

INTRODUCTION: MEAT, MEDICINE, AND HUMAN HEALTH IN THE TWENTIETH CENTURY

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In July 2008, the United States Department of Agriculture (USDA) announced that it would make public the names of retail stores that received tainted products. Coming soon after the Hallmark/Westland Meat Packing Co. recalled 143 million lbs of meat, then the largest meat recall in United States history, the USDA's plan was to name retail stores only when there was a good chance a person would become ill or die by consuming the meat or poultry product – so-called Class I recalls. Other recall classes, in which there was little or no chance of illness, would not be covered. Richard Raymond, the agriculture undersecretary who oversaw the USDA's Food Safety and Inspection Service, noted: 'We need this rule to reinstall confidence in the American public that we are in control here'.¹

For many critics, the USDA's ruling had less to do with public health than with restoring confidence in a meat industry shaken by a variety of health crises, in retailers anxious to avoid a reputation for carrying tainted meat, and in a Department caught unawares. While some lawmakers and consumer groups welcomed the new USDA ruling, many criticized it, claiming that, because it did not include all meat and poultry recalls, it failed to fully protect the public. As the debate spread across the internet and other media, the issues became more confused and complex. Responses to the ruling and the recall were intertwined with concerns about the appropriate treatment of animals, the morality of meat eating, anxieties about modern farming, processing and preservation methods, and worries about the influence of commercial, advocacy and political interests on nutrition policy and dietary habits. Vegetarians, health activists, animal activists, the meat industry, policymakers, lawmakers and regulators all drew very different conclusions as to the meaning of the USDA's action.

I.

The USDA's ruling and the responses to it capture an issue central to this volume: the diversity of public health messages about the healthiness of meat. This volume explores such diversity in a variety of historical contexts, and seeks to embed it in broader cultural, social and economic interests and agendas around meat during the twentieth century. Its focus is less on whether meat is truly healthful or otherwise, than on the changing historical meanings and uses of claims about the health benefits or dangers of meat and meat products, and on the many different efforts to control and regulate these hazards. As the 2008 example above suggests, different groups and individuals have drawn very different lessons from efforts to protect the public health.

This volume not only highlights the diversity of public health messages about meat, but also the diversity of players involved in debates about meat. We focus on four players: the meat industry, government, consumers, and the medical sciences, and especially on the confusion of messages about their role in promoting health or illness.² Thus, in the case of the meat industry, the papers in this collection show that it has both been blamed for many of the untoward effects of rising meat production and consumption, and has been credited with improvements in health. On the one hand, articles demonstrate that modern methods of meat processing, the sheer quantities of meat available in modern societies, and the ways in which the industry has promoted meat and meat products to the public have all been variously blamed for health problems that are characteristic of modernity. On the other hand, they also show that these same factors have also been promoted as causes of improvements in the health of the population: policymakers, scientists and others have argued that the widespread availability of meat – together with other foods – has led to healthy, productive and fit populations, and that the modern meat industry has been a precondition for the development of a range of new medicines, including beef extracts in the nineteenth century, and hormones such as cortisone in the twentieth century.³

In the case of government, there is a similar confusion of perspectives on its role in promoting health. On the one hand, the papers show that governments encouraged meat consumption to promote a healthy population, increase economic productivity, advance military readiness and ensure national survival. On the other hand, they also show that the close association that developed between government and the meat industry came to be seen by some critics as a cause of ill health associated with meat consumption.⁴ Critics of the meat industry blamed governments for reluctance to impose and enforce regulation and reform on the meat industry. Thus, while in the early twentieth century the meat industry experienced an increase in new government-imposed health and veterinary regulations, critics often attacked these as insufficient to address the harmful

consequences of meat consumption. For its part, the meat industry tended to criticize such regulations as overly restrictive.

The volume also highlights the confusion of perspectives on the role of consumers.⁵ For critics, consumers of meat have themselves contributed to the growing public health crises associated with the production and consumption of meat, the inhumane treatment of animals destined for slaughter, and the ecological impact of the meat industry on the environment. For others, consumers of meat were the dupes of the meat industry and its allies in government, easily swayed by the industry's efforts to advertise its products, the confusion of messages coming from government, and the efforts of the meat industry to create uncertainty about the harmful effects of meat or components. Thus, the focus on consumers raised questions about who could speak for consumers, and whether it was possible to disassociate 'real' consumers from the organizations that purported to speak for them.

Finally, the papers in this volume explore contradictory perceptions of science: science has been portrayed both as a solution to the health issues raised by meat, and as a cause of these problems. Two sets of contradictions are of concern here. First, on the one hand, science and medicine have been credited as means of counteracting the health problems associated with modern methods of meat production, and of contributing to the invention and improvement of drugs and other medications that rely on the meat industry for their development. On the other hand, their role in the development of modern food processing industry has been portrayed as contributing to the very health problems that consumption of excessive, tainted or the wrong sorts of meat (or its components) generate. The second set of contradictions focuses on the values embedded in scientific knowledge. While, on the one hand, scientific knowledge about the healthiness or otherwise of meat has been promoted as an objective, value-free means of maintaining human health, on the other hand it has also increasingly come to be seen as shaped by either the meat industry or by its critics. Either way, claims that scientific knowledge is less than objective – informed by industrial interests, or the pre-existing concerns of those who are critical of the industry or of meat-eating in general – have become powerful ways of undermining its credibility. Public health messages about meat are increasingly confusing not only because these messages are often contradictory, but also because it is difficult to disentangle the interests and agendas behind the various health claims, including those based in science.⁶

II.

This book can be set against a growing body of historical literature that traces the dramatic transformation in European and American eating habits during the nineteenth century.⁷ This literature has shown that the lower classes and parts of

the middle class shifted from a largely cereal and undiversified diet to one that increasingly included meat, in addition to vegetables, fruits and dairy products. Many historians argue that this change meant an improvement after centuries of protein deprivation: larger quantities of amino acids were added to the general diet, and contributed to a more than doubling of the European population by the turn of the twentieth century.⁸ Anthropometric studies highlight a general improvement of the nutritional status of the general population in France during the long nineteenth century as measured by the increasing height of military recruits. Nevertheless, the immediate consequence of industrialization and urbanization was a worsening of working-class malnutrition, before the beginnings of improvement two or three decades later.⁹

A standard story goes that this transformation in eating habits was made possible by the agricultural and industrial revolutions of the latter half of the eighteenth century and the first part of the nineteenth. These permitted an unprecedented increase in the supply of meat, along with other protein-rich products such as milk and eggs. New technologies such as canning and refrigeration, developments in fodder production and animal husbandry, and the introduction of new methods of animal slaughter and transportation by railroads and steamship, all made meat and protein more widely available.¹⁰ Protein consumption is said to have risen at all levels of society, helped by the fact that over time some incomes rose, while the price of meat either held steady or declined, and public authorities came to see meat consumption as essential for population growth and military and industrial efficiency. By the eve of World War I, many commentators appear to have forgotten that there had been a time in the past when the vast majority of Europeans and Americans had to do without meat.

This is not to say that everyone had equal access to meat. A common argument is that many of the poor continued to survive on a diet of white bread, tea, sugar, gin, beer and porridge, and those of the working class with access to meat were often restricted to the more fatty cuts. Women often ate less meat than their fathers, husbands and brothers, sometimes denying themselves to provide for their men. Meat was more available in some geographical areas than others: some meats were more easily obtained by the rural than the urban poor, and some countries and regions seem to have solved problems of supply better than others. Nineteenth-century European visitors to the United States commented on the vast quantities of meat consumed by even the poorest of Americans; quantities unimaginable at home.¹¹ At the same time, American commentators, such as Catherine Beecher and Harriet Beecher Stowe, suggested that American housewives follow their French and English counterparts and properly prepare meat in small quantities.¹²

The existence of national differences in meat consumption was regularly commented on by contemporary physicians. For example, Michel Lévy, consult-

ing physician to the French Emperor and director of the Military Academy of Val de Grâce,¹³ noted that while the average consumption of bread was more or less identical for inhabitants of London and Paris in the 1860s, this was not the case for meat. If the average Parisian consumed 207 grams of meat per day, inhabitants of London consumed 25 per cent more meat per capita per day.¹⁴ Lévy noted that regional eating habits depended on traditional agriculture practices, but also blamed the variations on 'civilization': 'civilization, multiplying means of viability and exchange between nations modified the diet of people and social classes.'¹⁵ In the case of meat, figures for France indicated that consumption was primarily a matter of money and social class. Those with higher incomes and higher social standing had greater access to and better cuts of meat. Lévy also highlighted several other aspects of the differential consumption of meat. Thus, he noted that between 1816 and 1833 urban meat consumption apparently did not change much in France, though it decreased for the overall population by 50 per cent between 1789 and 1836. By the mid-nineteenth century meat consumption had not attained the level that existed before the French Revolution, and it would not return to its pre-Revolutionary levels for a further two decades. Most important for Lévy were regional disparities: of the 500,000 cattle slaughtered in the 1860s annually in France, 140,000 – that is 28 per cent – went to Paris while the capital only accounted for 3 per cent of the French population. In the countryside, meat consumption could be as low as $\frac{1}{30}$ of that of major cities though eating habits changed there as well – albeit more slowly – as cattle breeding became more common.¹⁶

Rising consumption of meat had mixed consequences for human health. On the one hand, historians have argued that the increasing availability of meat resulted in a decline of illnesses associated with protein deficiencies. Before the nineteenth century protein starvation was commonplace, especially among artisans, factory workers and peasants, who did not consistently get fifty to seventy grams of protein a day. The consequence was that infants and children were more likely to experience stunted growth and the general population to be susceptible to viral and bacterial diseases. As meat consumption rose, these conditions did not disappear, but they were less likely the result of poor protein consumption. Moreover, rising meat consumption, in combination with a more varied diet, may have helped contribute to the decline in mortality from acute infectious diseases. From Arthur Newsholme in 1908 to Thomas McKeown in the 1960s, public health officials and epidemiologists have argued that the rise and fall of infectious diseases, such as tuberculosis, could be positively correlated to food prices in modern and contemporary Western societies.¹⁷

On the other hand, historians have also highlighted a variety of downsides to rising meat consumption. From this perspective, the increasing availability of meat and the resulting consumption of excessive or the wrong sorts of meat (or

its components) resulted in a number of ills, including heart disease and obesity. New methods of livestock farming, slaughter, and food preservation led to illnesses associated with tainted meat and the presence of contaminants (such as hormones in the twentieth century).¹⁸ The new meat processing industries also resulted in a range of injuries and illnesses associated with the working conditions specific to those industries, vividly captured in Upton Sinclair's *The Jungle* (1906)¹⁹ and in the contemporary work of Jeremy Rifkin (1992), Eric Schlosser (2001) and Steve Striffler (2005), among others.²⁰ More recently, there has also been concern about the environmental consequences of mass meat production, and its impact on the availability of staple foods for the World's poor and developing nations. Increasingly meat consumption has become central to debates about the future of food and the capacity of humans to feed themselves. In Frances Moore Lappé's evocative phrase, a factory animal is sometimes seen as 'a protein factory in reverse'.²¹ Writing in the 1970s, Lappé argued that American and Western consumption of meat literally starved the developing world. In her view a meat diet was unfair, unhealthy and unsustainable.

III.

While this collection of papers traces some of the dramatic consequences for workers' health of the industrialization of meat production, it does not discuss the 'real' health consequences of rising meat consumption.²² Instead, this volume shifts attention to the meanings and uses of such consequences: how these meanings and uses were embedded in broader transformations in the meat industry, in the emergence of the state, in the mobilization of consumers, and in how people evaluated the nutritional value of meat, especially by means of the new sciences of nutrition that emerged from the 1840s.²³ Our point is not that these sciences provided a better way of understanding how meat influenced human health, but to explore how they were deployed as authoritative arguments by both advocates and critics of meat consumption. Moreover, we also suggest that meat provides a valuable window on the changing boundaries between the categories of food and drug. Thus, papers in this collection show how the nutritional consequences of consuming meat could be portrayed as form of therapy, and how extracts of meat came to be considered as drugs. They also trace a variety of political and cultural responses to meat, from efforts to regulate it, to efforts to undermine claims about its nutritional or healthful qualities. In short, this book explores the meanings and uses of claims about the health consequences of meat for a variety of different groups, at different times within the twentieth century, and in different social, economic and institutional contexts.

These groups can broadly be divided into two categories – those who advocated meat production or consumption on the grounds that it improved health,

and those who were critical of such claims: The former included meat producers themselves – farmers, meat processors, butchers and retailers – as well as their allies in government, the media, medicine and science; the latter included vegetarians, animal-rights activists, and other critics of the meat industry, together with their allies in government, the media, medicine and science. Both categories – advocates and critics – included a broad, shifting range of groups and individuals, sometimes with competing agendas and interests, who might disagree on what made meat healthy or unhealthy, and who might move from one category to another depending on the issue. For example, public health activists might promote meat eating as a means of improving the health of the population, but differ with the meat producers and retailers about how much or what types or preparations of meat were healthful. Workers in the slaughterhouses might join with the owners to promote consumption of meat as part of a healthy diet, but disagree with them on the healthiness of working conditions. Thus advocates and critics could blur into one another, distinct at times, but shading into one another as debates and issues changed.

In the United States, the emergence of the meat processing industry in the Midwest, from its initial stages as a part-time activity of merchants in the 1840s, to a major industry characterized by large-scale, specialized plants in the 1870s, meant that farmers, butchers, and merchants, operating in regional and local markets, gave way to large, efficiently organized corporations whose relentless efforts to control the national food chain – aided by the development of new technologies of transportation and food preservation – helped to make the United States into a vast consumer of meat and meat products. The new corporations vigorously promoted meat as a crucial part of a healthy diet, and forcefully challenged suggestions that their product might be a cause of ill-health.

It is commonly assumed that beef packing dominated the Chicago meatpacking industry. But in fact beef accounted for only for 30 per cent of meat shipped from the Union Stockyards in 1890. Nineteenth-century Americans tended to consume cured and salted pork throughout, in part because of fears of food contamination. This began to change during the Civil War, when the War Department demanded that the Chicago meatpackers supply fresh beef to troops along the Mississippi. Large numbers of men were consequently introduced to fresh beef, and came to acquire a taste for it. This helped to prompt meatpackers to develop facilities to ship fresh meat, and commercial meatpackers, and later home meatpackers, subsequently turned to fresh meat production. Gradually consumption of fresh beef and pork came to challenge consumption of salted meats.²⁴