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Building a Nest in Human-Built Spaces

Tracing the Experiences of Finnish Sows, c. 1900–1930s

ABSTRACT This article seeks to understand how Finnish sows experienced human-built spaces in the first decades of the 1900s, during which commercial and modern swine production methods slowly began to transform their lives and living conditions. I approach the question of sows' experiences by focusing on a particular behavior of sows (nest building) and how they performed it in modern piggeries. First, I outline the different features of *farrowing pens*, which were specifically designed for sows and their piglets and which were, consequently, the most common spaces sows experienced during nest building. Second, I analyze sows' nest-building behavior in pens and how different spatial features and husbandry practices shaped its execution. I suggest that nest-building behavior can be seen as an example of sows' own place-making processes and how they create meaningful places of their own in given circumstances. At the same time, these processes convey sows' experiences and their own role in the production of those circumstances. Broadly, this article suggests that the analysis of animal behaviors at the intersection of spaces, materials, and practices creates possibilities to interpret animal experiences and how they have navigated their lives in specific historical circumstances. KEYWORDS swine, swine husbandry, history of experience, animal breeding, agricultural history, Nordic history

INTRODUCTION

At the turn of the 20th century, images, drawings, and floor plans of new, modern piggeries were introduced in Finnish guidebooks, magazines, and newspapers, and, together, they represented a new era in Finnish swine husbandry. These new piggeries were material signs of a more commercially oriented swine production that organized and controlled the lives and slaughter of pigs in a manner not seen before. Although Finland was an agrarian country at the beginning of the 1900s and the situation did not change considerably until after World War II, it was not a bystander in agricultural modernization, nor was it without ambitions to enter world markets, as historian Taina Syrjämaa has noted.[1] Instead, albeit slowly, Finland adopted practices and ideas that allowed intensification of its agricultural production and animal husbandry. The commercialization of swine production and the changes it brought about were reflective of the changing attitudes and ideas toward pigs and their roles in a developing Finnish society.

1. See, e.g., Taina Syrjämaa, "Multispecies Mobilities and Human Belief in Progress," in *Animal Industries. Nordic Perspectives on the Exploitation of Animals since 1860*, ed. Taina Syrjämaa, Marja Jalava, Taija Kaarlenkaski, Otto Latva, Eeva Nikkilä, and Tuomas Räsänen (Berlin: DeGruyter, 2024), 25–43.

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For pigs, the development of new, more modern piggeries meant pervasive changes in their living conditions.[2] As historian Marja Jalava has explained, free-roaming, waste-eating, and freely mating pigs represented swine husbandry in its primordial state for agricultural experts who aspired to develop Finnish swine husbandry similar to that of other Nordic countries.[3] It was not only housing arrangements that changed for the pigs, but also the practices of breeding, feeding, and care that were transformed to align with the increasing economic aspirations in Finnish swine production. Jalava has also pointed out that these changes marked the beginning of a major shift as Finnish swine husbandry transformed slowly from domestic self-sufficiency to an animal industry.[4] I argue that it is integral to understand the spatial aspects of this shift and to focus on the modern piggeries of the early 20th century as spaces that redefined the lived lives of pigs and their experiences. Rhetoric scholar Kristian Bjørkdahl and science and technology studies scholar Tone Druglitrø have written about animal housing, suggesting that physical infrastructures should not be seen only as material objects but rather as "complex nodes of politics, practices, and human–animal relations."[5] Therefore, historical piggeries not only reflected the material or climatic realities of their time and place, but they also mirrored cultural, societal, and economic shifts. As historian Dorothee Brantz has stated, the sociocultural, economic, and political circumstances in which human-animal relationships occur are essential contexts in studies concerning animals and their histories.[6] In piggeries, pigs experienced the changes and impacts of commercialization and agricultural modernization within spaces and practices considered essential in the process of producing profitable pigs. Ultimately, one could argue that the experiences of pigs (and those of other non-humans) provide an additional dimension for analyzing societies and how they were experienced by various individuals and groups.

In this article, I investigate the lives of female pigs, from now on referred to as *sows*, in Finland from the 1900s to the 1930s and seek to understand how pregnant sows experienced human-built spaces. To accomplish this, I study the nest-building behavior of sows and how it was performed in historical piggeries, as well as how changing housing arrangements and practices of care influenced the experiences of pigs. This means that I understand nest building not only as a biological need but also as

2. Historian Abigail Woods has argued in her article about British pig production in the 1900s that we need to have a historically situated understanding of what is modern. In this regard, the piggery design presented in this article represents the ideas of modern swine husbandry as understood in Finland in the early 1900s. See Abigail Woods, "Rethinking the History of Modern Agriculture: British Pig Production, c. 1910–65," *Twentieth Century British History* 23 (June 2012): 174–177.

3. Marja Jalava, "Knowledge in the Service of Profit: Pig Fattening Performance Testing in the First Half of the Twentieth Century," in *Animal Industries. Nordic Perspectives on the Exploitation of Animals Since 1860*, ed. Taina Syrjämaa, Marja Jalava, Taija Kaarlenkaski, Otto Latva, Eeva Nikkilä, and Tuomas Räsänen (Berlin: DeGruyter, 2024), 66.

4. Jalava, "Knowledge in the Service of Profit," 63.

5. Kristian Bjørkdahl and Tone Druglitrø, "Animal Housing/Housing Animals. Nodes of Politics, Practices and Human-Animal Relations," in *Animal Housing and Human-Animal Relations. Politics, Practices and Infrastructures*, ed. Kristian Bjørkdahl and Tone Druglitrø (London: Routledge, 2016), 1.

6. Dorothee Brantz, "Introduction," in *Beastly Natures. Animals, Humans, and the Study of History*, ed. Dorothee Brantz (Charlottesville: University of Virginia Press, 2010), 10.

a historically situated phenomenon and behavior, the success of which depended on the circumstances in which the sows built their nests. In my theoretical framework, I connect geographical concepts of *space* and *place* with ideas presented in the history of experience, and I use this apparatus to qualitatively analyze the lives of historical pigs. My source materials consist of contemporary guidebooks, newspapers, and agricultural magazines.

This article provides new insights into pig histories and builds on works of scholars, such as Sam White, Abigail Woods, Brett Mizelle, and Marja Jalava, who have addressed pigs' roles in capitalism-driven systems and their position in modernized and industrialized agriculture, but more generally, it builds on histories that have explored pigs' lives and impact on humans in various historical settings.[7] In historical research and more broadly in multidisciplinary human-animal studies, there has been a growing interest in developing methods that would enable researchers to comprehend and analyze animal perspectives and experiences.[8] As historian Éric Baratay has pointed out, "the quest for animal points of view represents both an absolute exigency and an unattainable end."[9] In this article, I wish to strengthen the methodological foundations that would better allow historians to integrate the experiences of animals into historical research by focusing on the historical nest-building processes of Finnish breeding sows from a spatial perspective. Thus, this is as much a methodology article as it is a case study.

FRAMEWORK FOR UNDERSTANDING HISTORICAL NEST-BUILDING EXPERIENCES OF SOWS

First, I will elaborate on the nest-building behavior of sows as understood from a scientific perspective before I move on to my theoretical framework. I suggest, however, that the application of current knowledge to historical pigs must be done with proper care and consideration; historical pigs and their behavior should always be contextualized to the

7. Sam White, "From Globalized Pig Breeds to Capitalist Pigs: A Study in Animal Cultures and Evolutionary History," *Environmental History* 16 (January 2011): 94–120; Woods, "Rethinking the History of Modern Agriculture"; Brett Mizelle, "Unthinkable Visibility: Pigs, Pork, and the Spectacle of Killing and Meat," in *Rendering Nature: Animals, Bodies, Places, Politics*, ed. Marguerite S. Shaffer and Phoebe S. K. Young (Philadelphia: University of Pennsylvania Press, 2015); Jalava, "Knowledge in the Service of Profit." See also Tiago Saraiva, *Fascist Pigs: Technoscientific Organisms and the History of Fascism* (Cambridge: MIT Press, 2016); Thomas Fleischman, *Communist Pigs: An Animal History of East Germany's Rise and Fall* (Seattle: University of Washington Press, 2022); Jamie Kreiner, *Legions of Pigs in the Early Medieval West* (New Haven, CT: Yale University Press, 2020); Brian Lander, Mindi Schneider, and Katherine Brunson, "A History of Pigs in China: From Curious Omnivores to Industrial Pork," *Journal of Asian Studies* 79 (November 2020): 865–889; Dolly Jørgensen, "Controlling Pigs in Countryside and City for Sustainable Medieval Agriculture," in *Conservation's Roots: Managing for Sustainability in Preindustrial Europe, 1100–1800*, ed. Abigail P. Dowling and Richard Keyser (New York: Berghahn Books, 2020).

8. See, e.g., Sandra Swart, "The World Horses Made: A South African Case Study of Writing Animals into Social History," *International Review of Social History* 55 (August 2010): 241–263; Éric Baratay, *Animal Biographies. Toward a History of Individuals*, trans. Lindsay Turner (Athens: University of Georgia Press, 2022); Jennifer Bonnell and Sean Kheraj, eds., *Traces of the Animal Past. Methodological Challenges in Animal History* (Calgary: University of Calgary Press, 2022); Michael J. Glover and Les Mitchell, eds., *Animals as Experiencing Entities: Theories and Historical Narratives* (Cham: Palgrave Macmillan, 2024).

9. Baratay, *Animal Biographies*, Introduction, para. 19.

realities of their time and place. Then again, as historian Erica Fudge has pointed out, the findings of animal sciences can help to raise valid questions about the animals in the past.[10] It is also current scientific knowledge that supports the view that the basic behavioral needs of various domesticated animal species, including pigs, have not changed significantly despite their domestication.[11] This includes maternal behavior patterns, in which large similarities between the wild type and the domestic type of sows have been observed. Animal scientist Maria Andersson has addressed sows' nest building as one of the maternal behaviors in which similarities between wild and domestic types of pigs are most striking.[12] We can assume that "what holds for animals' experiential capacities today would be similar in historic settings as well," as historian Michael J. Glover and animal scientist Les Mitchell have put it.[13] Existing knowledges help to define the importance of nest-building behavior and to understand the different factors that affect it, but it is the task of a historian to understand the diverse historical situations, spaces, practices, and individual life histories that shaped nest-building processes in the past.

According to various studies summarized by animal welfare researchers Emma M. Baxter, Inger Lise Andersen, and Sandra A. Edwards, in the wild, pregnant sows leave their family groups and isolate themselves 2 to 3 days before giving birth. They select a nest site and start to prepare a nest by digging and rooting the ground and by carrying suitable nesting materials, such as branches and grass, to the site. Sows position the gathered materials carefully and create hollow, bowl-like nests to protect their young.[14] The onset of nest-building behavior is hormonal, and the process of nest building itself causes hormonal changes in sows' bodies, which prepare them for parturition. This means that if sows cannot complete their nests or perform nest-building behavior, it is likely to disturb their hormonal functions and increase stress, which could further complicate the act of *farrowing*, a term commonly used to refer to the process of giving birth to piglets. Therefore, although innate in origin, the nest-building behavior of sows is also greatly affected by the circumstances in which they build their nests.[15] Hence, how sows experienced their living conditions and the materiality and spatial details of these conditions are important aspects to consider when interpreting the experiences of nest building in Finnish piggeries in the early decades of the 1900s. Furthermore, this article asserts that it

10. Erica Fudge, "What Was It Like to Be a Cow? History and Animal Studies," in *The Oxford Handbook of Animal Studies*, ed. Linda Kalof (New York: Oxford University Press, 2017), 267.

11. Helena Telkänranta, *Eläin ja ihminen. Mikä meitä yhdistää?* (Helsinki: SKS, 2016), 158–159.

12. Maria Andersson, *Domestication Effects on Behaviour. Foraging, Parent-Offspring Interactions and Anti-predation in Pigs and Fowl* (Uppsala: Swedish University of Agricultural Sciences, 2000), 27.

13. Michael J. Glover and Les Mitchell, "Introduction: Animals 'Caught with Ourselves in the Net of Life and Time,'" in *Animals as Experiencing Entities: Theories and Historical Narratives*, ed. Michael J. Glover and Les Mitchell (Cham: Palgrave Macmillan, 2024), 10.

14. Emma M. Baxter, Inger Lise Andersen, and Sandra A. Edwards, "Sow Welfare in the Farrowing Crate and Alternatives," in *Advances in Pig Welfare*, ed. Marek Špinka (Duxford: Woodhead Publishing, 2018), 30.

15. Richard B. D'Eath and Simon P. Turner, "The Natural Behaviour of the Pig," in *The Welfare of Pigs*, ed. Jeremy N. Marchant-Forde (Dordrecht: Springer, 2009), 25–27; Jinhyeon Yun, Kirsi-Marja Swan, Claudio Oliviero, Olli Peltoniemi, and Anna Valros, "Effects of Prepartum Housing Environment on Abnormal Behavior, the Farrowing Process, and Interactions with Circulating Oxytocin in Sows," *Applied Animal Behaviour Science* 162 (January 2015): 21; Baxter, Andersen, and Edwards, "Sow Welfare," 30.

is necessary to understand nest building as a historically situated behavior that was shaped by the realities of particular times and places.

I share the view of geographers Chris Philo and Chris Wilbert, who have emphasized animal-centered aspects of space and place, meaning that animals act according to their own, beastly ways in space and create their own places that reflect their own lifeworlds.[16] Geographers Timothy Hodgetts and Jamie Lorimer have elaborated on this relationship between animal behavior, experiences, and spaces and suggested that to understand animals' lifeworlds, it is important to understand how animals act in different spaces and how they create places of their own.[17] Briefly, I want to examine how *space* and *place* shape nonhuman experiences.[18] I understand the relation between *space* and *place* along the lines of urban sociologists Xianming Chen, Anthony M. Orum, and Krista Paulsen, who have defined them in the context of cities: "*places* are specific sites . . . to which people have attached meaning. . . . But these particular places are also different kinds of *spaces*—geographic entities with distinct shapes, scales, and other properties that set the stage for certain kinds of human activities."[19] I suggest extending these definitions to animals as well: spaces also set the stage for certain kinds of nonhuman activities, and places are specific sites to which animals have attached meaning, for example, by using them for particular purposes, such as sleeping or defecating. In my work, I look at historical piggeries and farrowing pens as entities that set the stage for (non)human activities. The place-making processes of historical pigs, or, as presented in this article, the processes of nest building, were situated in these spaces, and *as* processes, sows' place-making activities shaped these spaces, which underscores the overlapping connection between place-making and space-making. It is these processes that convey the experiences of historical pigs and deepen our understanding of their *agency*, their ability as sentient beings to perceive and form perspective to their surroundings and act accordingly.[20]

The history of experience is a growing field within historiography, and historians Josephine Hoegaerts and Stephanie Olsen have summarized its strengths: "The history of experience is concerned with embodied engagement with social, cultural, political and material contexts, in order to understand lived experiences through these engagements."[21]

16. Chris Philo and Chris Wilbert, "Animal Spaces, Beastly Places. An Introduction," in *Animal Spaces, Beastly Places. New Geographies of Human-Animal Relations*, ed. Chris Philo and Chris Wilbert (London: Routledge, 2000), 13.

17. Timothy Hodgetts and Jamie Lorimer, "Methodologies for Animals' Geographies: Cultures, Communication and Genomics," *cultural geographies* 22 (April 2015): 285–295.

18. The idea that space and place shape human experience is well known, but I was especially inspired by the work of urban sociologists Xianming Chen, Anthony M. Orum, and Krista Paulsen, *Introduction to Cities: How Place and Space Shape Human Experience* (Chichester: Wiley-Blackwell, 2018).

19. Italics added by the author. See Chen, Orum, and Paulsen, *Introduction to Cities*, 5.

20. Susan Nance, *Entertaining Elephants. Animal Agency and the Business of the American Circus* (Baltimore: Johns Hopkins University Press, 2013), 9; Tuomas Räsänen and Taina Syrjämaa, "Introduction," in *Shared Lives of Humans and Animals. Animal Agency in the Global North*, ed. Tuomas Räsänen and Taina Syrjämaa (London: Routledge, 2017), 1.

21. Josephine Hoegaerts and Stephanie Olsen, "The History of Experience: Afterword," in *Lived Nation as the History of Experiences and Emotions in Finland, 1800–2000*, ed. Ville Kivimäki, Sami Suodenjoki, and Tanja Vahtikari (Cham: Palgrave Macmillan, 2021), 375.

I suggest that the history of experience offers excellent analytical means to engage with the historical experiences of animals and see the connections between different spheres of human society and animal experiences. The notion of historian Mari Eyice is that the body needs to be seen as "a historically specific subject that navigates its culture" and that this process of navigation is revealing of how subjects in the past have experienced themselves and their lifeworlds.[22] Nest-building sows can be seen as navigators of their specific historical circumstances and as experiencing historical subjects whose experiences were part of contemporary Finnish society in the early decades of the 1900s. Hence, the history of experience combined with the historical analysis of the experiences of pigs challenges us to consider more profoundly the fact that many of the animals' experiences originate from social structures. At the same time, the history of experience, for its part, invites us to thoroughly examine the all-encompassing impact we have on animals and vice versa. In the case of sows studied in this article, the material conditions of their lives were influenced by societal changes—for example, the commercialization and modernization of agriculture and animal husbandry—and they experienced the effects of these changes in the spaces and practices of modern piggeries and farrowing pens, through which their agential, embodied engagement with the surrounding world was structured and produced.

I have read the selected source materials—contemporary guidebooks, newspapers, and agricultural magazines—alongside each other to get a comprehensive view of the sows' lives in piggeries. The prescriptive texts in pig husbandry guidebooks, although often most telling of how things should be, were also reflective of the contemporaries' values, views, and problems they sought to resolve.[23] Guidebooks are met with practical experiences described and shared in magazines and newspapers, and together, the types of sources analyzed here provide the basis for interpreting the experiences of sows as well as a more comprehensive view of the material infrastructures and practices that were in use.

A FARROWING PEN INSIDE A MODERN PIGGERY: IDEAS BEHIND DESIGN

Next, I will focus on the different features of farrowing pens, as they were an integral part of the spaces that sows experienced during nest building and, in general, during their lifetime. This will provide a perspective on what an acceptable farrowing place was like from the point of view of humans in the early decades of the 1900s. Human conceptions of space were only one side of the formation of a proper farrowing place. Breeding sows' perceptions and experiences of space also played central roles. I will return to this latter aspect later, but for the moment, I will elaborate on what the farrowing pen was like so

22. She explicitly refers to people as historical subjects, but this is applicable to nonhuman subjects as well. See Mari Eyice, "Experiencing Bodies," in *Digital Handbook of the History of Experience*, ed. Johanna Annola, Rod Boddice, Reetta Eiranen, Mikko Kemppainen, and Jenni Kuuliala (Tampere: Research Council of Finland's Centre of Excellence in the History of Experiences, 2023).

23. Maija Ojala-Fulwood, "Naisleskien johtamat käsityöläisverstaat uuden ajan alun kaupungeissa," in *Perheen jäljillä: Perhesuhteiden moninaisuus Pohjolassa 1400–2020*, ed. Johanna Ilmakunnas and Anu Lahtinen (Tampere: Vastapaino 2020), 57.

FIGURE 1. A modern piggery with concrete pen walls at Vuojoki Mansion in western Finland in 1905. Johan Ludvig Nordberg, Rauma Museum, Rauma Museum photographic collections (RMK117).

that we have a basic understanding of the kinds of spaces the sows experienced during their nest building.

Most of the piggeries were still small-scale operations in the early decades of the 1900s, which meant that there were only one or two farrowing pens for sows and one to three regular pens for fattening pigs. This would have affected the daily soundscapes in piggeries, as the number of pigs in the same building remained modest. However, wealthy farms already operated on a larger scale, with tens or even hundreds of pigs in the same building. As a rule, if a farm owned more than ten sows, it was already considered a major operation in pig farming.[24] Depending on the scale of operation, sows farrowed under somewhat different conditions; in smaller farms, farrowings were singular cases, whereas in more densely populated piggeries, there were multiple sows farrowing, preferably at the same time.[25]

Ideally, modern piggeries were warm, dry, spacious, clean, and full of light.[26] In the case of farrowing pens, these qualities had to be at their best, or, as agronomist Toivo Hossola would say, a farrowing pen had to be the warmest and brightest place inside a piggery.[27]

24. Small-scale operators did not necessarily have a separate building for their pigs. In those cases, pigs were kept in barns with other farm animals, and depending on the design of the barn, pigs were either in the same room with cattle or situated in a small, separate room. See Mikko Ilkka, *Sianhoitokirja* (Helsinki: Otava, 1912), 86–89; A. V. Aimonen, *Sikataloustarkkailun opas* (Forssa: Forssan Kirjapaino, 1931), 10; Aarne Salokangas, *Sianhoidon käsikirja* (Porvoo: WSOY, 1933), 208–210.

25. A. M–o., "Imevien porsaiden hoidosta ja lisäruokinnasta," *Karjatalous*, May 5, 1939, 305.

26. Ilkka, *Sianhoitokirja*, 86.

27. Toivo Hossola, *Sianhoidon opas* (Tampere: Suomen Sianjalostusyhdistys, 1926), 58.

FIGURE 2. A modern piggery with barred pen walls at Katrineberg Mansion in southern Finland, c. 1932–49. Vantaa City Museum (1461:7).

Sunlight was most preferred because it was seen as beneficial for both the sows and their offspring: it provided warmth and kept the pen dry. Most importantly, it helped pigs produce vitamin D in their bodies, the connection of which was understood only after the discovery of vitamin D in 1922.[28] Without necessary nutrients, pigs were prone to deficiency diseases, a group of diseases that were fairly common in Finnish swine husbandry in the early 1900s. Modern piggeries had windows installed to provide pigs with sunlight, but during winters, sunlight is scarce in Finland, making pigs more vulnerable to deficiency diseases. Access to light was also dependent on pen design; slatted or barred pen walls allowed more sunlight to pass through.[29] Furthermore, the choice between solid (Figure 1) and barred pen walls (Figure 2) is a great example of how different features of space directly influenced the experiences of pigs and the degree of their isolation. Regardless of the wall design, sows in adjacent pens could likely hear and smell one another, but barred or slatted walls also added visual and tactile cues for sows to utilize.

The favorable qualities of farrowing pens were greatly affected by the changing materialities of piggeries, as they were increasingly built from more durable materials, such as stone, clay bricks, and, above all, concrete. As architectural historian Adrian Forty has expressed, "to talk about concrete is to talk about modernity."[30] As a material, it

28. Lee Russell McDowell, *Vitamins in Animal and Human Nutrition* (Ames: Iowa State University Press, 2000), 92–93.

29. Salokangas, *Sianhoidon käsikirja*, 218.

30. Adrian Forty, *Concrete and Culture: A Material History* (London: Reaktion Books, 2012), 14.

transformed piggeries into modern buildings, which stood as physical indicators of the growing economic and commercial potential of pig farming. The reasons to favor concrete were practical, as it was easy to clean, durable in use, and fire-resistant, but its increased use was also connected to the general innovations in concrete technology that took place in the 19th century, including the invention and upscaled manufacturing of Portland cement, the main ingredient of modern concrete.[31]

At the same time, wood, which had traditionally been used in farm buildings in Finland, was criticized for several reasons. First, and especially as the scale of operations grew, wooden piggeries did not endure increased wear and tear, such as heavy moisture loads. Second, wood was considered one of the most valuable export products for Finland, and, as such, its extensive use in farm buildings was contested.[32] Even though the preference for more-durable piggeries grew, one cannot define the years from the 1900s to the 1930s as an era of agreement on how piggeries should be built or as an era when a modern piggery had a unified look. For many pig farmers, the use of wood was a persistent necessity, as the high price or poor local availability of other materials made it impossible to use them. Also, initial experiences of pig keeping in new, more modern piggeries were not particularly good.

The latter was especially noticeable in the 1920s and 1930s, when a more critical stance toward the use of concrete was adopted by many agricultural professionals. As agronomist Aarne Salokangas wrote in his guidebook about pig keeping in 1933, some of the new piggeries had failed to consider the needs of the pigs, and, instead of being comfortable places for the pigs, they were now "prisons for pigs."[33] Excessive use of concrete and stone had led to cold and damp environments, which tested the health and well-being of pigs and brought about new health problems, including respiratory diseases, that were associated with modern buildings. As historian Abigail Woods noted in her article about British pig production, the development of modern pig production practices also included increased indoor production.[34] In 1933, Salokangas wrote that "a cement death" would threaten the lives of pigs in poorly built modern piggeries, and with that he referred to the conflict that had manifested between the materials used and the well-being of pigs.[35]

Unlike sows, newborn piglets were especially sensitive to cold environments, which highlighted the need for warm farrowing pens.[36] This was greatly affected by the materials

31. Jussi Paatela, *Sementin käyttö maataloudessa* (Helsinki: Rakentajain Kustannus O. Y., 1922), 3. See also Forty, *Concrete and Culture*, 15–18; Valeryia Pulko, *Ennen vuotta 1930 valmistettujen betonien ominaisuudet ja korjausmenetelmät* (Espoo: Aalto-yliopisto, 2019), 7.

32. Ilkka, *Sianhoitokirja*, 90; Paatela, *Sementin käyttö maataloudessa*, 13–14; Urho Åberg, "Sementtitiilet maatalousrakennuksissa," *Pellervo*, September 22, 1927, 721. See also Yrjö Kaukiainen, "Foreign Trade and Transport," in *The Road to Prosperity. An Economic History of Finland*, ed. Jari Ojala, Jari Eloranta, and Jukka Jalava (Helsinki: SKS, 2006), 148–150.

33. Salokangas, *Sianhoidon käsikirja*, 211.

34. Woods, "Rethinking the History of Modern Agriculture," 174–177.

35. Salokangas, *Sianhoidon käsikirja*, 211.

36. Adult pigs were known to tolerate lower temperatures in pens that were otherwise dry and bedded. The problem was that the conditions in many piggeries were both cold and damp, and even adult pigs had difficulties thriving in such circumstances. Nowadays, we know that although newborn piglets require heat, sows' temperature

and expertise used in building a piggery. If the floor of a farrowing pen was made of concrete, different heating solutions were strongly recommended, for example, underfloor heating pipes, but in practice, solutions to the challenges of concrete varied. Proper pen placement also improved heating and temperatures, as pens could be placed next to heat sources, such as ovens, or they could be placed in the center of the building and farther away from the outer walls. Whether the pens were heated or not, it was not recommended to let any pig sleep and rest on a bare concrete floor; instead, pigs should be offered wooden pallets to sleep on, and the floor space under them should be well insulated to protect from cold. As Toivo Hossola wrote in his guidebook about pig keeping in 1926, "all pigs need a warm place to lie down on, as having them lay on bare concrete is, mildly speaking, animal cruelty."[37] Ideally, if it was not possible to build a heating system, the pigs and piglets had to manage with wooden pallets, good insulation, and an abundant amount of bedding.

However, not every piggery and farrowing pen looked the same, and when negative experiences of concrete-built piggeries were increasingly discussed, alternative solutions emerged. These included pens with dirt floors that would have a layer of peat, sticks, or other porous material, such as straw, on the floor, and then wooden, removable boards above the so-called filling so that pigs could not dig into the layers underneath. Finally, another layer of bedding would cover the wooden boards, providing pigs with materials they could use.[38] Negative experiences related to the use of concrete were not a local or national phenomenon. When Aarne Salokangas gave a lecture at an event organized by *Lounais-Suomen Maanviljelysseura* (the Agricultural Society of Southwest Finland) in 1926, he addressed the problems that modern piggeries faced with concrete and explained how other countries were dealing with the same problems. For example, in Germany, it was suggested that concrete floors, rather than dirt floors, should be abandoned, and in Sweden, similar conclusions were also reached; concrete floors in pens were increasingly covered with layers of peat, followed by a wooden floor and a layer of bedding on top. The use of concrete was not recommended unconditionally; it required careful insulation and, if possible, a heating system.[39]

Hence, materiality and building mechanisms were integral to keeping farrowing pens dry and warm. If a concrete floor in a pen was flat, urine would not run out of the pen but would pool and the floor would stay wet, or urine and moisture would be absorbed into the bedding, which would stay damp if not changed often. As another agricultural expert, Rurik Pihkala, wrote, concrete floors were cold, wet, and hard, all of them justifying the need to use an abundant amount of bedding.[40] Layers of bedding were essentially another

requirements are considerably lower, and their welfare is compromised in thermally unfavorable environments. Rurik Pihkala, "Sikaloistamme," *Karjatalous*, January 29, 1926, 41. See also Anna K. Johnson and Jeremy N. Marchant-Forde, "Welfare of Pigs in the Farrowing Environment," in *The Welfare of Pigs*, ed. Jeremy N. Marchant-Forde (Dordrecht: Springer, 2009), 142.

37. Translated from Finnish by the author. Hossola, *Sianhoidon opas*, 47–48.

38. Salokangas, *Sianhoidon käsikirja*, 217.

39. Anon., "Lounais-Suomen Maanviljelysseuran karjapäivät," *Uusi Aura*, November 27, 1926.

40. Rurik Pihkala, "Sikaloistamme," 41.

form of insulation, complementing underfloor insulation and battling its potential weaknesses in piggeries.

Spaciousness was defined by numbers. For example, a farrowing pen was about 6 square meters in size, but it was also defined more practically, as in, when a pen was of proper size, piglets would not be crushed in a cramped space. However, even in spacious pens, it was advisable to use protective elements, such as rails or boards on each wall, approximately 15 to 20 centimeters off the ground, so that piglets could get under them when the sow moved or began to lie down. The fear of crushed piglets was a major concern that impacted the general design of farrowing pens, and it can be interpreted that the pen design was a practical way to control what was perceived to be a multifaceted problem. Moreover, it was difficult to foresee which individuals would be at risk of crushing their young, which further supported the use of protective elements in all farrowing pens. It was believed that a sow could crush her young, for example, because the pen was too dark and she could not see her piglets, or because the pen was bedded with straw that was too long and made it harder for the piglets to move around and evade their mother, or simply because the sow had become careless in her old age.[41]

However, carelessness was not a feature a sow was born with; instead, she developed it in relation to the conditions of her life. Agronomist Artturi Penttilä wrote in 1938 that "the lack of exercise is probably one of the reasons why sows become lame and crush their piglets."[42] He believed that sows required walking and exercise to stay in shape and that, without these activities, they would soon become lame and stiff in their movements.[43] I suggest that these perceptions of sows and their carelessness should be seen as indicative of their deteriorating health as their bodies aged and were shaped by the practices of swine husbandry and housing. This is further supported by the fact that breeding sows were chosen with care, and if a sow had problems taking care of her first litter or two, she did not proceed to have the relatively longer life of a breeding pig but would instead be fattened up and slaughtered. Sows who lived up to ten years were often the ones who were highly appreciated as breeding pigs, and for them, carelessness was a clear change in their maternal behavior and symptomatic of changes in their body condition.

Before turning my attention to nest building as a process during which sows' experiences of pen space were transformed and changed, I would like to point out the importance of understanding how contemporaries of the early 1900s understood and interpreted pigs, including their senses and behaviors. As mentioned, one of the reasons behind the crushing of piglets was thought to be the fact that sows could not see their piglets in a dimly lit or dark pen and vice versa, and therefore it was recommended that the farrowing pen should have lighting, for example, lamps or lanterns.[44] This is a prime example of how the practices

41. Ilkka, *Sianhoitokirja*, 94–105; Hossola, *Sianhoidon opas*, 50; Welä, "Häiriöitä porsimisen jälkeen," *Pellervo*, March 13, 1928, 229; Salokangas, *Sianhoidon käsikirja*, 227; Aarne Salokangas, *Sianhoidon ohjekirja* (Kangasala: Suomen Sianjalostusyhdistys, 1937), 95; Artturi Penttilä, "Eräitä sikojen talvihoidossa varteenotettavia seikkoja," *Karjatalous*, April 8, 1938, 227.

42. Penttilä, "Eräitä sikojen talvihoidossa varteenotettavia seikkoja," 227.

43. Penttilä, "Eräitä sikojen talvihoidossa varteenotettavia seikkoja," 227.

44. Welä, "Häiriöitä porsimisen jälkeen," 229; Penttilä, "Eräitä sikojen talvihoidossa varteenotettavia seikkoja," 227.

of swine husbandry and breeding reflected the knowledge that the contemporaries had about pigs and how that knowledge, in turn, shaped the practices and spaces that pigs experienced. Nevertheless, it was not an enduring view but instead became more nuanced as the years went on. For example, Penttilä wrote in 1938 that in a well-lit piggery, the biggest reason for the crushing of piglets was probably small pens and a lack of protective rails.[45] However, the emphasis on the importance of visual cues tells us more about human biases than it does about pigs. Nowadays, research suggests that sows rely more on olfactory, vocal, and tactile cues when communicating with their piglets.[46]

An ideal farrowing environment was not simply a spatial matter; it was also produced through various practices that affected the lives of breeding sows. As historian Sandra Swart has suggested, one way to write animal history is to focus on the daily activities that have affected the lived experiences of animals in the past.[47] In the next section, I will cover some of the basic practices involved in sows' lives close to the time of farrowing, as they offer a glimpse into what sows potentially experienced and in what kind of circumstances they eventually started to build a nest. While the focus here is on the practices that preceded farrowing, it is important to keep in mind that they formed only a fraction of the practices that breeding sows experienced. The pre-farrowing practices together with the spatial features of the farrowing pens played a pivotal role in guiding how the sows experienced the processes of nest building in a farrowing pen.

PEN SPACE IN PRACTICE: A CASE OF NEST BUILDING

Nest building is a great example of a "beastly place," where animals experience space and its features from their own perspective and create meaningful places of their own.[48] From the point of view of a human, a farrowing pen was given its principal meaning—a place for a sow to give birth in and care for her young—through various processes, materials, and actions that defined it as such, from pen design to husbandry practices and to the breeding lineages of pigs kept in the pen. Nonetheless, they were all examples of how *humans* defined and understood the proper placement of breeding sows.

Inside a farrowing pen, the sow experienced her surroundings and had her own perspective on the spatial features and practices that constituted her daily life. If we look at pens only from the point of view of humans, we fail to understand that they were also spaces explored and experienced by the sows and that sows' views of the pen, its features, and what it was suitable for might have differed from those of humans. In short, a farrowing pen could not be a suitable place for farrowing without the sow experiencing it as such. I suggest that the nest-building behavior should be seen as a process during

45. Penttilä, "Eräitä sikojen talvihoidossa varteenotettavia seikkoja," 227.

46. P. Jensen and I. Redbo, "Behaviour During Nest Leaving in Free-Ranging Domestic Pigs," *Applied Animal Behaviour Science* 18 (October 1987): 355–362; Marko Ocepek and Inger Lise Andersen, "What Makes a Good Mother? Maternal Behavioural Traits Important for Piglet Survival," *Applied Animal Behaviour Science* 193 (August 2017): 29–36.

47. Swart, "The World Horses Made," 241–263.

48. Philo and Wilbert, "Animal Spaces, Beastly Places," 13.

which this experience emerged as the sow interacted with the conditions of the farrowing pen and tried to make a suitable nest. This also means that if a pen did not allow satisfying nest-building behavior—for example, there was not enough bedding material for the sow to use—the experience of having a suitable place for farrowing might not have been formed at all. With pen design and practices of care, humans could, however, affect this outcome and make different experiences more or less likely to occur. It is good to remember that the act of farrowing itself could not be averted; sows had to farrow regardless of how they felt about their surroundings, the universal biology of birth unfolding in sows' bodies, as an agent within their agency, external to their subjective experiences of readiness or unreadiness to farrow.

Ideally, pigs would be bred, fed, and cared for more efficiently as Finnish swine husbandry modernized and commercialized its production. In the case of breeding sows, this meant, for example, having more control over with whom they mated and in what kind of circumstances they farrowed and nursed their young. To have sows farrow approximately at the same time was a fairly new phenomenon in piggeries with multiple sows, stemming from the general developments and trends in pig husbandry in the first decades of the 1900s. After all, it was practical to monitor multiple farrowings simultaneously, but more importantly, it enabled farmers to move piglets from one sow to another. This was sometimes necessary when sows farrowed large litters and could not nurse all their piglets, either because they did not have enough functioning teats or because they did not produce enough milk. Practical observations supported the idea that a small age gap between litters increased the possibility of successfully moving piglets between litters.[49] Thus, husbandry practices were shaped anew as more-prolific sows were favored in breeding.

A farrowing pen inside a new, more modern piggery reflected the attempts to control the farrowing environment, but also the pigs and their agency, as elements such as protective rails and wooden pallets indicated. The pen itself could also be understood as a form of control over the placement, movement, and behavioral possibilities of pigs. This follows the thinking of Swart, who has pointed out that "instruments of control" are indicative of how different societies at different times felt about the agency of animals, or, in her case, particularly about the agency of horses.[50] Her observations apply well to historical pigs and their living conditions, and, in the case of pigs, they also demonstrate how instruments of control could be spatial as well. They also show how control measures were often species-specific and how differently various animal species were controlled depending on their roles in human societies. For breeding sows, a farrowing pen was one human-built feature that aimed to control the processes of farrowing and the behavior of sows and their piglets, and, as such, the pens reflected how

49. Ilkka, *Sianhoitokirja*, 132–138; Salokangas, *Sianhoidon käsikirja*, 176; A. M–o., "Imevien porsaiden hoidosta," 305.

50. Sandra Swart, "Kicking over the Traces? Freeing the Animal from the Archive," in *Traces of the Animal Past. Methodological Challenges in Animal History*, ed. Jennifer Bonnell and Sean Kheraj (Calgary: University of Calgary Press, 2022), 26.

a modern, commercially profitable swine husbandry of its time should operate to secure its prosperity.

Guidebooks and writings by pig husbandry experts show, however, that one could not simply put a sow in a pen just before she was due and expect good results; instead, practices that went on for weeks, days, and hours before farrowing were nuanced and required consideration of sows' behaviors and needs. The first step in this process was to decide when a pregnant sow should be put in her pen, as in, how much time before her due date she was given her own space and isolated from other sows. Absent human intervention, a sow would isolate herself from others for a few days before giving birth, but under human care, sows could typically be separated from their conspecifics approximately a week or two before farrowing for several reasons.[51] First, humans wanted to minimize all possibilities of sows injuring themselves, either due to fights and quarrels with other pigs or due to other hazardous factors, such as stumbling. The health of the unborn piglets was particularly of concern, and it was used as a rationale to explain the need to separate pregnant sows weeks before farrowing.[52] The second rationale for this practice was associated with the needs of sows; they needed to be introduced to their farrowing pens early on so that they could "make themselves comfortable and stay calm."[53]

This highlights excellently the sows' active roles in their pen space and the processes by which it became (or did not become) a suitable place for birth, and how humans both controlled and did not control the behavior of the sows by placing them in a farrowing pen. The behavior of sows was one way to interpret how pigs experienced spaces designed for them; calmness could not be imposed upon sows, but, instead, it was eventually expressed through their behavior as they formed a relationship with and within the farrowing space. For example, feelings of safety produced calmness, and safety for pigs meant familiar surroundings. This was an active process guided by the practices that gave pigs time to familiarize themselves with the pen. As pigs were regularly born in farrowing pens, they were quite accustomed to these spaces from the beginning of their lives, and inhabiting a pen was hardly a new experience for them. Of course, farrowing itself was a new experience to many of the sows, and the familiarity of the space likely had only a limited positive effect when the embodied experiences and events in that space were novel.

Under human influence, the first steps of nest building, isolation, and choosing a suitable nest site were strongly shaped by practices that determined that pregnant sows had to be isolated early enough from their conspecifics. This meant that when a sow felt the need to isolate herself and seek a proper site, she had to perform this behavior in a 6-square-meter pen, the qualities of which determined what kind of nest site she was able to choose. Unconstrained sows would travel a few kilometers in search of a proper nest site. From the point of view of humans, the nest site had already been chosen when the

51. D'Eath and Turner, "Natural Behaviour of the Pig," 25.
52. Salokangas, *Sianhoidon käsikirja*, 227.
53. Hossola, *Sianhoidon opas*, 54.

sow had been put in the farrowing pen, but for the sow, the process of choosing happened through nest-building behavior. This also raises questions about how satisfyingly sows were able to isolate themselves and choose their nest site in a farrowing pen; their options were limited, and though they were physically in separate spaces, they could still hear and smell other pigs inside the piggery.[54]

Humans could not, then, substitute for different nest-building phases or bypass them by offering breeding sows what seemed like a suitable nest site from their point of view. Rather, practices and human-built spaces greatly influenced the success of these different phases and what was possible for the sows to do or how to act in a pen space. One of the desired features of a farrowing pen was spaciousness, but if we consider its implications from the point of view of a nest-building sow, the size of the pen was also relevant in relation to movement patterns that sows engaged in once they started to build the actual nest. According to animal welfare scientists Inger Lise Andersen et al., the lack of space and physical restrictions produce stress in sows despite the provision of nesting materials, which further evidences the importance of movement during nest building. In their 2014 study, sows were given a similar amount of straw, but they farrowed either in farrowing pens, in which the sow area was 6.2 square meters, or in farrowing crates, in which the sow area was 1.5 square meters. In the study, sows in crates expressed more signs of stress despite having access to nesting materials. Crates are nowadays commonly used to prevent piglet mortality due to crushing.[55] While pens and crates can both be seen as structures that restrict movement, pens are typically bigger in size and sows are kept loose in them, whereas the degree of enclosure increases in crates, limiting the space available for sows and restricting movement patterns to those of standing up or lying down.

In Finnish piggeries, the use of farrowing crates (Figure 3) was still highly uncommon in the first half of the 20th century but not unheard of. They were introduced to Finnish pig farmers in more detail in the 1930s, when illustrations of farrowing crates were published in advisory literature together with instructions on how to use them.[56] At that time, sows could utilize an area of about 6 square meters in an average farrowing pen, but in a farrowing crate, the sow area was decreased to approximately 2 square meters.[57] This type of structure confined the sow to a particular spot inside a pen, as Figure 3 demonstrates, altering the dynamics of farrowing and nursing and, moreover, shaping the roles of sows as mothers comprehensively. However, advice given in pig

54. See more about the challenges of isolation and nest-site seeking in current systems in Johnson and Marchant-Forde, "Welfare of Pigs in the Farrowing Environment," 157.

55. Inger Lise Andersen, Guro Vasdal, and Lene Juul Pedersen, "Nest Building and Posture Changes and Activity Budget of Gilts Housed in Pens and Crates," *Applied Animal Behaviour Science* 159 (October 2014): 29–33.

56. The literal Finnish terms for farrowing crates in the early 1900s were *suojuslaatikko* (protective box) or *imetyslaatikko* (nursing box). The term "nursing box" insinuates that the crate was mainly used only after, not during, farrowing. However, the practices of their use were not fully formed at the time, and it was already recognized that these "nursing boxes" could also be used during farrowing, especially if a sow was showing aggressive or nervous behavior. See Salokangas, *Sianhoidon käsikirja*, 229; A–i P., "Suojuslaatikko imettävää emakkoa varten," *Sika: Suomen Sianjalostusyhdistyksen tiedonantoja* 59 (December 1939): 11–12.

57. Salokangas, *Sianhoidon käsikirja*, 209, 231.

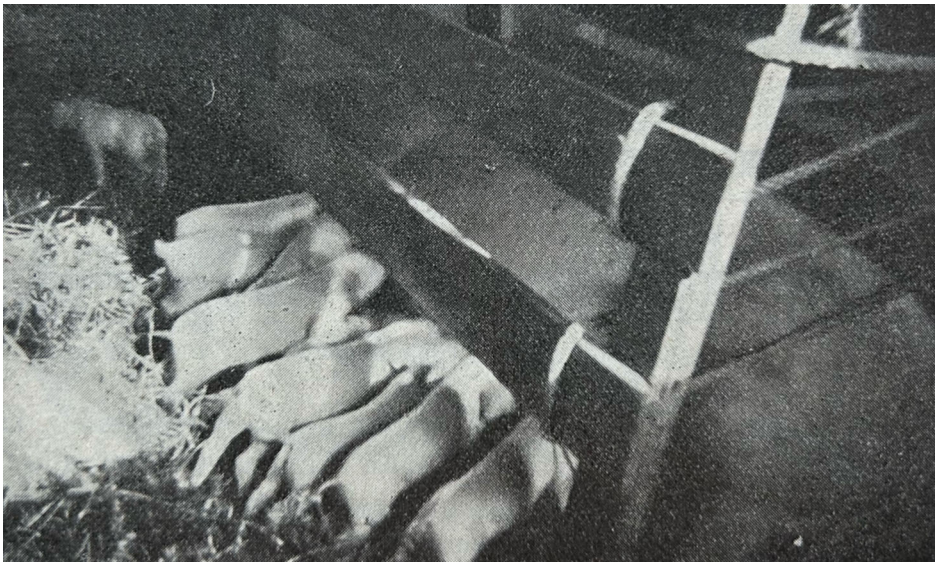

FIGURE 3. A photograph that demonstrates a contemporary farrowing crate in action. It was published in a Finnish pig husbandry guidebook in 1933, but it is unknown whether the piggery presented in the picture was from Finland. Aarne Salokangas, *Sianhoidon käsikirja* (Porvoo: WSOY, 1933), 230.

husbandry guidebooks in the early 1900s was based on the reality that the vast majority of Finnish pigs farrowed in pens, which also indicated that they had room for movement once they started to build a nest.

The availability of nesting materials is crucial to nest building, and in natural conditions sows use branches, grass, and various vegetal matter to construct a nest. The material most often available for sows under human care in the early 1900s was straw, preferably chopped. It was feared that piglets would otherwise get tangled up in unchopped straw, which increased their risk of getting crushed.[58] The most serious mistake was to refrain from having nesting materials at all due to fears that piglets might stumble on them; this easily resulted in situations where sows farrowed on bare concrete floors and piglets suffered from cold.[59] As we know nowadays, the lack of nesting materials does not stop sows from *performing* nest-building behavior; instead, they direct their behavior at pen structures, for example, floors and bars, but this does not substitute for interaction with manipulable nesting materials, and sows are unlikely to experience their nest as complete.[60]

58. Hossola, *Sianhoidon opas*, 54; Salokangas, *Sianhoidon käsikirja*, 227. On nesting materials, see Johnson and Marchant-Forde, "Welfare of Pigs," 143; Baxter, Andersen, and Edwards, "Sow Welfare," 29.

59. Salokangas, *Sianhoidon käsikirja*, 227.

60. Johnson and Marchant-Forde, "Welfare of Pigs," 158–159; E. M. Baxter, A. B. Lawrence, and S. A. Edwards, "Alternative Farrowing Systems: Design Criteria for Farrowing Systems Based on the Biological Needs of Sows and Piglets," *Animal* 5 (2011): 580–600.

Guidebooks on swine husbandry indicate that nest building was seen as a necessary act that had to be enabled before farrowing. To humans, nest-building activities functioned as a sign of an upcoming farrowing within the next 24 hours, but the importance of such activities was also considered from the point of view of a sow. Hossola wrote in a 1926 guidebook that "the nest-building activities of a sow should not be disturbed but instead should be observed from a distance."[61] The processes of nest building were also described in guidebooks; sows collected straws in their mouths and piled them up in their chosen spot, which was often the same spot they had previously used for resting.[62] This emphasized the active role of sows in farrowing pens, but it also reflected the possibilities of behavior that sows had in pens and in relation to material realities and qualities of those pens, for example, whether or not sows had access to nesting materials or whether they could choose how to move in a pen. Although sows had an active role in the process of nest building, the outcome was strongly dependent on human-built and human-influenced circumstances.

This meant that while humans were not physically in the same pen space as the nest-building sows, human influence was inevitable and omnipresent, manifested through materiality—through walls, floors, pallets, and bedding—that all affected the realities of sows' nest-building processes and experiences. Related practices further eased or complicated matters; although disturbance of sows' nest-building activities was frowned upon, practicalities did not always support the ideals. For example, Salokangas advised in his guidebook in 1933 that a farrowing pen had to be thoroughly cleaned and thickly bedded and that it could be done, at the latest, when a sow was already building a nest, which indicated that sometimes humans changed the spatial qualities of the farrowing pen at the same time with the nest-building sow.[63] Even well-founded practices had the potential to disturb the sows' nest-building activities if their timing was not ideal. Nevertheless, the emphasis was on the actual performance of the tasks before farrowing was due, as filthy and barren pens were harsh environments for both the sows and the newborn piglets.

CONCLUSION

To summarize, the study of Finnish farrowing pens and sows' nest-building activities has offered an exemplary case into how behavior intersects with spatial constraints, materials, and practices. Regarding its method, this article has outlined one possible approach to the question of how animal experiences can be found and interpreted in historical sources. This has been done by focusing on a particular behavior of sows—nest building—and its execution at the intersection of spaces, materials, and practices from the 1900s to the 1930s. Historical descriptions of sows' behaviors, together with

61. Hossola, *Sianhoidon opas*, 54.

62. Ilkka, *Sianhoitokirja*, 126; Yrjö Collan, *Sianhoidon oppikirja* (Porvoo: WSOY, 1916), 77; Salokangas, *Sianhoidon käsikirja*, 227.

63. Salokangas, *Sianhoidon käsikirja*, 227.

descriptions of piggeries and husbandry practices, have been at the core of interpreting sows' experiences. Current scientific knowledge on sow behavior has, for its part, helped to evaluate sows' perspectives on spaces, materials, and practices, thus supporting the analysis of their experiences.

Broadly, this article urges historians who wish to interpret historical experiences of other animals to engage deeply with the behaviors of animals and to understand the different details and nuances in their behavior that eventually characterize them as individuals and species. Moreover, animals' behaviors reveal how they navigate their lives in prevalent circumstances at any given time and place, as well as to what extent they themselves produce those circumstances and affect their surroundings. Both questions have been addressed in this article by looking at sows' nest-building activities as examples of their own place-making processes in human-built spaces and how those processes were essential in the making of a suitable nest. Sows' places, herein nests, are seen as places to which they have attached meaning by using them for particular purposes. The success of sows' nest-building activities, or the lack thereof, was related to the different materialities and qualities of farrowing pens as well as to the practices that affected the lives of sows before farrowing. Through and during nest-building activities that included, for example, moving, investigating, sniffing, and rooting, but also digging, carrying, and piling up materials, sows experienced their spatial surroundings and changed them according to their own needs and desires if it was possible.

This article has also emphasized the importance of understanding space and materiality as cornerstones of the circumstances that sows experienced and navigated, setting limits and possibilities for their behavior, and forming the basis for the practices in pig production. In short, the construction of sows' spaces, whether it was done by humans or sows themselves, also meant the construction of their experiences. The interplay between space, materiality, practices, and behavior, as presented in this article, could also provoke further questions about the interconnection between biological functions and historical contexts, as even the most innate biological processes, such as the onset of hormonal changes that start nest-building behavior, are situated in bodies that exist in historically contingent situations.

To look at the place-making processes of historical pigs is then, ultimately, also a potential way to understand how societies have been experienced by pigs and, at large, by different animal species and individuals. Historian Susan Nance has suggested that animals experience a sort of parallel reality, and historian Taina Syrjämaa and geographer Nora Schuurman have explained this further by elaborating that human institutions may not be meaningful to animals as such, but institutions affect animal lives, and animal lives affect institutions.[64] This argues for a need to understand animals as beings who experienced and continue to experience their lifeworlds in the structures of societies into which their lives have been woven, for example, through practices and physical

64. Nance, *Entertaining Elephants*, 10; Nora Schuurman and Taina Syrjämaa, "Shared Spaces, Practices and Mobilities: Pet-Human Life in Modern Finnish Homes," *Home Cultures* 18 (October 2021): 173–194.

infrastructures, both of which represent the ideas of how and for what purposes animals should exist in society. Therefore, animals' experiences are insights into the kinds of experiences different societies produced in various spatial and historical settings. This point of view does not only mean a more nuanced perception of animal history, but it also aids us in the making of future societies that seriously consider how different animals experience spaces and societal practices, and how they could be provided with better place-making possibilities of their own in a shared, lived future. ■

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