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Could animal production become a profession?

David Fraser

Animal Welfare Program, Faculty of Land and Food Systems, University of British Columbia, 2357 Main Mall, Vancouver, Canada V6T IZ4

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ABSTRACT

In the industrialized countries, the intensification of animal production has been widely perceived as a shift from agrarian to industrial production, and the public concerns and policy responses that resulted have closely paralleled the much earlier responses to the Industrial Revolution. During the Industrial Revolution, various concerns arose over the welfare of workers in factories, and the main policy response was a program of legislated controls on factory environments and hours of work. Intensive animal production led to similar concerns over the welfare of animals, and a major policy response has involved standards and regulations for the animals' physical environment and time in confinement. However, such basic welfare outcomes as lameness, injuries and survival show extremely wide variation between farms using the same type of physical environment. This variation presumably occurs because animal welfare is influenced by many aspects of animal management including hygiene, health protection, nutrition and handling, all of which depend on the skill, knowledge and commitment of animal producers and staff. Hence, valuing and fostering these qualities in people is an important avenue for improving animal welfare, as well as supporting food safety and other socially important goals. "Professions" provide an alternative model of work which is neither agrarian nor industrial and which foster high performance. Professions typically involve three elements: provision of a service that people need and/or value, competence in a specialized area of skill and knowledge demonstrated to peers, and creation of public trust by respecting the interests and ethical expectations of society, normally through selfregulation. Several recent changes make a professional model of animal production appear more feasible than in the past; notably, an increasing need for food is likely to cause animal production to be viewed as an important service, and the growing trend toward certification of farms, if organized and led by producers themselves, could provide a means of ensuring competence and adherence to ethical standards. A professional model of animal production could help to achieve good animal welfare and other socially important goals, and could provide an alternative means for animal producers to establish public trust.

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1. Introduction

During the mid 1900s, the economically developed countries underwent widespread intensification of animal production. This involved a shift toward fewer, larger

E-mail address: dfraser@mail.ubc.ca

http://dx.doi.org/10.1016/j.livsci.2014.09.017 1871-1413/© 2014 Elsevier B.V. All rights reserved. farms, the use of automation to replace labour for routine tasks such as feeding and removal of manure, and the use of confinement housing for species that are raised on concentrated diets, especially pigs, poultry and grain-fed cattle (Fraser, 2008a).

In the industrialized countries, where cultural values and beliefs had been deeply affected by the Industrial Revolution, these changes in animal production were







widely perceived as an instance of industrialization. In this paper I argue (1) that the policies implemented to address concerns about animal welfare in intensive systems closely paralleled earlier responses to concerns about the welfare of workers during the Industrial Revolution, (2) that because of important differences between intensification and industrialization, these policies are only a partial and imperfect response to concerns about intensive animal production, (3) that to truly promote animal welfare and other socially important goals we need an approach that values and fosters skills, knowledge and commitment on the part of animal producers and their staff, and (4) that a "professional" model of animal production, as distinct from an industrial model, would provide better solutions and might feasibly be implemented, albeit as a long-term process.

2. The industrial revolution and intensive animal production

During the Industrial Revolution, the profound social changes that occurred touched off a long-lasting debate about the merits of industrial versus agrarian society, linked to concerns over the risks created by industrialization (Inge, 1969; Bizup, 2003; Thompson, 2010).

One specific concern centred on the welfare of workers, many of them women and children, who were seen as needing protection from harmful factory environments and unscrupulous factory owners (Mantoux, 1961). Specifically, critics claimed that the factories spread diseases (Mantoux, 1961), that the bodies of workers were deformed by the unnatural strain imposed by the machines, and that workers were often maimed by unsafe equipment (Bizup, 2003). Critics also cited psychological effects: that factory work destroyed the freedom and individuality of workers, eroded their moral nature, and turned them into little more than machines themselves (Bizup, 2003).

The chief policy response to these concerns was a program of legislation to protect the welfare of workers by regulating the physical environment and hours of work (Hutchins and Harrison, 1926). Most notably, a series of legislation in Britain, collectively called the "Factory Acts", created increasingly stringent standards and regulations for the working environment. Requirements (described by Stevenson Taylor, 1938) included adequate ventilation and regular cleaning of factories, suitable lighting and temperatures, an adequate supply of drinking water, and amenities such as seats where female workers could sit. To promote worker safety, various Acts required dangerous equipment to be fenced and workers to be protected from dust and fumes. The regulations sometimes used quantitative standards to achieve objectives. For example, to allow for adequate circulation of air, factories were required to provide a minimum of 7 m³ (250 ft³) of air space per worker in 1901, rising to 11.3 m³ (400 ft³) in 1937. In addition, increasingly strict limits were placed on the time that workers could be exposed to factory environments. For example, Acts limited the working day to 12 h for children in cotton mills in 1819, to 8 h for children aged 9–13 in 1833, and to 10 h for women in textile mills in 1847 and 1848.

Much later, in the mid 1900s, agricultural production intensified and confinement production systems were widely adopted for certain farm animal species. Intensification occurred for a wide variety of reasons including social policy, demographic changes, economic pressures and the availability of new technology (Fraser, 2008a). A common public perception, however, was that animal production was being transformed from an agrarian activity to an industrial one. In fact, critics of the change have consistently used industrial metaphors: animals were being turned into "animal machines" (Harrison, 1964), and farms were being replaced by "factory farms" (Coats, 1989; Johnson, 1991).

As in the Industrial Revolution, concern arose over welfare – in this case the welfare of the animals – and the issues were remarkably similar to those raised over the welfare of workers in the early factories. Again, critics claimed that indoor production environments are unnatural and oppressive (e.g., Harrison, 1964; Anonymous, 1989), that they spread diseases and parasites (see Fraser, 2012), and that they prevent animals from expressing their individuality and inherent natures (Rollin, 1993, p. 11).

The policy response to intensive animal production also paralleled the model set during the Industrial Revolution, so much so that one British official termed the early proposals for reform "a sort of Factories Act for animals" (Woods, 2011, p. 18). As in the Factory Acts, the legislation focused on improving the physical environment through a series of increasingly strict provisions. In the case of hens, for example, regulations in the United Kingdom made it mandatory for birds in cages to have a minimum of 450 cm² of floor space (HMSO, 1987), later increasing to 550 cm² throughout the European Union (Appleby, 2003), and subsequently to 750 cm² (Council of the European Union, 1999). Specified amenities were also required, for example a perch, a nest box and litter for hens (Council of the European Union, 1999). Other laws required that certain types of housing be replaced by other types; for example, Switzerland required that farrowing crates for sows be replaced by housing that allows sows to turn freely (Weber et al., 2007), and dairy farmers in Norway are being required to replace tie stalls (where dairy cows are closely confined) with free-stalls where the cows can walk and enter resting stalls at will (Sogstad et al., 2005). Other laws set standards for ventilation by specifying maximum levels of ammonia and carbon dioxide that could occur in animal housing (Council of the European Union, 2007). Yet others, roughly paralleling restrictions in the Factory Acts on hours of work, limited the time that animals can be kept in confinement environments; for example, sows in the European Union are to be confined in individual stalls for no more than the first four weeks and the final week of pregnancy (Council of the European Union, 2001), and adult dairy cattle in Sweden are not to be confined indoors in the summer months (Government of Sweden, 2009).

3. How well does regulating the physical environment improve animal welfare?

But how well does this approach – emphasizing the physical environment and time in confinement – succeed in protecting animal welfare?

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