‘When Others Step Back, the Magnus Steps Up.’ 2018. www.hypor.com/en/news/when-others-step-back-the-magnus-steps-up/. Accessed 1 April 2021.

Hypor. ‘Hypor Kanto. The premium pork quality.’ 2021. https://www.hypor.com/en/product/kanto/. Accessed 1 April 2021.

Hypor. ‘Hypor Maxter. The most pork at the least cost.’ 2021. https://www.hypor.com/en/product/maxter/. Accessed 1 April 2021.

Hypor.  ‘Hypor Libra\*.  The world’s most ‘prolificent’ sow.’ 2021. https://www.hypor.com/en/product/libra/. Accessed 1 February 2021.

Hypor. ‘Hypor Magnus: more performance for less.’  2021. https://www.hypor.com/en/product/magnus/. Accessed 27 April 2021.

Ivins, William M., Jr. *Prints and Visual Communication*. Cambridge, MA/London: MIT Press, 1969.

Jasanoff, Sheila. ‘Future Imperfect: Science, Technology, and the Imaginations of Modernity.’ *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power,* edited by Sheila Jasanoff and Sang-Hyun Kim, Chicago/London: The University Chicago Press, 2015, pp. 1-33.

Jacques, D.H. *The barn-yard; a manual of cattle, horse and sheep husbandry*. Rev. Ed. New York: G.E., 1866.

Jordan, Ana. ‘Masculinizing Care? Gender, Ethics of Care, and Fathers’ Rights Groups.’ *Men and Masculinities*, vol. 23, no. 1, 2020, pp. 20-41. doi.org/10.1177/1097184X18776364.

JSR Genetics. ‘GP150 | JSR Genetics.’ 2021. www.everychina.com/buy/c-z140e6df/p-44103727-gp150-jsr-genetics.html. Accessed 8 April 2021.

Kalof, Linda, Joe Zammit-Lucia, and Jennifer R. Kelly. ‘The Meaning of Animal Portraiture in a Museum Setting—Implications for Conservation.’ *Organization & Environment*, vol. 24, no. 2, 2011, pp. 150-74. doi.org/10.1177/1086026611412081.

Khazaal, Natalie, and Núria Almiron. ‘An angry cow is not a good eating experience.’ *Journalism Studies*, vol. 17, no. 3, pp. 374-91. doi.org/10.1080/1461670X.2014.982966.

Le Heron, Richard. *Globalized Agriculture: Political Choice*. Oxford/New York: Pergamon Press, 1993.

Lerner, Jennifer E., and Linda Kalof.  ‘The Animal Text: Message and Meaning in Television Advertisements.’ *The Sociological Quarterly*, vol. 40, no. 4, 1999, pp. 565-86.

Lippit, Akira M. *Electric Animal: Toward a Rhetoric of Wildlife*. Minneapolis: University of Minnesota Press, 2008.

Lubritz, Danny. “Breeding for meat quality and high-yield products.” *Cobb Focus* 1 (2007), 6-7.

Luke, Brian. ‘Justice, Caring, and Animal Liberation.’ In Josephine Donovan and Carol J. Adams, eds., *The Feminist Care Tradition in Animal Ethics*. New York: Columbia University Press, 2007, 125-152.

Malamud, Randy. *An Introduction to Animals in Visual Culture*. New York: Palgrave Macmillan, 2012.

McLuhan, Marshall.  ‘The Medium is the Message.’  *Understanding Media: The Extensions of Man*, edited by Marshall McLuhan and Lewis H. Lapham, New York: Gingko Press, 2003, pp. 17-35.

Mitchell, W.J.T. *What do Pictures Want? The Lives and Loves of Images*. Chicago/London: The University of Chicago Press, 2005.

Mizelle, Brett. *Pig*. London: Reaktion Books, 2011.

Molloy, Claire. *Popular Media and Animals*. Basingstoke/New York: Palgrave Macmillan, 2011.

Moore, Jason W. *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*. London/New York: Verso, 2015.

Morton, Nick. ‘Animal Welfare as a Key Component of Daily Poultry Routine.’ 2012. https://www.thepoultrysite.com/articles/animal-welfare-as-a-key-component-of-daily-poultry-routine. Accessed 20 April 2021.

Mullin, Molly H. 'MIRRORS AND WINDOWS: Sociocultural Studies of Human-Animal Relationships.' *Annual Review of Anthropology*, vol. 28, 1999, pp. 201-224.

Nestle, Marion. *Food politics: How the food industry influences nutrition and health*. Berkeley/Los Angeles/London:  University of California Press, 2007.

Nibert, David A. *Animal Oppression and Human Violence: Domesecration, Capitalism, and Global Conflict*. Santa Barbara, CA/Denver, CO: Columbia University Press, 2013.

Nordby, Julius E., Beeson, William M., and Fourt, David L. *Livestock Judging Handbook*.  9th ed.  Danville, IL: Interstate Printers and Publishers, 1962.

Norsvin. ‘TN Tempo. Bred for toughness.​’ 2021. https://tntempo.com/#tntempo. Accessed 21 April 2021.

Norsvin. The robust TN Tempo contributes to labor efficient and easy production. 2019.  <https://topigsnorsvin.us/news-us1/tn-tempo-en-us/the-robust-tn-tempo-contributes-to-labor-efficient-and-easy-production/>. Accessed 6 April 2021.

Noske, Barbara. *Beyond Boundaries - Humans & Animals.* Montréal/New York/London: Black Rose Books, 1997.

Pachirat, Timothy. *Every Twelve Seconds: Industrialized Slaughter and the Politics of Sight*. New Haven/London: Yale University Press, 2011.

Peirano-Vejo, Maria E., and Ralph E. Stablein. ‘Constituting Change and Stability: Sense-making Stories in a Farming Organization.’ *Organization*, vol. 16, no. 3, 2009, pp 443-52. doi.org/10.1177/1350508409102306.

Pflimlin, André, Philippe Faverdin, and Claude Béranger. ‘Un demi-siècle d’évolution de l’élevage bovin. Bilan et perspectives.’ *Fourrages*, vol. 200, 2009, pp. 429-64.

PIC. ‘PIC Newsletter’. Summer/Autumn 2017. https://gb.pic.com/wp-content/uploads/sites/9/2019/04/PIC\_UK\_Newsletter\_2017-09.pdf. Accessed 1 April 2021.

Pick, Anat. *Creaturely Poetics: Animality and Vulnerability in Literature and Film*. Columbia University Press, 2011.

Pick, Anat, and Guinevere Narraway. *Screening Nature: Cinema beyond the Human*. Berghahn Books, 2013.

Porcher, Jocelyne. *Vivre avec les animaux. Une utopie pour le XXIe siècle*. Paris: La Découverte Paris, 2014.

Poultry Site. ‘Cobb's Early Lesson in Capitalism.’ 2008. https://www.thepoultrysite.com/news/2008/10/cobbs-early-lesson-in-capitalism. Accessed 13 April 2021.

Ritvo, Harriet. *The Animal Estate: The English and Other Creatures in the Victorian Age.* Cambridge, MA: Harvard University Press, 1987.

Sahlins, Marshall. ‘Colors and cultures.’ *Semiotica*, vol. 16, no. 1, 1976, pp. 1-22.

Sekula, Allan.  ‘The Traffic in Photographs.’ *Photography Against the Grain: Essays and Photo Works 1973-1983,* The Press of the Nova Scotia College of Art and Design, 1984, pp. 77-101.

Shukin, Nicole. *Animal Capital: Rendering Life in Biopolitical Times*. Minneapolis/London: University of Minnesota Press, 2009.

Sontag, Susan. *On Photography*. New York: Farrar, Strauss, and Giroux, 1977.

Sontag, Susan. *Regarding the Pain of Others*. New York: Farrar, Strauss, and Giroux, 2003.

Squiers, Carol, Geoffrey Batchen, George Baker, and Hito Steyerl.  *What is a Photograph?*  Munich/London/New York: ICP/Delmonico, 2014.

Stewart, Kate, and Cole, Matthew. ‘The conceptual separation of food and animals in childhood.’ *Food, Culture and Society*, vol. 12, no. 4, 2009, pp. 457-76. [doi.org/10.2752/175174409X456746](https://doi.org/10.2752/175174409X456746)

Strauss, David L.  ‘Photography and Propaganda.’ *Between the Eyes: Essays on Photography and Politics*, New York: Aperture, 2003, pp. 12-41.

Tagg, John. *The Disciplinary Frame: Photographic Truths and the Capture of Meaning.* Minneapolis: University of Minnesota Press, 2009.

Vaughan, William. *British Painting: The Golden Age*. New York: Thames and Hudson, 1999.

Wadiwel, Dinesh. *The War Against Animals*. Leiden/Boston: Brill, 2015.

Wallace, Robert, G. ‘Breeding Influenza: The Political Virology of Offshore Farming.’ [*Antipode*](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7161869/), vol. 41, no. 5, 2009, pp. 916-51.

Ward, Clement E. ‘Vertical Integration Comparison: Beef, Pork, and Poultry.’ 1997. https://riskmgt.uwagec.org/MarketRisk/VerticalIntegrationComparisonBeefPork&Poultry.pdf. Accessed 6 May 2021.

Weil, Kari. *Thinking Animals: Why Animal Studies Now*. New York: Columbia University Press, 2012.

Wilkinson, Helen. '"The New Heraldry": Stock Photography, Visual Literacy, and Advertising in 1930s Britain.' *Journal of Design History*, vol.  10, no. 1, 1997, pp. 23-38.

Wolfe, Cary. *Animal Rites: American Culture, the Discourse of Species, and Posthumanist Theory*. Chicago/London: The University of Chicago Press, 2003.

Woods, Abigail, Michael Bresalier, Angela Cassidy, and Rachel Mason Dentinger. *Animals and the Shaping of Modern Medicine: One Health and Its Histories.* Switzerland: Palgrave macmillan, 2018.

WorldPoultry. ‘Cobb and Sasso in new partnership.’ 2008. https://www.poultryworld.net/Breeders/General/2008/1/Cobb-and-Sasso-in-new-partnership-WP002124W/. Accessed 1 April 2021.

WorldPoultry (2015). Breeding for alternative markets. 2015. https://www.poultryworld.net/Genetics/Articles/2015/11/Breeding-for-alternative-markets-2709620W/. Accessed 1 April 2021.

1. Aviagen, Inc., for instance, advertises its Ross 308 broiler with a photograph of a bird directly facing the lens. See an archived version of the page at

[https://web.archive.org/web/20220310220943/http://tmea.aviagen.com/brands/ross/products/ross-308](https://web.archive.org/web/20220310220943/http%3A/tmea.aviagen.com/brands/ross/products/ross-308) [↑](#footnote-ref-1)
2. For example, see an image of 3 pigs accompanying the article ‘Møllevang’ in the newsletter of breeding company Hermitage AI, Spring 2018, p. 4:

[https://web.archive.org/web/20220310233825/https://pichermitage.com/wp-content/uploads/2018/03/NewsletterUKd2.pdf](https://web.archive.org/web/20220310233825/https%3A/pichermitage.com/wp-content/uploads/2018/03/NewsletterUKd2.pdf) [↑](#footnote-ref-2)
3. See the Aviagen images, for example, at

[https://web.archive.org/web/20220310225011/https://eu.aviagen.com/brands/rowan-range/products/ranger-classic](https://web.archive.org/web/20220310225011/https%3A/eu.aviagen.com/brands/rowan-range/products/ranger-classic) ; and at

[https://web.archive.org/web/20220310230512/https://eu.aviagen.com/brands/rowan-range/products/ranger-gold](https://web.archive.org/web/20220310230512/https%3A/eu.aviagen.com/brands/rowan-range/products/ranger-gold) [↑](#footnote-ref-3)
4. The Cobb image accompanies the article ‘Cobb achieves first compartment status in Brazil,’ in *Cobb Focus* Issue 1, Winter 2017, p. 4,

[https://web.archive.org/web/20220310234250/http://www.cobbfocus.com/publication/?m=66113&i=701761&p=4](https://web.archive.org/web/20220310234250/http%3A/www.cobbfocus.com/publication/?m=66113&i=701761&p=4) [↑](#footnote-ref-4)
5. For the Genus PIC image, see

[https://web.archive.org/web/20201127110845/https://www.pic.com/2020/03/17/5-practical-tips-to-improve-farrowing-rates/](https://web.archive.org/web/20201127110845/https%3A/www.pic.com/2020/03/17/5-practical-tips-to-improve-farrowing-rates/) [↑](#footnote-ref-5)
6. See, for example, an image of poultry carcasses accompanying the article ‘New Opportunity to Reduce Cost of Chicken Production,’ *Cobb Focus Europe Special*, 2003, p. 1:

<https://www.yumpu.com/en/document/read/45931460/cobb-focus-euopespecial-2003-english-cobb-vantress> [↑](#footnote-ref-6)
7. The banner image on the site has now changed. The one referenced here can be viewed at [https://web.archive.org/web/20211129054422/https://www.cobb-vantress.com/en\_US/cobb-cares/](https://web.archive.org/web/20211129054422/https%3A/www.cobb-vantress.com/en_US/cobb-cares/) [↑](#footnote-ref-7)
8. The image accompanies the article ‘Topigs 20 shows its potential with 69.5 pigs per sow,’ in *The Insider: Topigs Norvsin Canada & USA*, Fall 2016, p. 2;

[https://web.archive.org/web/20220311003913/https://topigsnorsvin.com/tn-content/uploads/2020/01/Topigs-Norsvin-Insider-1609.Fall16.pdf](https://web.archive.org/web/20220311003913/https%3A/topigsnorsvin.com/tn-content/uploads/2020/01/Topigs-Norsvin-Insider-1609.Fall16.pdf) [↑](#footnote-ref-8)
9. See image accompanying the article ‘PIC Pork Quality Programme: A Quarter of a Century of Progress,’ *PIC Newsletter*, December 2018, p. 1;

[https://web.archive.org/web/20220311004401/https://gb.pic.com/wp-content/uploads/sites/9/2019/04/PIC\_UK\_Newsletter\_2016-12.pdf](https://web.archive.org/web/20220311004401/https%3A/gb.pic.com/wp-content/uploads/sites/9/2019/04/PIC_UK_Newsletter_2016-12.pdf) [↑](#footnote-ref-9)
10. See image in the article ‘Major New Cobb Production Complex in Tennessee,’ Cobb Focus Issue 2, 2010, p. 1; [www.yumpu.com/en/document/read/29288056/cobb-focus-two-2010-english](http://www.yumpu.com/en/document/read/29288056/cobb-focus-two-2010-english) [↑](#footnote-ref-10)
11. Images of some early Cobb advertisements, including for the ‘White Rock’ breed, are available in the article ‘The Cobb Story: The First 50 Years,” *Cobb Focus* issue 2, 2016, p. 2-3; [https://web.archive.org/web/20220322133938/http://www.cobbfocus.com/publication/?m=66113&i=701764&p=2&ver=html5](https://web.archive.org/web/20220322133938/http%3A//www.cobbfocus.com/publication/?m=66113&i=701764&p=2&ver=html5) [↑](#footnote-ref-11)
12. An image of Khruschev with the rooster is available at

[https://web.archive.org/web/20220311193320/https://www.thepoultrysite.com/news/2008/10/cobbs-early-lesson-in-capitalism](https://web.archive.org/web/20220311193320/https%3A/www.thepoultrysite.com/news/2008/10/cobbs-early-lesson-in-capitalism) [↑](#footnote-ref-12)
13. See, for example, an image of a Cobb chicken farm in Brazil in the article ‘Compartmentalization progress still hinges on trading partner acceptance,’ *Cobb Focus* Issue 1 (2010), p. 7, [www.yumpu.com/en/document/read/33700851/cobb-focus-one-2010-english](http://www.yumpu.com/en/document/read/33700851/cobb-focus-one-2010-english) (accessed 23 April 2021) [↑](#footnote-ref-13)
14. See the article and image at

[https://web.archive.org/web/20220311194300/https://gb.pic.com/wp-content/uploads/sites/9/2019/04/PIC\_UK\_Newsletter\_2017-09.pdf](https://web.archive.org/web/20220311194300/https%3A/gb.pic.com/wp-content/uploads/sites/9/2019/04/PIC_UK_Newsletter_2017-09.pdf) [↑](#footnote-ref-14)
15. See the article and image at

[https://web.archive.org/web/20220311200153/https://www.hubbardbreeders.com/media/art\_zootecnica\_en\_april\_2018\_hubbard\_rd1\_\_040855100\_1027\_28062018.pdf](https://web.archive.org/web/20220311200153/https%3A/www.hubbardbreeders.com/media/art_zootecnica_en_april_2018_hubbard_rd1__040855100_1027_28062018.pdf) [↑](#footnote-ref-15)
16. The advertisement is available at

<https://www.poultryinternational-digital.com/poultryinternational/201801/MobilePagedReplica.action?pm=2&folio=2#pg4> [↑](#footnote-ref-16)
17. The advertisement is available at

<https://www.wattpoultryusa-digital.com/wattpoultryusa/april2020/MobilePagedReplica.action?pm=2&folio=6#pg8> [↑](#footnote-ref-17)
18. The image is available at

[https://web.archive.org/web/20220311202537/https://tntempo.com/#tntempo](https://web.archive.org/web/20220311202537/https%3A/tntempo.com/#tntempo) [↑](#footnote-ref-18)