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Obesity and Consumer Choice

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Synonyms

Consumer freedom; Free choice; Public health and obesity

Introduction

Obesity presents a major set of issues relating to health and society. These issues arise at local, national, and international levels, effecting individuals, families, communities, health infrastructure, and on some accounts, even the global climate (Egger and Swinburn 2010). Given the individual and collective costs of obesity, many (Egger and Swinburn 2010) are calling for an organized response to the problem. While there are a number of different ways of responding to obesity, one particularly important and contentious set of responses centers on consumer choice, particularly their food choices. That is, given consumption's causal role in obesity, consumer food choices present a key intervention point to reduce obesity levels. This entry looks at discussions around, in support of and in opposition to, consumer choice as a morally justifiable and practically worthwhile way of reducing obesity.

This entry begins with a background summary of ways that obesity has been characterized, as being overweight, body mass index (BMI), waist-to-hip ratio (WHR) or waist circumference (WC), total body fat, and visceral adipose tissue (VAT). It then looks at individual health concerns about obesity and the changing rates and spreads of obesity in the past few decades. The entry covers the relative importance assigned to obesity, as a problem of individual health, public health, wasted food, and wasted arable land. In order to understand the rise of and ways of responding to obesity, a set of causes are explored, including the “simple model” of too much energy in, not enough energy out; individual genetics; lifestyle; food amounts; food types; food desirability; and food availability and access. Consumer choice is then identified as one way of responding to a number of obesity's causal factors. Consumer choice itself is then characterized in a number of ways covering the range of options to consumers and the consumer's capacity to make decisions regarding their food consumption. The chapter then looks at proposed government interventions in consumer choice to decrease obesity rates and finishes with a summary of reasons for and against government intervention in consumer choice.

Background

Obesity is a major issue. For example, in the United States, three in five members of the adult

population are estimated to be currently overweight, and one in five is estimated to be obese (Pollan 2006, p. 102). While the United States is often held as a paradigm example of the obesity epidemic (Kessler 2009, pp. 3–6), this pattern is common across most western countries and is now being replicated in emerging economies like India and China and in the developing world (Kessler 2009, pp. 111–114; Schlosser 2003, pp. 242–243). The rate and spread of obesity has shifted. Since the 1970s, rates of obesity have risen dramatically (Egger and Swinburn 2010, pp. 10–13; Roberts 2008, pp. 89–90). The distribution of obesity within the population has shifted – where obesity once manifested in adult years, child obesity rates have risen in the period 1980–2000 (Roberts 2008, p. 89) but may have now leveled off (Ogden et al. 2012). Similarly, obesity was once fairly restricted to economically well-off, but is becoming more prevalent in the poor of the developed world (Roberts 2008, p. 96). Finally, those in the developing world are now replicating the obesity rates found in the developed world (Egger and Swinburn 2010, pp. 13–14; Schlosser 2003, pp. 225–252).

These rates of obesity are worrying, not simply because they are increasing but because of the costs to individuals and the increased burden of non-communicable disease to national health-care infrastructure – The US Centers for Disease Control (CDC) put the costs of obesity and its related diseases at US \$75 billion and linked it to 112,000 premature deaths (Roberts 2008, p. 83). Some draw links between obesity in the developed world and starvation in the developing world (Patel 2007), while others draw links between the rise of obesity and climate change (Egger and Swinburn 2010, pp. 52–64). In short, many see obesity as one of the major health and environmental concerns of this century.

Part of the problem with obesity is that it is a “complex problem,” with many associated causes (Roberts 2008, p. 84) and many possible ways of treating the problem. As such, obesity raises a set of correlated empirical, conceptual, and ethical questions – What is it? What causes it? How can societies respond? How should societies respond? Should societies respond at all?

Given that obesity is caused in part by certain patterns of food consumption are typically implicated in the recent rise of obesity, consumer choice is seen as one key way of intervening to treat the problem (Egger and Swinburn 2010, pp. 80–83). “[O]ur bodies are far more efficient at gaining weight than at losing it. Health officials have concluded that prevention, not treatment, offers the best hope of halting the worldwide obesity epidemic” (Schlosser 2003, p. 243). However, even if this is practically feasible, as this entry will show, such interventions – especially if centrally organized through government sponsored programs – in consumer choice are controversial and face opposition.

What Is Obesity?

How has obesity been characterized? Firstly, and most obviously, obesity means a person is overweight: the obese person has more weight than is normally considered healthy. However, as this simple description shows, obesity is more than simply being overweight. Obesity refers to some deviation from a normal weight range that correlates with some associated health concerns. A sensible definition of obesity must include something more than “overweight”; it must have some measure of normal weight range and the associated deviation and must have some explanatory association with health.

One of the most commonly used measures is body mass index (BMI). This was first described by Adolphe Quetelet in the late nineteenth century (Egger and Swinburn 2010, p. 20). However, the BMI is a coarse indicator and may not necessarily correlate with health concerns – rugby players, for example, can display a BMI in the obese range, while being exemplars of good diet and peak physical health (Egger and Swinburn 2010, pp. 20–21). More recent measures include the waist-to-hip ratio (WHR) and waist circumference (WC). In WHR, men and women are said to be obese when their waist is larger than their hips by a ratio of greater than 1 or 0.9, respectively, or display a WC of 102 and 94 cm, respectively (Egger and Swinburn 2010, pp. 21–22).



Though perhaps a more reliable indicator of health concerns like the BMI, WHR, and WC are still a coarse correlative measure. However, being overweight is itself not necessarily the major concern. Instead, people should be focusing on the actual physiological risks that typically come with obesity, such as the visceral adipose tissue (VAT), in which internal fat around organs such as the kidneys and liver stomach has shown a strong correlation with insulin resistance and Type 2 diabetes (Egger and Swinburn 2010, p. 22).

The multiple definitions of obesity also point to the complexity of *dealing* with obesity; given the lack of consensus on definitions, consensus in responses would be surprising. For the purposes here, the general description of obesity, “some deviation from a normal weight range that correlates with some associated health concerns,” will be used to investigate responses to obesity.

Why Is Obesity Important?

Despite the multiple descriptions of what obesity is, there does seem to be a loose consensus that obesity is a major problem. Why are people concerned about these changing rates and patterns of obesity? Obesity is typically understood to correlate with health concerns. Obesity is may be an indicator, or a cause, of health concerns such as diabetes, heart disease, and cancer (Egger and Swinburn 2010, pp. 23). It is seen as important for the direct impacts that it has on individual health. In addition to the personal cost, obesity is a major public health issue. For instance, the annual costs to the American health care and economy in the mid-2000s by the CDC were said to be US \$61 billion and US \$56 billion on direct medical cost and indirect costs including wages, respectively (Roberts 2008, p. 91). Given its increased incidence in childhood and its emergence in the developing world, the burden of obesity is expected to continue increasing.

A further concern is the waste of food and land. If obesity is a result of overeating, then such food is a waste and one that is especially problematic given the amount of people currently

suffering from under-eating (Patel 2007, pp. 1–6). Similarly, given concerns about global climate change (Egger and Swinburn 2010, pp. 54–59) and reduced access to arable land, some hold that obesity is indicative of an unfair use of resources and arable land (Roberts 2008, pp. 144–174).

What Are the Causes of Obesity?

The simplest explanation for obesity is that people are taking too much energy in and not putting out enough energy, that is, eating too much and not exercising enough. This produces an oversupply of calories, which are then converted to fat, producing weight gain. When this imbalance is persistent through time, a person becomes obese (Egger and Swinburn 2010, pp. 10–18; Kessler 2009, pp. 7–8). However, such a description is simplistic. It does not identify causal elements nor explain why obesity spreads and rates have shifted so dramatically in recent decades (Egger and Swinburn 2010, pp. 19–27; Roberts 2008, pp. 88–91). Individual genetics are sometimes assigned a particularly important causal role; however, as with the energy imbalance explanation, assigning causal responsibility to genetics alone does not explain the shift in rates (Egger and Swinburn 2010, pp. 16–17).

One key element is changing lifestyle. Many now live lives that are much more sedentary than in any other time in human history. Many jobs are now minimally demanding physically, travel is typically by car or other transport, and when home people are more inclined to sit than be physically active (Pollan 2006, p. 110; Roberts 2008, p. 94). However, given the variation of lifestyles around the world, lifestyle alone is not likely to be the main causal factor.

In line with the simple idea that there is too much energy going in, i.e., overconsumption, increased consumption itself is posed as a major cause. Eric Schlosser writes “[w]hat has changed is the nation’s way of eating and living. In simple terms: when people eat more and move less, they get fat” (2003, p. 240), a point mirrored by Paul Roberts (2008, pp. 83–84). As one example of

increased consumption, Roberts has stated that the serving sizes in recipe books have increased across the past decades (Roberts 2008, pp. 100–101).

Further to this, the actual content of what people are eating has changed substantially in recent decades (Pollan 2006, pp. 109–119; Roberts 2008, pp. 29–56). Schlosser writes that “[w]hat we eat has changed more in the last forty years than in the previous forty thousand” (Schlosser 2003, p. 7). For instance, while beef consumption in the United States was at 90 lb per person in 1976, by the mid-2000s it was 68 lb per person (Schlosser 2003, p. 142), to be replaced by chicken, largely due to the development of the chicken “nugget” (Pollan 2006, p. 114). Annual patterns of individual potato consumption have shifted heavily toward chips/fries, from 81 lb of fresh potato and 4 lb of french fries in 1960 to 49 lb of fresh and in excess of 30 lb of french fries (Schlosser 2003, p. 115). Similarly, restaurant/takeaway food represents 50 % of food spending (Schlosser 2003, p. 4). Importantly for obesity, these food types are highly processed, leading to substantial increase in consumption of refined sugars, particularly high-fructose corn syrup (HFCS) (Pollan 2006, pp. 103–14; Roberts 2008, p. 92) and saturated fats (Egger and Swinburn 2010, p. 35; Roberts 2008, p. 97), which have been associated with raised insulin levels, decreased insulin sensitivity, and VAT (Egger and Swinburn 2010).

Recent work in the area of obesity suggests that rise in sugars, fats, and salt in processed foods contributes to increased consumption (Kessler 2009, pp. 12–17). Prior to the modern era, sugars, fats, and salt were in limited supply so humans evolved a strong flavor preference for these (Egger and Swinburn 2010, p. 35; Roberts 2008, pp. 84–89). Former commissioner of the US Food and Drug Administration (FDA) David Kessler has recently argued that humans are hard-wired into finding foods with a mixture of sugar, salt, and fats highly desirable (2009, pp. 3–64). As such, increasing the content of sugars, fats, and salt in processed food increases the desirability of such foods. Similarly, in recent times, advertising and placement of foods, particularly

processed foods high in sugars, fats, and salt, have increased in sophistication and penetration (Schlosser 2003, pp. 43–55), leading to increased desirability for those advertised foods (Kessler 2009, pp. 50–54).

A further element is that the environmental conditions around consumption have changed. Availability and access to these processed foods has increased. Food distribution points such as schools, offices, and supermarkets make processed foods highly available (Schlosser 2003, pp. 51–57). Secondly, processed foods are often cheaper than fresh/unprocessed foods (Harrison et al. 2010; Pollan 2006, pp. 95–97). Further, the time taken between desiring to eat the food and consumption of the food is short (Kessler 2009, p. 95). Finally, the “cognitive environment” is similarly colonized by such food types: children are heavily targeted by fast-food company marketing (Schlosser 2003, pp. 42–47). Product placement in cultural and sporting events is common (Kessler 2009, p. 199), and Kessler explains that, given the sugar, fat, and salt content of such foods, mere mention is enough to trigger a desire to consume it (Kessler 2009, pp. 3–64).

What Is Consumer Choice?

Given that obesity is potentially harmful to individuals and can place great burdens on public health systems, many propose that there is a *prima facie* case for governmental intervention in food consumption. For instance, Egger and Swinburn state that “[i]nitiatives that identify the *population*, not the individual, as the unit of intervention are...likely to have the most impact on obesity and chronic disease” (Egger and Swinburn 2010, p. 39). One such point of intervention is at the product/consumer interface, for instance, reducing the size of serving plates and packages, what Richard Thaler and Cass Sunstein call “choice architecture” (Thaler and Sunstein 2009, p. 44).

There are a number of ways to conceptualize consumer choice, and these different conceptions bear upon both the sorts of government



interventions used to reduce obesity and how permissible they are. Beginning at the consumption element, consumer choice can be thought of as options – the range of food types available to consumers or, equally, the range of supplier types distributing food to consumers. However, consumer choice can also be considered within more common elements of philosophy, particularly the capacity to make decisions, knowing what those decisions mean, and reflectively endorsing those decisions.

Choice as Options

Often, consumer choice is equated with a range of options that the consumer can select between. For instance, consumer choice can be considered as the access that a consumer has between brand types in stores. It may also be considered as the range on a menu that they select from. Similarly, consumer choice can be considered as the range of different food types that a consumer has access to. A contrast can be made here between consumer choice as selecting between soda brands, between soda sizes, and between soda and juice. Importantly, some argue (Patel 2007, pp. 12–14) that given the monopolization of food suppliers and distributors, the actual difference between these options is limited. For instance, in the United States, the majority of beef that people eat (80 %) comes from four main suppliers (Pollan 2006, p. 63; Roberts 2008, p. 74). Given such monopolies, the decisions made by these beef suppliers about the content in their food products impact heavily on the actual choices of the consumers (Patel 2007, pp. 12–14).

Choice as Capacity to Make Decisions

Within standard bioethics, a medical procedure must be consented to by the patient, and for this consent to be meaningful, the patient must be properly informed about their choices. Similarly in consumption, an informed consent model of choice might be offered in which a person must know the content of their choice in order for that

choice to be meaningful. This may then require that the consumer know the food type that they are consuming – its ingredients and various production methods. Kessler argues that breaking “sugars” down into multiple entries on a list of ingredients gives a false idea to the consumer of how much sugar they are consuming (Kessler 2009, p. 103).

On a similar informed consent line – where obesity is concerned – the consumer needs to properly understand the correlation between a given food option and obesity. Kessler argues that people don’t properly know what it is when they are eating (Kessler 2009, pp. 101–110). The recent development of “traffic light” systems on food packaging is one way of giving consumers access to easily recognizable indicators of a food’s content and its potential association with obesity (Egger and Swinburn 2010, p. 101).

A third way of conceptualizing consumer choice is whether the individual actively endorses their decisions. Brian Wansink describes a host of perceptual and environmental triggers that impact on food types, serving sizes, and consumption patterns (Wansink 2006). In a similar line of thought, Kessler argues that the sugar, fat, and salt content of processed foods, mentioned earlier, have the capacity to override people’s capacity for reflective decisions (Kessler 2009, p. 58–60). Rebecca Brown has argued that, in order for a consumer to be held properly responsible for their food decisions, they must not only be properly informed of the impact of their food choices but be able to reflectively endorse such decisions (Brown 2013). Many point out that given their limited cognitive capacity and limited social development, children are both unable to make properly informed decisions and to reflect upon these decisions (Pollan 2006, pp. 109–110; Roberts 2008, pp. 83, 105; Schlosser 2003, pp. 43–57).

Government Intervention in Food Choice

Given the costs individually, nationally, and globally, people argue that there is

a governmental responsibility to intervene in the food choices made by consumers (Egger and Swinburn 2010, p. 35). There are, however, a range of different interventions that a government can make.

One intervention point is in the market, through changes to taxation and subsidies of obesity causing foods, such as the Danish tax on saturated fats, introduced in 2011, but removed in late 2012 BBC (2012). Paul Roberts and Michael Pollan have both argued that many fast food and highly processed foods are unnaturally cheap as a result of tax subsidies and government support of certain food types and production methods (Kersh and Morone 2002, pp. 150–151; Pollan 2006, pp. 200–201; Roberts 2008, pp. 135–136). In order to reduce obesity levels, they both argue, such subsidies should be reduced or removed, making processed foods more expensive and less accessible, and so reduce consumption.

In line with the informed consent model of consumption, many regions have particular food labeling requirements. As mentioned, common examples of this are the traffic light system or “calorific score” which some governments have made mandatory on all takeaway food, i.e., the New York City requirements for calorie labels on menus (Grynbaum 2012).

A key battleground revolves around advertising. Many writers and activists promote bans on advertising especially to children and to require more advertising of healthy choices. For instance, Schlosser discussed the US attempts to ban advertising fast foods to children in the early 1980s (Schlosser 2003, pp. 45–46) Gary Egger and Boyd Swinburn describe a similar attempt made in Australia in the early 2000s (Egger and Swinburn 2010, pp. 96–103). In reference to food availability, Schlosser describes attempts limit to the access of fast-food suppliers to vulnerable areas such as the provision of vending machines and fast-food distributors in schools (Schlosser 2003, pp. 51–57).

Rather than directly banning certain food types and distributors, Richard Thaler and Cass Sunstein describe what they call “liberal

paternalistic interventions” to improve healthy choices. For instance, they argue that it is not necessary to constrain negative choices but to make healthy choices easier and more attractive. One example they cite is to make fresh fruit easier to reach than processed foods (Thaler and Sunstein 2009).

A more direct approach can involve directly prohibiting the sale of certain food types and/or distribution options. For instance, in 2012, New York City attempted to bring in a law that prohibited the sale of supersized soda serves. However, due to opposition, at the time of writing, this direct attempt at intervention in New York City was unsuccessful (Davies 2013; Olson 2013). The reasons for and against government intervention in consumer choice are discussed below.

Reasons for and Against Governmental Intervention via Consumer Choice

As many of these reasons have been mentioned already, this section will summarize reasons for government intervention in food choices. Firstly, given the role of consumption in individual health and given the aim to decrease individual burden of disease (also mentioned below), a government has a duty to protect individual’s health. Note that this is not a universal argument, as certain libertarian positions would restrict the role of government to the nightwatchman. Robert Nozick is perhaps the paradigm example of this position (Nozick 1974). Second is the increased burden on public health. Thirdly, reducing unnecessary consumption can lead to decreased used of arable land and water and may decrease pollution (Egger and Swinburn 2010; Patel 2007). Finally, due to the increased intensity of high-throughput food industry, some argue that obesity indirectly places a heavy burden on workers (Schlosser 2003, pp. 169–190) and animals (Singer and Mason 2006).

As mentioned, at the time of writing, New York City had failed in its attempt to introduce laws banning the sale of supersized soda serves



(Davies 2013; Olson 2013). Given the reasons people give to reduce obesity, why would interventions be unsuccessful? There a set of related reasons that people raise against organized interventions in consumer choice, with governmental intervention seen as particularly problematic: individual freedom; personal responsibility; practical failure; and unfairness.

The first opposition comes from the idea of individual freedom. If freedom is about choices, then a reduction of options is a reduction of individual freedom. Any attempt to reduce the range of options available to consumers is unjustified governmental interference in individual liberty. For instance, Professor Russell Roberts states “The government should stay out of personal choices I make. . . My eating habits or yours don’t justify the government’s involvement in the kitchen” (Quoted in Kersh and Morone 2002, p. 142). Justice Tingle who ruled that the New York City ban on large-sized soda drinks saw the ban as “eviscerating” the separation of powers between elected officials and the unelected board who proposed the ban (Davies 2013).

Similarly founded in personal liberty, another set of reasons come from personal responsibility. This is derived, in part at least, from the idea that a person must endorse their choices for those choices to be meaningful. By reducing the set of options that a person can make, governmental interventions reduce the capacity for that individual to actively endorse their own choices. By making the government responsible for such choices, such interventions limit the individual from taking responsibility for their obesity. “A return to the discarded idea of changing individual behavior may be necessary. One way or another, the public. . . must be persuaded of a number of points. Whether or not they recognize their own role in it, they need to understand that obesity is a national health problem. . . Not just their own welfare is at stake” (Callahan 2013, p. 37). One proposal is to use social stigmatization against obesity to motivate individuals away from obesity: “[y]et it is hard to imagine that much progress can occur toward

solutions for obesity unless we bring some form of social pressure to bear against it” (Callahan 2013, p. 38). Such social disapproval is argued by some to be necessary for effective control of private behavior (Kersh and Morone 2002, pp. 143–144).

Another position against certain government interventions are the likelihood of failure. Daniel Callahan points to evidence various methods of reducing obesity, particularly simple individual dieting have been so far unsuccessful (Callahan 2013, pp. 35–36). One criticism of the New York City soda ban was that it was arbitrary and capricious, in that the ban only related to some drink types and not others (Olson 2013). A further set of reasons against such direct government interventions are that they unfairly place burdens on certain industries and food growers (Grynbaum 2012).

Summary

This entry describes the problem of obesity, characterizes different ways of conceptualizing obesity, and raises a series of causes for it. Looking at consumer choice as a key causal element in obesity, the entry surveys different aspects of consumer choice and then covers a series of arguments in support of and in opposition to government interventions into consumer choice as legitimate methods to control obesity.

Cross-References

- ▶ [Food Addiction](#)
- ▶ [Food and Choice](#)
- ▶ [Food and Health Policy](#)
- ▶ [Food Ethics and Policies](#)
- ▶ [Food Legislation and Regulation: EU, UN, WTO and Private Regulation](#)
- ▶ [Food Waste](#)
- ▶ [Industrial Food Animal Production Ethics](#)
- ▶ [Industrialized Slaughter and Animal Welfare](#)
- ▶ [Informed Food Choice](#)

- ▶ **Obesity and Responsibility**
- ▶ **Political Consumerism: Consumer Choice, Information, and Labeling**
- ▶ **Private Food Governance**

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Obesity and Responsibility

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Synonyms

Childhood obesity and responsibilities

Introduction

Obesity is defined by the WHO as “abnormal or excessive fat accumulation that may impair health.” It is a step beyond overweight, although the two are often addressed together: In practice, overweight and obesity are often defined by reference to body mass index (BMI), which is the weight of a person in kilograms, divided by the square of their height in meters. A BMI of over 25 is considered overweight, while a BMI over 30 is obese. As a measure of obesity, however, BMI has its critics, for reasons such as the fact that it does not distinguish between lean mass and fat mass and that it may not accurately account for the relevance of height differences.

The WHO estimates that obesity has nearly doubled worldwide since 1980; in 2008, 35 % of adults were estimated to be overweight and 11 % were obese. This problem has been particularly acute in the Western world: In the United States, over one third of adults are obese, while across the European Union, the figure varies between less than one tenth and almost a quarter. Childhood obesity rates are equally worrying: In Europe, approximately one fifth of children and adolescents are overweight; one third of these are obese. In the United States, roughly 17 % of children and adolescents are obese.

Obesity is regarded as both an individual and social problem because it is associated with a number of health risks, such as diabetes, high blood pressure, heart disease, and some cancers. It gives rise to a number of ethical issues including responsibility for food choices, the role of the



food industry, and public health advice. Obesity in children adds an extra dimension to the ethical issues. These include advertising to children but also intergenerational justice, in so far as concerns have been expressed that life expectancy may decline as a result of changes in the incidence of obesity. In relation to this group, however, it is arguably the case, more so than with other social groups, that the class of people buying and preparing food is not identical with those consuming it, making the identification of responsibilities, especially parental responsibilities, more complicated.

The range of courses of action available to counter obesity gives rise to ethical issues specific to each one: from attempts to “nudge” people into making particular choices, regulation of advertising, the role of the diet industry, functional foods, to gastric surgery as arguably the most extreme intervention. Celebrities increasingly are drawn upon to endorse particular courses of action, as in other sectors of the market. In addition to specific issues, however, some of which raise concerns about the extent of coercion involved, there are generic ones concerning stigmatization and discrimination.

Ten Have et al. (2011) have set out some of the ethical dilemmas associated with obesity interventions:

effects on physical health are uncertain or unfavourable; there are negative psychosocial consequences including uncertainty, fears and concerns, blaming and stigmatization and unjust discrimination; inequalities are aggravated; inadequate information is distributed; the social and cultural value of eating is disregarded; people’s privacy is disrespected; the complexity of responsibilities regarding overweight is disregarded; and interventions infringe upon personal freedom regarding lifestyle choices and raising children, regarding freedom of private enterprise or regarding policy choices by schools and other organizations.

Value Judgments

One issue which needs to be addressed at the outset is the current prevalence of negative value judgments made about obesity. It cannot

be taken for granted that the judgment that obesity is a bad thing is noncontroversial; widespread prejudice against obesity may be a result of social norms or aesthetic factors. It is well known that at different times and in different societies, a high weight has been or is a sign of social success or status. In the present context in Western societies, however, the opposite tends to be the case, with celebrity role models (with a few exceptions) being if anything underweight. This in itself gives rise to ethical issues, leading to concerns about young people developing eating disorders in the desire to be thin (see “► [Body Image, Gender, and Food](#)”).

There are thus costs associated with weight at either end of the spectrum, with lack of clarity about what is a desirable “norm” in the light of social context. At the very least, however, many people who are obese do not want to be (whether they would were it more socially acceptable is perhaps a question to be explored elsewhere).

Causes of Obesity

From one point of view, the cause of obesity appears simple: Where the intake of energy is not balanced by the expenditure of energy, over time this will result in excess weight and eventually obesity. This view appears to have been established firmly by the nineteenth century (Bray 1990). The picture is more complicated than that however: Causal factors involved in producing this imbalance are multiple and varied. The influence of different factors is frequently disputed, but it is broadly accepted that obesity results from the complex interplay of genetic, behavioral, and environmental factors. Gene-environment interactions, in particular, are believed to play an important part in explaining obesity, and much research is ongoing in this field at the time of writing.

Beyond consideration of the causes of obesity in general, special attention has recently been focused on trying to explain the rapid rise in obesity rates across the world in the past 30 years. Although there is evidence to suggest that some people do have genetic factors that make it more

difficult for them to lose weight, the overall change at a population level has occurred too fast to be explained by genetics, so examination of this issue has focused on possible ties between social change, the environment (including the “obesogenic environment”) and human diet.

The “obesogenic environment” hypothesis points to a complex matrix of factors which combine to make it harder for individuals to avoid obesity. Essentially, in certain areas, fast food has become ubiquitous, while exercise has been eliminated, for example, by the use of mechanized transport. The related idea of “food deserts” suggests that it has become impossible for the inhabitants of certain (predominantly urban) areas to access healthy food (see “► [Food Deserts](#)”).

Some accounts have attempted to place the blame on specific foods or ingredients, such as high fructose corn syrup. Others point to contaminants or toxins as being to blame: BPA, found in plastic bottles, for example; PCBs; PFOA; and tributyltin as cited by Guthman (2012). On the other hand, Lakdawalla et al. (2005) argue that obesity is a result of economic progress, relating to both falling relative food prices and a shift away from manual labor.

Discussion of possible causal explanations of obesity is important, as the purported causes of obesity tend to play a dominant role in ethical discourse surrounding the topic. This of course has implications for the allocation of responsibility – not just causal responsibility or blame, but responsibility or duty to act, by reducing levels of obesity or ameliorating the associated problems.

There is clearly much work to be done, however, in picking apart the causal factors implicated in obesity, as emerging research in the field of epigenetics points to enduring, transgenerational obesogenic effects of certain environmental factors. This might indicate additional parental or at least maternal responsibilities.

Responsibilities

In parallel with the simplest causal explanation being an imbalance between energy intake and

energy expenditure, the default account of responsibility focuses on individual food choices. From this point of view, obesity is the result of freely made decisions by individuals (e.g., eating fast food instead of salad; driving instead of walking). It follows that the responsibility for dealing with the consequences of obesity should also rest with the individual: His or her food choices need to change (see “► [Ethical Assessment of Dieting, Weight Loss, and Weight Cycling](#)” and “► [Food and Choice](#)”).

There are at least two different types of problem with this kind of explanation: First, it ignores the *context* in which choices are made; second, it overlooks the *dimensions* of choice. Reflection on context shows the extent to which choices may be subject to external influences which cast doubt on the possibility of a “free” choice. Constraints range from availability of (varied) food, stress, sleep deprivation, time pressures for shopping and preparing, the costs of “healthy” choice, peer group pressure, and the influence of advertising.

Turning to the dimensions of the making of a choice itself, what is at issue here includes information and knowledge. Information about the constituents and calorific values of food is important. In spite of advances in food labeling, however, consumers know, from scandals such as that of horse meat passed off as beef, that what they read on a label is far from 100 % reliable. Information on calories can also be misleading in so far as labeling overlooks facts about fiber and the difference in energy values between raw and cooked foods. It has to be acknowledged that some information relevant to food choice is quite complicated, such as the difference between different types of fat and between omega 3 and omega 6, and this situation is not helped by regular changes in publicly available dietary advice about whether food x or y is good or bad for you (see “► [Food Labeling](#)”).

Making a choice is not simply a matter of having relevant information. Those who give prominence to the role of individual choice might see weakness of will as the main enemy of “healthy” informed choice. Information is also subject to interpretation, however, in the light of



a person's values and the type of person they see themselves as being. A choice to be a meat-eater, vegan, or vegetarian, for example, may be a significant aspect of a person's identity. Stereotypes such as "Real men don't eat quiche" may actually be internalized.

These aspects of an individual's relationship with food are found more broadly in different food cultures. The slow food movement, for example, is likely to affect individual food choices in a different way from a culture that views food as basically fuel rather than a social bonding mechanism.

The allocation of responsibility to individual choice has been identified by Tsjalling Swierstra (2011) as one of a number of competing discourses. He labels it the behavior discourse. By contrast, the environment discourse, related to the obesogenic environment hypothesis discussed above, proposes that the numerous choices which lead to obesity are not in fact freely made, but are decided for us in large measure by the environment. If fast-food restaurants are the only food vendors around, and there are no footpaths to walk on, then we are bound to adopt unhealthy behaviors. Responsibility, both causal and moral, is therefore shifted to institutions that have the power to change the structural determinants of adiposity.

Swierstra's final discourse, the body discourse, claims that obesity is primarily as a result of our body's natural functioning. This discourse separates out causal and moral responsibility by ruling out the existence of a blameworthy actor. Internal genetic factors and the working of one's metabolism may affect weight in ways that are beyond the individual's control.

Obesity: Proposals for Action

Some have drawn attention to how the lack of clarity in regard to the causal relationships surrounding obesity may allow relevant actors to avoid taking responsibility (Harris et al. 2009). It is common to describe causation in terms of a "chain" indicating that all that is needed to

solve the problem is to find the weakest link and allocate responsibility accordingly. The mesh of interrelated factors leading to obesity does not appear fit well into this trope, and waiting for it to be untangled may delay action longer than is acceptable.

Therefore, in addition to causal responsibility, it is important to consider what can be done about the problems brought about by obesity and which actors may have the ability to mitigate any harms arising (Holm 2007; Kersh et al. 2011).

Individual Responsibility Revisited

Many see individual choice as the target here, with proposals ranging from coercion to persuasion and empowerment. The most draconian measure may be use of the taxation system to direct choice. Coercive measures are also possible within a health-care setting, with denial of treatment unless weight is lost: Justification may be given in terms of the reduced chances of successful treatment in the absence of weight loss. The aim of "empowering" individuals to make healthy choices was exemplified in the UK Department of Health's White Paper *Choosing Health* (2004). This strategy depends on the view that individuals can and will make healthy choices if they are given appropriate information.

Taxes intended to reduce obesity may not only hit the poorest hardest but also have a side effect of increasing malnutrition. The work of Thaler and Sunstein has highlighted a number of problems with the individual responsibility paradigm. Mindful of the threat to personal autonomy of restricting choice, they propose a less intrusive method of regulatory involvement, relying on the "nudge" (Thaler and Sunstein 2008). Measures could include rearranging how options are displayed in food outlets and ensuring that people are given a minimum level of information (see "► [Grocery Store Design](#)").

These considerations raise the question of what the proper role of government is in this area. This is relevant not only to the issues around individual choice but also to effects on the potentially obesogenic environment. From a neoliberal perspective, the role of government in relation to food is simply to ensure food safety and to

facilitate the provision of information to individuals on which they can base their choices. In this regard, the regulations surrounding food tend to be different from those affecting drugs, where both safety and efficacy are an issue (although the dividing line between food and drugs is not completely clear-cut).

Regulation of safety has to have regard to particular subgroups of the population, e.g., children and pregnant women, and regulation of advertising to children might be regarded as an aspect of its safety remit, in so far as pushing “unhealthy” foods onto children might cause actual harm.

There are, of course, competing interpretations of what the proper role of government *should* be, from different philosophical viewpoints. In so far as government tries to affect food choice beyond ensuring safety, it might be regarded as unduly paternalistic. In contrast to the neoliberal vision, however, a position that has a concept of the common good to be pursued might argue that the role should encompass more than safety and the promotion of certain values, such as social justice. This might lead, for example, to the facilitation of certain lifestyle choices, including fairness regarding food styles (Korthals 2001).

At the time of writing, it seems that concerns about obesity are trumping other considerations, whether this is construed as part of a broadly understood safety remit or through consideration of social and economic costs. The scope for action of government is also, however, affected by competing economic and political interests, such as the protection of the food industry as a key player in the economy of a modern society.

The Food Industry

The food industry plays an important role in relation to obesity. It has been a leading driver in the changing food environment, from the increasing prevalence of fast food and ready meals to the use of pesticides. Despite the nominal freedom of individuals in deciding what they eat, the food industry plays a crucial role in creating the structure within which individuals must make their choices.

Food Marketing

The role played by marketing in setting the tone for what people eat may be a particularly relevant justification for imposing some level of responsibility on this sector. Despite the ideal of perfectly rational consumers making informed choices, consumers are often swayed by what may be perceived as irrelevant factors. Marketing has the power to affect consumer choice not only by providing or withholding information about products but by how the information is packaged and at which consumers the information is targeted. The role of food marketing in defining consumer perceptions of food “healthiness” is also important to consider. What once may have been purely within the realm of public health authorities has been encroached upon gradually by ubiquitous marketing campaigns emphasizing the benefits of one food or another.

In particular, the way that food is marketed to groups who may be particularly susceptible to manipulation, such as children and those in developing countries, may raise some concerns (Harris et al. 2009; Witkowski 2007). The makers of fast food and sweetened drinks have been especially astute in targeting these two groups.

In some countries, regulators have taken action to limit advertising aimed at children for these reasons. Advertisers may be precluded from advertising certain classes of food completely or at certain times of day. The possibility of such regulations being introduced may act to bring about more responsible behavior by the food industry (see “► [School Lunch and Gender](#)”).

Corporate Social Responsibility

Corporate social responsibility (CSR) has emerged in the last 60 years as an acknowledgment of the impact of corporations on society and the potential for corporations to make their impact positive. In the food industry, CSR has come to the fore as issues such as the use of genetically modified crops, animal welfare, and the treatment of workers have been prominent topics of debate (Maloni and Brown 2006).

In the wake of a series of popular critiques of the role of the food industry in relation to obesity,



some firms have sought to improve their image by taking some steps to address it. This has included not only promoting the health benefits of their products but also trying to make their products healthier, for example, through the increasing use of whole grains, and to encourage individuals to make healthy choices by providing information and promoting physical activity or voluntarily assuming some responsibility by undertaking to decrease obesity rates (Herrick 2009).

There are numerous examples of this in action, from recent moves to project a healthier image and to be seen to empower consumers by companies such as Coca-Cola and McDonalds, to the sponsorship of physical activities for children or the voluntary reduction in fat levels in some products.

There has, however, been some criticism of these strategies. It is unclear what merit there is in some of the health claims made by companies, especially where these claims stem from only one aspect of the product. Encouraging individuals to make healthy choices may be seen as merely trying to shift blame for obesity away from food and the food industry (Herrick 2009) (see “► [Corporate Social Responsibility and Food](#)”).

Functional Foods

When changing the products is seen as an alternative to manipulating choice, this might be regarded as a “technical fix,” looking for opportunities for products that counteract obesity because of their effects on the body, such as “functional foods” (Choudhary and Grover 2012). These are not the same as “miracle diet” products. The constant search for the quick-result diet has been a phenomenon of long standing, but the consensus of opinion is that long-term lifestyle change is necessary to counteract obesity. Manufacturers of functional foods focus on ingredients which are part of a normal healthy diet (such as chillies) but around which products can be made which may speed up metabolism or reduce hunger (Chadwick et al. 2003). This might be seen as less of a *responsibility* for the food industry, rather more of a marketing *opportunity* (see “► [Functional Foods](#)”).

Epigenetics

Beyond the possibility of a technical fix, recent advances in our understanding of epigenetics have suggested that science may have important new insights to offer in this field. Although genetics does not have the complete answer to why some people become fat and others do not, there are genetic factors implicated in obesity, and these may be triggered, or not, by environmental factors. Epigenetics examines factors over and above the genome that may affect gene expression and understands the influence of environment to be far beyond the obesogenic environment hypothesis. Significant factors may relate even to maternal behavior prenatally. It remains to be seen what the implications of this rapidly developing science will be. It has the potential for opening up a new area for thinking about responsibility in relation to obesity, if parents are considered responsible for behavior during pregnancy and early childhood which might affect the propensity to obesity in their children (Chadwick and O’Connor 2013).

Parental Responsibility

The question of parental responsibility for obesity in relation to their children is multifaceted, and it is not possible to explore every aspect of it here. Parents have a significant influence over not only what their children eat and what physical activity they are involved in while they are young (and the degree of influence will vary greatly with the age of the children), but over the attitudes of their children towards food and exercise later in life (Holm 2008; Perryman 2011). Because of this, it may be considered appropriate to impose some responsibility for childhood obesity on parents.

It is important to remember, however, not to overstate this. While women during pregnancy are already expected to limit consumption of alcohol, for example, in general obesity fits uncomfortably into the broader scheme of parental responsibility. Generally, parents are allowed a high degree of freedom in choosing how to bring up their children (although parenting decisions are often – at least morally if not legally – required to be made in the best interests of the child).

It may only be thought permissible to impose particular duties on parents where there is a clear, objective risk of harm to children. Given the uncertain and primarily distant nature of the health risks attached to obesity, and the subjective nature of some value judgments surrounding obesity, it may be inconsistent with the freedom of conscience allowed to parents to curtail their range of choices.

Summary

Obesity is a complex moral issue: It is clear that there are health problems associated with it, and yet much of what people think about obesity is clearly motivated by subjective aesthetics or prejudice. It is also apparent that although we can identify a number of factors which are causally linked to obesity, food intake, exercise, genetics, and environment, how these factors work together has yet to be established.

Against this background, a number of debates have developed: whether obesity should be treated as an individual failing, as a result of environmental factors or genetically predetermined; whether responsibility for dealing with the “obesity epidemic” should fall to individuals, governments, or the food industry; and even about whether obesity should be seen in a positive, negative, or neutral light.

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Occupational Risks in Agriculture

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Synonyms

Accidents in agriculture; Health and safety;
Workplace risks

Introduction

In literature and the visual arts, the very notion of an idyll means a depiction of rural life, describing life and work on a farm as healthy, gratifying, and in harmony with nature. Children's books, in particular, abound with rustic idylls where children play freely, undisturbed by the dangers of modern life.

Real farmwork was, and still is, very dissimilar from these representations. Agriculture is more dangerous than most other occupations. Old hazards like sickles and bolting horses may have become less common, but they have been replaced by new ones such as pesticides and tractor rollovers (ILO 2010).

A third of the world's labor force works in agriculture. In the richer countries, only around 2–3 % of the workforce work on farms, most of them on highly mechanized farms. In poor countries, more than half of the workforce work in agriculture. About 40 % of the world's farmers and agricultural workers are women (ILO 2012, p. 99). Child labor is more common in agriculture than in any other economic sector. One hundred and thirty million children, about 60 % of the world's child laborers, work in agriculture (Diallo et al. 2010, p. 13).

Agriculture is a particularly hazardous occupation in both industrialized and developing countries. In countries with well-functioning statistics, the death rate due to occupational accidents in agriculture is usually at least twice as high as the national average, and agriculture is one of the sectors with the highest death toll.

According to ILO estimates, at least 170,000 agricultural workers are killed in workplace accidents each year (ILO 2009). This figure is uncertain since reporting of accidents and occupational disease in agriculture is often highly incomplete, in particular in third world countries.

Accidents

Some of the causes of agricultural accidents have been with us since ancient times. *Domestic animals* can kick, bite, knock down or step on a worker, or press her against a wall or a fence, sometimes with fatal outcome. The risk is enhanced when the animal is agitated or panicking and when the worker and the animal are inside the same tight workspace such as a small stall or pen. Humane treatment of animals reduces the risk of dangerous behaviors. Barns and collection chutes can be constructed to separate workers from animals. Milking, immunization, trimming of hooves, and other operations that require close contact with the animal can be performed in containment facilities that protect the worker against kicking and biting.

In tropical and subtropical areas, *wild animals* are major causes of occupational accidents. Large mammals that look for food in the farmland can be dangerous, in particular when one tries to drive them away. In Africa, the hippopotamus is particularly dangerous for farmworkers. Snakebites are also common in tropical areas.

In mechanized agriculture, *tractors* cause a large number of injuries. In many industrialized countries, a majority of the fatalities in agriculture are due to tractor accidents. Rollover accidents are the most common type. It is also common for workers standing behind a tractor to be run over when it is reversed. The risk of accidents can be reduced by educating drivers, keeping bystanders and in particular children away, and avoiding driving on slopes. Safety equipment such as seat belts and protective frames (roll over protection structures, ROPS) substantially decrease the risk for drivers.

A wide variety of *other machines* contribute to making farming a dangerous occupation.

Machines containing accessible moving parts and cutting edges can cause cuts, fractures, amputations, and crushings with disabling or fatal consequences. Harvesters are among the most dangerous of these machines. Many accidents occur when clearing blockages or performing maintenance or repairs. In the third world, *hand tools* such as machetes used for cutting sugar canes cause many serious cutting wounds.

Fall accidents are common on farms, resulting for instance from poorly maintained stairs and ladders and from work on roofs, silos, or the top of vehicles without protective equipment. *Traffic accidents* are common when rural workers travel between fields for instance on trucks. *Electric accidents* and *fires* are other causes of accidents in agriculture.

Occupational Diseases

Diseases caused by biological material have a long history in agricultural production. The inhalation of *dusts from grains and other plant material* can give rise to respiratory diseases. The smallest particles (less than .005 mm) go unnoticed since they cause no immediate irritation but they are the most dangerous ones since they penetrate into the alveoli, the small sacs that are the terminal ends of the branching tree of pulmonary ducts. Many types of bioorganic dust can give rise to inflammatory diseases of the lung. Probably the most common of these are farmer's lung (moldy hay) and byssinosis (cotton dust). Others are bagassosis (moldy molasses), coffee worker's lung (coffee bean dust), malt worker's lung (moldy barley), tobacco worker's lung (moldy tobacco), and winegrower's lung (moldy grapes). The so-called hay fever is an allergic reaction to grass pollens that tend to be prevalent at the time when hay is being harvested. The risk of these diseases can be substantially decreased if adequate measures are taken to decrease exposure.

Gases formed during crop storage can also be toxic. Silo-filler's disease is a dangerous acute condition resulting from inhalation of nitrogen dioxide formed from fresh silage. Work inside a grain storage facility is also associated with

other dangers such as grain dust explosions and suffocation due to lack of oxygen or engulfment in avalanching grain. Grain storage bins should never be entered without careful protective measures including a body harness with a lifeline or a boatswain's chair.

Dust from domestic animals, usually from dander (particles of shed skin and fur), can give rise to allergic rhinitis. Dust from droppings and feathers of birds give rise to bird fancier's lung (bird-breeder's lung), a serious and potentially fatal form of allergic lung disease.

In large-scale, high-density animal production, workers can be exposed to high concentrations of *gases from animals*, arising from flatulence and from the decomposition of urine and fecal matter. Important such gases are methane, ammonia, and hydrogen sulfide. Ammonia and hydrogen sulfide both give rise to irritation of the eyes and nose. Hydrogen sulfide is a treacherous gas since its smell of rotten egg disappears at the higher concentrations that are acutely fatal. Hydrogen sulfide from slurry pits has caused many deaths.

In livestock production, farmworkers can be affected by various *zoonoses*, i.e., infections transmittable from animals to humans. Some of the most well known of these are summarized in Table 1.

Farmworkers can also contract *zoonoses from nondomestic animals*. Contacts with snail-infested water, for instance, in rice fields, can give rise to schistosomiasis (bilharzia), a disease caused by a parasitic worm carried by snails. Barefoot walking and lack of sanitation contribute to the risk of hookworm infection that is a major public health problem in particular in Africa and Asia. Bites and stings from spiders such as ticks, scorpions, and in particular insects such as mosquitoes, flies, and fleas are other major causes of disease.

Malaria kills more than 600,000 persons each year, about 97 % of them in Africa (WHO 2011). The impacts of agricultural practices on malaria incidence are complex. In some areas, increased irrigation has created stagnant waters that augment mosquito breeding and therefore increase the risk of malaria. On the other hand, higher



Occupational Risks in Agriculture, Table 1 Some major zoonoses, i.e., infections that are transmitted from animals to humans

| | |
|-----------------------------------|--|
| Anthrax | A bacterial disease that spreads by spores. Cattle and other herbivorous mammals can contract it through ingestion of the spores while grazing. It spreads to humans through contact with diseased animals or consumption of flesh from them. The disease has high mortality |
| Bovine tuberculosis | A form of tuberculosis that is usually transmitted through unpasteurized milk or through contact with infected animals. In areas where milk is not pasteurized, it is a common source of tuberculosis in humans |
| Brucellosis | A bacterial fever disease that is transmitted from cattle through unpasteurized milk or infected tissues such as placentas |
| Campylobacteriosis | A bacterial disease that causes diarrhea and fever. It is usually transmitted through unpasteurized milk or contact with infected poultry or livestock |
| Cryptosporidiosis | A disease caused by a protozoon (single-celled organism) that gives rise to diarrhea in humans. It can be contracted through feces from infected cattle or water that has been contaminated with such feces |
| Leptospirosis | A bacterial disease with symptoms such as fever and diarrhea. It is commonly transmitted to humans from animal urine via contaminated water |
| Psittacosis (parrot fever) | A form of bacterial pneumonia that is spread by droppings from parrots but also from other birds such as hen and duck |
| Q fever | A bacterial disease that is transferred to humans from milk, urine, feces, amniotic fluid, or placenta from infected cattle and other domestic animals |
| Rabies | A life-threatening viral brain infection that is almost always contracted through bites from infected dogs. It kills more about 55,000 persons every year, 95 % of them in Africa and Asia. Preventive vaccinations of both dogs and humans are efficient means to prevent the disease |

prevalence of cattle in developing areas seems to decrease the risk of malaria since the mosquitoes tend to feed on blood from cattle rather than humans.

Most zoonoses can be efficiently controlled with proper preventive measures such as animal vaccination, human vaccination, sanitation, and safe disposal of animal waste. Due to the lack of such measures, zoonoses are a much heavier burden on farmworkers in developing than in industrialized countries.

Pesticides are by far the most serious toxic risks in agriculture. Pesticides are divided into groups according to their targets. The most important of these groups are herbicides (against unwanted plants), insecticides (against unwanted insects), fungicides (against unwanted fungi), and rodenticides (against unwanted rodents). As a rough rule of thumb, insecticides and rodenticides tend to be more dangerous to humans than most herbicides and fungicides. The majority of acute pesticide poisonings involve insecticides. Due to the prevalence of pest insects in tropical and subtropical climates, insecticides have a larger role in

third world countries than in industrial ones where their use is also better controlled.

For most pesticides the dominant route of entry into the body is skin penetration. Mixing and loading of pesticides often leads to massive exposure of the hands and arms. Manual spraying that is standard in third world countries also leads to substantial skin exposure, in particular as it is often performed with leaking and otherwise deficient equipment. The legs of farmworkers are often exposed to pesticides from recently treated plant surfaces.

The other two routes of entry are inhalation and ingestion. Inhalation is often substantial for workers performing hand spraying. In addition, wind drift leads to inhalation by people in the vicinity, including children. Ingestion is often the result of insufficient hygiene, such as when food is eaten or cigarettes smoked with contaminated hands.

The symptoms of poisoning are different for different pesticides. Common acute symptoms are headache, skin irritation, and flu-like respiratory symptoms. High doses can be fatal. Some

pesticides give rise to chronic poisoning, and some have been shown to be associated with cancer.

Due to lack of reporting routines in the most affected countries, the number of pesticide poisonings is extremely difficult to estimate (Litchfield 2005). The International Labour Organization (ILO) and the World Health Organization have made quite different estimates. The ILO estimates that about 17,000 (unintentional) fatal poisonings with pesticides take place each year, comprising 10 % of the fatalities in the agricultural sector. The WHO estimates around 40,000 such fatalities annually (Rice 2000).

In addition to their implication in occupational fatalities, pesticides are also death-bringing in another way, namely, through suicides. Pesticides are the dominant means of suicide in many third world countries, and globally they are the most common suicide method. It has been estimated that around 300,000 suicides with pesticides are committed every year (Gunnell et al. 2007). Most of these suicides have a strong impulsive component, and there are strong reasons to believe that reduced access to highly lethal pesticides would lead to a substantial decrease in the number of suicides (Eddleston et al. 2006). (It has been hypothesized that by causing depression, occupational poisoning with organophosphate pesticides may increase the risk of suicides. That has not been scientifically substantiated.)

Agricultural workers are also affected by several *climate-related diseases*. In particular in tropical areas, the combination of high temperatures, high ambient humidity, and hard physical labor can lead to heat stress and heat stroke. Lack of drinking water further increases the risk of heat stress. In the same areas, exposure to ultraviolet sunlight increases the risk of skin cancer and cataracts.

Musculoskeletal disorders such as back pain and arthritis are common among farmworkers and may be associated with hard physical labor. Prolonged exposure to *vibrations* from tractors and other machinery gives rise to the hand-arm vibration syndrome that is characterized by numbness and temporary loss of feeling in the

fingers, in serious cases loss of dexterity and strength. Exposure to vibration is also associated with increased risk of spinal disk herniation and myocardial infarction.

Noise from animals, in particular, in swine confinement buildings, can reach levels that give rise to hearing loss. The same applies to noise from tractors and machines such as chain-saws and grain dryers.

Ethical Issues and Challenges

Agriculture differs from other sectors of the labor market in ways that have ethical implications for health and safety work. In this section some of these implications will be summarized in the form of five challenges for agricultural health and safety.

To a large extent, farmwork is performed by self-employed farmers. In many countries farmers are among the most underprivileged laborers, but they seldom form organizations like trade unions or take part in coordinated, collective activities. When an industrial worker is exposed to unacceptable working conditions, there is a factory owner who can be required to pay for the necessary improvements. When a self-employed farmer is subject to similar conditions, there is no one else than the farmer who is expected to pay, and often his or her means do not suffice to cover the costs.

If the government or an independent organization demands improvements in the working conditions of an industrial worker, then these demands cannot be accused of being paternalistic. The improvements will have to be made by the employer, who is then required to change the working conditions of others, not himself. In contrast, demands to improve the working conditions on small farms can be labeled as paternalistic; such demands interfere in the farmer's decisions on his own working conditions and they do so for his own good.

The difference is not quite as sharp as it was now presented. There are cases of paternalism in health and safety work in large industries. The best example of this is demands that workers use



personal protective equipment; it is primarily for their own sake that government agencies and – often – the employer require them to do so. There are also cases when health and safety measures by a self-employed farmer have a justification that goes beyond his or her own interests. One example is vaccination of cattle against zoonoses. By vaccinating his or her own herd, the farmer contributes to decreasing the risk for colleagues to be affected by the diseases in question. But in spite of these exceptions, health and safety work encounters the problem of paternalism much more often in agriculture than in other sectors. *The first challenge is therefore to find ways to prevent accidents and occupational diseases no less efficiently in agriculture than in other sectors, while respecting the special situation of self-employed farmers.*

Throughout the world, agriculture still tends to be a family business to a much larger extent than other ways to make a living. The limit between a private household and the same family's farm is less clear than the corresponding limit in other small companies. As a consequence the distinction between family relations and labor relations is similarly unclear. This may seem idyllic, but it means, for instance, that if the wife of a traditional farmer has a subjugated role, then she is dominated by the same man both at work and at home – doubly oppressed but in a single relation.

Probably largely because of the family-based organization, the role of women as agricultural workers has often been neglected even by health and safety authorities. Tools, machines, workstations, and equipment have been constructed to suit the male worker. It has not been a priority to make working conditions compatible with pregnancy and breastfeeding. Day-care facilities are seldom available, in spite of being the only practicable way to keep children away from the dangerous production areas where their mothers work. In summary, the traditional view of agriculture as a family business led by a man has made female farmworkers and their working conditions next to invisible. *The second challenge is to give the same weight to the interests of female and male farmworkers in spite of strongly*

entrenched traditions that keep women in a subordinate position.

Most farms are both a home and a workplace, with no clear line between the two functions. Therefore, children who grow up on farms grow up in a workplace. This has at least two important consequences. First, they are exposed to the dangers of the workplace. Kicking, biting, and bolting animals; infectious diseases spread by the same animals; insects spreading other diseases; reversing or overturning tractors, harvesters, and other cutting machines; dangerous hand tools; slurry pits with their dangerous gases and the risk of drowning; equally perilous grain storage bins; and not least pesticides – all these workplace dangers are also dangers to the children who grow up on farms. From the viewpoint of preventive health, it is regrettable that some of the most accident-ridden workplaces, namely, farms, are also the only workplaces that are the homes of hundreds of millions of children.

The other consequence is that child labor is more common in agriculture than in any other occupation. In many third world countries, children drop out of school or never turn up there because their work is needed in the fields. Even in industrial countries where child work on industrial workplaces has been almost completely abolished, young children can be found working on family farms with dangerous machines and animals. In the United States, children as young as 4 or 5 have been found driving a tractor alone (Frank et al. 2004). Hundreds of thousands of the agricultural workers in the United States are immigrant children, some of them as young as 7 or 8 years old, who work under conditions similar to those found in the third world. Many of them work with sharp tools and dangerous machines. Green tobacco sickness, i.e., nicotine poisoning due to dermal absorption from tobacco plants, is particularly damaging to children's health, and the same applies to pesticide exposure (Human Rights Watch 2010). Due to idyllic misperceptions of farmwork, in the United States and elsewhere, the public tolerance of child work seems to be higher if it takes place in farms than in other sectors. *The third challenge is to protect children from work and workplace dangers in*

agriculture in spite of the fact that they live on agricultural workplaces and are brought up in a tradition where child labor is considered normal.

A large proportion of the farmworkers who are not self-employed are instead hired on a temporary or seasonal basis. Workers with uncertain employment tend to consider themselves not to be in a position to make demands or refuse dangerous work. They are also more seldom unionized than workers with permanent employment. This means that in many countries, most agricultural work is done by either self-employed or temporary workers, two groups that are mostly unorganized. In agriculture, trade unions have often failed to play the important role as promoters of workplace health and safety that they have in industrial workplaces.

In many countries, a large part of the agricultural workers are immigrants with less legal protection than citizens. The United States has been estimated to have between three and five million migrant farmworkers, about 80 % of whom have immigrant status. A typical attitude among them to unsatisfactory working conditions is that “nothing can be done about it” (Magaña and Hovey 2003). *The fourth challenge is to ensure that the health of migrant and temporary workers in agriculture is fully protected, in spite of their uncertain status that makes many of them unwilling to make demands or to have contact with authorities.*

Agricultural products are commonly used as textbook examples of the advantages of free trade. It does not seem rational for farmers in a subarctic climate to grow oranges in heated greenhouses when these fruits can instead be imported from countries where they grow in the fields. But trade in agricultural products is far from free. Current trade agreements tend to require openness in developing countries while at the same time institutionalizing the subsidies and protections that industrialized countries have created for their own agricultural sector (Gonzalez 2002). The demands of fairness combine with those of economic rationality to support the rectification of such asymmetries. On the other hand, it is not unproblematic to transfer

agricultural production from countries with acceptable working conditions to countries with dangerous and oppressive conditions. *The fifth challenge is to combine trade policies with health and safety policies in ways that are beneficial to the underprivileged farmers and farmworkers in developing countries.*

Summary

Both in industrialized and developing countries, agriculture is more dangerous than most other occupations. Accidents with animals, tools, and vehicles are common, and a wide variety of occupational diseases result from chemical and biological exposures. Pesticide poisonings are a particularly serious problem in many developing countries. Children are directly exposed to many of the hazards in agriculture, partly because they are used as workers, partly because they live on farms. Many farmworkers are either self-employed or migrant, two categories of workers that are seldom well organized and often have difficulties in getting heard. The health and safety of poor farmworkers and their families is a neglected problem in need of much more attention throughout the world.

Cross-References

- ▶ [Biosecurity and Food Systems](#)
- ▶ [Corporate Social Responsibility and Food](#)
- ▶ [Fair trade in Food and Agricultural Products](#)
- ▶ [Food and Class](#)
- ▶ [Restaurant Workers](#)

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Oxford Centre for Animal Ethics

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Introduction

The Oxford Centre for Animal Ethics (www.oxfordanimaethics.com), founded in 2006 by its director Professor Andrew Linzey, is an

independent Centre with the aim of pioneering ethical perspectives on animals through academic, research, teaching, and publication. The Centre is the world's first dedicated to pioneering ethical perspectives on animals. An independent “think tank” for the advancement of progressive thought about animals, the Centre has more than 100 advisers and 60 fellows drawn from a variety of academic disciplines throughout the world.

Aims and Vision

The Centre aims to put ethical concern for animals on the intellectual agenda and contribute to an enlightened public debate about animals. It believes that the rational case for animals is frequently understated within academia and misrepresented in the media. By creating a worldwide association of accomplished academics from all disciplines who want to pioneer ethical perspectives on animals, the Centre intends to create a new intellectual force – a select fellowship – able to make the ethical case for animals.

Philosophy

The Centre

- Is inspired by the work of ethicists and philosophers who have pioneered new perspectives on animals
- Is informed by scientific work indicating that animals are sentient and possess complex systems of awareness
- Seeks to relate these insights to how we treat animals today
- Questions the “old view” of animals as simply things, machines, tools, commodities, or resources, put here for our use
- Holds that all sentient beings have intrinsic value and should be treated with respect

All fellows are required to uphold the philosophy of the Centre. The Centre's *raison d'être* is that we cannot change the world for animals without changing our ideas about them, hence the Centre's strapline: “Helping people think differently

about animals.” The Centre’s view is that academics should help lead the way in furthering ethical attitudes and contributing to informed public debate. Consideration for appointment as a fellow is by invitation or nomination only. The Centre is opposed to violence and illegality and does not appoint fellows who advocate illegality or violence.

Achievements

Since its inception in 2006, the Centre has pioneered three major projects.

The first is the creation of the *Journal of Animal Ethics (JAE)*, the first named journal of its kind in the world. Published in partnership between the Centre and the University of Illinois Press, the *JAE* is an academic journal of progressive thought about animals. It is a focus of inquiry, argument, and exchange dedicated to exploring the moral dimension of our relations with animals, and its aims are to put animals on the intellectual agenda and to stimulate discussion within academic and professional institutions. The *JAE* is multidisciplinary in nature and international in scope, and peer-reviewed, covering both theoretical and applied aspects of animal ethics – of interest to academics from the humanities and the sciences, as well as professionals working in the field of animal protection. The *JAE* comprises full-length scholarly articles, “argument” pieces in which authors will advance a particular perspective (usually related to current affairs) or respond to a previous article, review or research report, as well as review articles and reviews. The editors are Professors Andrew Linzey and Priscilla N. Cohn, and Clair Linzey is the associate editor. Guidelines for authors and further details of the *JAE* are available here <http://www.press.uillinois.edu/journals/jane.html>.

The second is a book series on animal ethics in partnership with Palgrave Macmillan. The Palgrave Macmillan Series on Animal Ethics (PMSAE) explores the challenges that animal ethics poses, both conceptually and practically, to traditional understandings of human-animal relations. Specifically, the Series:

- Provides a range of key introductory and advanced texts that map out ethical positions on animals
- Publishes pioneering work written by new, as well as accomplished, scholars
- Produces texts from a variety of disciplines that are multidisciplinary in character or have multidisciplinary relevance

Already 12 volumes have appeared, including *An Introduction to Animals and the Law* (2010) by Joan E. Schaffner, *An Introduction to Animals and Political Theory* (2010) by Alasdair Cochrane, *Animals and Public Health* (2011) by Aysha Akhtar, *Animal Suffering: Philosophy and Culture* (2012) by Elisa Aaltola, and *Animal Cruelty, Antisocial Behaviour and Human Aggression* (2012) by Eleonora Gullone.

More information about the current books in the Series is available here <http://www.palgrave.com/products/SearchResults.aspx?s=PMAES&fid=1837>. The series editors are Professors Andrew Linzey and Priscilla Cohn.

The third is the establishment of an annual Oxford Summer School in Animal Ethics (OSSEA). Starting in 2014, the OSSEA will provide an annual international focus where scholars from around the world can meet, share ideas, and move the subject forward. It will be the first Oxford Summer School in animal ethics, indeed the first annual venture of its kind in any university in the world. Each year, a topic will be selected for consideration with the contributions forming a book collection and/or published as articles in the *JAE*.

The Director

The Revd Professor Andrew Linzey is a member of the Faculty of Theology in the University of Oxford and Honorary Research Fellow of St Stephen’s House, Oxford. He is also Honorary Professor at the University of Winchester and Special Professor at Saint Xavier University, Chicago. In addition, he is the first Professor of Animal Ethics at the Graduate Theological Foundation, Indiana.



Professor Linzey previously held the world's first academic post in Theology and Animals – at Mansfield College, Oxford (1992–2000), and subsequently at Blackfriars Hall, Oxford (2000–2006). In 2001, he was awarded a DD (Doctor of Divinity) degree by the Archbishop of Canterbury in recognition of his “unique and massive pioneering work at a scholarly level in the area of the theology of creation with particular reference to the rights and welfare of God's sentient creatures.” This is the highest award that the Archbishop can bestow on a theologian and the first time it has been awarded for theological work on animals. Professor Linzey has defined the field of animal theology first with his book *Animal Rights: A Christian Assessment* in 1976, with his subsequent books *Christianity and the Rights of Animals* (SPCK and Crossroad 1987), *Animal Theology* (SCM Press and University of Illinois Press 1994), *Animal Gospel* (Hodder and Stoughton, and Westminster John Knox Press 1998), *Animal Rites* (SCM Press and Pilgrim Press 1999), and *Why Animal Suffering Matters* (Oxford University Press 2009). He is the foremost theologian on animals and Christianity.

The Deputy Director

Clair Linzey graduated first in her class with First Class Honors from the University of St Andrews, Scotland (2002–2006), with a Master of Arts in Theological Studies. She was awarded the Monrad Scholarship and William Honeymoon Gillespie Scholarship to study at Harvard Divinity School, where she gained her Masters in Theological Studies from Harvard University in 2008. While at Harvard Divinity School, Clair won a place on their International Summer Field Education Placement. She spent the summer in Nicaragua where she taught in a rural school and traveled the country learning about its history and the growth of liberation theology. This, combined with her lifelong commitment to animal protection, resulted in an interest in ecological and liberation theologies in South America. She is currently pursuing a PhD under Professor Mario Aguilar at the University of St Andrews on the

Ecological Theology of Leonardo Boff with special consideration of the place of animals.

The Associate Director

Professor Priscilla N. Cohn began teaching Philosophy at Bryn Mawr College where she gained her PhD on the work of Heidegger. She has taught philosophy for more than 35 years and was made full Professor in Philosophy at Pennsylvania State University in 1982 and subsequently Professor Emeritus at Abington College at Pennsylvania State University in 2001. She has pioneered courses in animal ethics and lectured on five continents.

She has published seven books, including *Contraception in Wildlife*, Book I., edited with E. D. Plotka and U. S. Seal, in 1996 and *Ethics and Wildlife* in 1999, both published by the Edwin Mellen Press. Her interest in wildlife is reflected in her work as the founder and director of PNC, Inc., a nonprofit animal rights foundation that organized the first international conference on contraception in wildlife in the USA and initiated and funded the first PZP fertility control study on white-tailed deer. She has been a board member of The Fund for Animals and Humane USA PAC.

Josep Ferrater Mora (1912–1991)

The Centre is dedicated to the memory of the celebrated Catalan philosopher Josep Ferrater Mora. His prodigious scholarship is widely acclaimed, and the Centre honors his name because of his outstanding contribution to humanitarian thought, particularly in the area of animal ethics. Praised as the most important Catalan philosopher since Raymond Lull in the thirteenth century, Josep Ferrater Mora, known in the Spanish-speaking world as José Ferrater Mora, is celebrated as the most profound and original Spanish thinker in the second half of the twentieth century.

Ferrater's collection of essays entitled *Mariposas y supercuerdas: Diccionario para nuestro tiempo*, published posthumously in 1994

(*Butterflies and Superstrings: A Dictionary for Our Time*), comprises his articles condemning Spanish fiestas and bullfights. In his *La llamada "fiesta nacional"* (The So-Called "National Fiesta"), Ferrater rejects the three main claims used to defend bullfights: that they are spectacles, that they reveal a special relation between the matador and the bull, and that they are traditional. Writing at a time when there was little, or no, public opposition to fiestas and bullfights, Ferrater's article provoked widespread consternation in Spain.

Andrew Linzey and Clair Linzey

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