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Combining Long-Term and Short-Term Perspectives on Food Choice: The Case of Meat's Animal Origin

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Introduction

Although Europe, and particularly north-western Europe, has often been characterised as a meat eating continent (Braudel, 1987; Montanari, 1994), there are indications that meat is losing its position as a particular attractive source of proteins, only to be criticized by marginal groups of vegetarians. The indications do not only refer to the negative role of meat in several recent food safety crises but also to a number of socio-cultural changes that might gradually gain importance in the long-term. Some relevant examples are the increasing significance that consumers attribute to animal welfare (Issanchou, 1996) and the growing appreciation of vegetarian meals, not only by consumers (Beardsworth & Keil, 1997) but also by nutritionists (Sabaté, Duk, & Lee, 1999). Given the various manifestations of these changes, the question can be raised whether they will continue and get a substantial impact on the consumption of meat. This question is particularly important in view of the environmental pressure that is attributed to the current system of meat supply (Aiking & Vellinga, 2000; Tilman, Cassman, Matson et al., 2002). Gaining more insight into socio-cultural changes and their linkages with food choice criteria may contribute to the pursuit of a food system that is more sustainable.

From a methodological point of view, studying the links between food choice criteria and long-term socio-cultural development is a challenging task. Research into food choice criteria is often undertaken from a bottom-up perspective in which the behaviour of the consumer is seen as the result of a restricted number of causes (e.g. Connors, Bisogni, Sobal et al., 2001). The causes specify, for example, *how* consumers make a choice given their motives for a certain type of meal (e.g., a quick meal) and their beliefs about the foods that fit into such a meal (e.g., a hamburger). In contrast, studies of long-term socio-cultural changes are often undertaken from a top-down perspective to explain *why* people's activities in a certain period have developed in a particular direction (Goudsblom, 1996). This approach can reveal irreversible changes in systems of food provision and consumption, such as the development of fast food chains in relationship with Western modernization processes (Ritzer, 1996).

Although bottom-up and top-down approaches are often applied separately, they can be mutually enhancing. For example, a top-down approach of social change may lead to sweeping generalizations about dramatic transitions, if it neglects the experience of the people involved who may just have adapted their behaviour to changing circumstances (Levine, 2001). Similarly, a bottom-up approach may miss the direction of gradual changes in people's behaviour if this direction can only be observed from a long-term perspective.

Combining top-down and bottom-up approaches is particularly relevant for research into the ways food choices are changing. By examining how current food choice criteria are linked with long-term socio-cultural development, their potential impact on future food consumption can be assessed. Generally, distal processes (i.e. long-term causes) will determine how proximal factors (i.e. short-term causes) might work. More specifically, a long-term development will create opportunities for food choices that match its general direction, whereas it will put constraints on others. Accordingly, it might be expected that those food choice criteria that appear to be part of a long-term change will have more impact in the future than criteria that are only based on short-term trends.

A combined approach to long-term and short-term processes is not a simple task, however, because there is as yet no historical social psychology to draw the connections. Moreover, there are no databases and tools to support this type of research. As two of Europe's most renowned culinary historians, Jean-Louis Flandrin and Massimo Montanari (1999: 3), note, we are still ignorant about the reasons for certain fundamental changes in the routines of everyday life, such as changes in cooking techniques, choice of ingredients and seasoning. Nevertheless, it is possible to use insights from the relevant disciplines (i.e. psychology, sociology, anthropology, history) as elementary building blocks, and to test at least some implications by small-scale experiments.

The main strategy chosen here is the development of a framework that sorts insights on influences on behaviour into a logical order. Two general notions have been extremely useful for this approach. The first one is that it makes sense to consider, from a behavioural perspective, the time it takes to create or develop something. For example, a real problem cannot be solved in one second and a friendship cannot be built in an hour. The second notion is that any potentially causal factor can only cause an effect in a certain context. In other words, a virus can only cause an illness among those persons who are not immune to it. And this context, in turn, is dependent on other causal factors, such as the special vulnerability that is determined by heredity. The best approach to combine the two notions is one that builds a cascade-like framework of the relevant processes.

In the next section, the framework of influences on behaviour is explained. Then, the role of Western modernization processes is analysed as an example of long-term influences on food choice criteria. These results will be combined with a short description of the changes that have influenced food supply in the past decades. In the final part of the chapter, I shall draw conclusions and discuss the implications for the pursuit of Industrial Transformation.

Framework of influences on behaviour

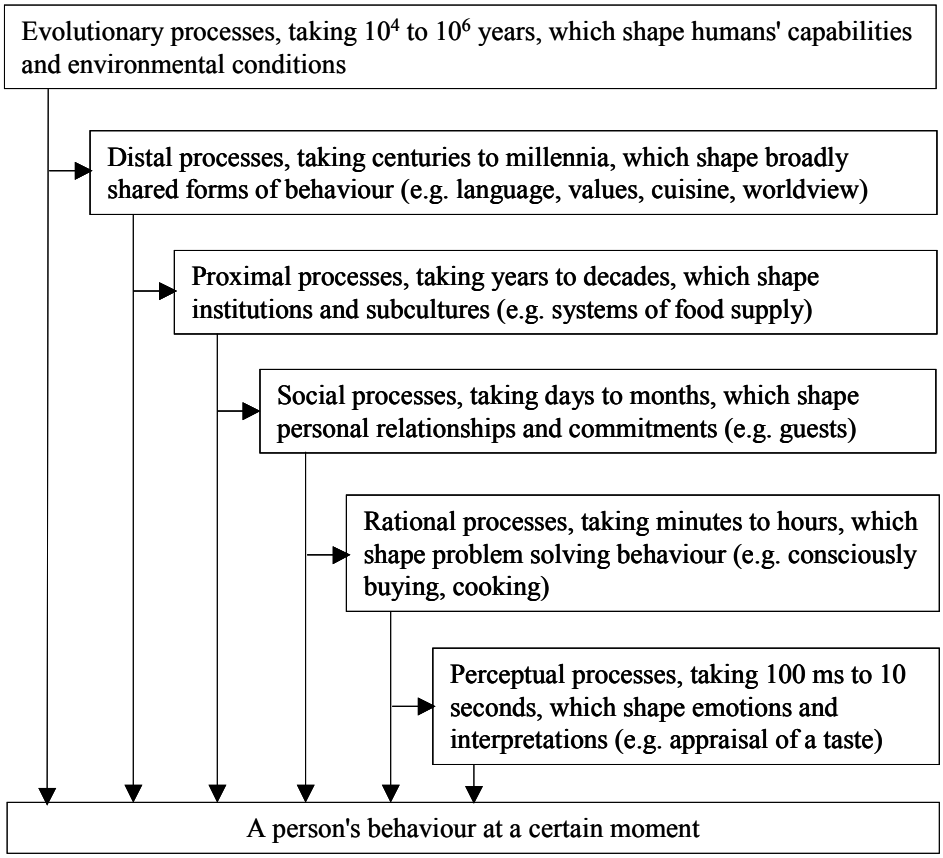
In considering the causes of a person's behaviour, it is important to take into account that any act is the result of multiple determinants. The most obvious determinants are the perceptual and rational processes that enable the person to adapt his or her behaviour to the situation at hand. This refers, for example, to the taste of a food and the person's ideas about its origin. If the person is in doubt about the food's purity, his or her behaviour might also be influenced by personal loyalties to the person who serves it. Also relevant are the business practices that are common in the supply chain. In short, the behaviour in question is not only a function of processes within the person, but also of social and organizational processes that can work as proximal causes of behaviour.

Moving from processes that are internal and proximal to more distal processes, we can see those determinants of behaviour that will not dramatically change during the lifetime of an individual. These relatively stable, distal processes can influence the

food tasting person, for example, as far as his or her attention is drawn to beliefs about purity and danger that are part of broadly shared worldviews (e.g., philosophies of life, magical thinking). Unlike mediaeval men and women, modern people will not expect solutions from magical powers but they may still be sensitive to some of these beliefs under conditions of uncertainty. Notably, the process of cultural modernization has taken almost a millennium to develop (Levine, 2001). On an even longer time scale, there are evolutionary processes that have shaped human capabilities to cope with various kinds of environmental danger, for example, by enabling them to make a hasty distinction between sweet and bitter tasting foods.

The processes mentioned above can be arranged in a cascade-like framework that is shown in Figure 1. Its highest level refers to evolutionary processes. One of the results of the evolution is that humans are able to assess a difference between positive and negative stimuli in about 100 milliseconds (Smith, Cacioppo, Larsen et al., 2003). Another relevant feature with an evolutionary origin involves the response strength of brain systems. Brain systems responsible for evaluating negative stimuli respond more strongly than those responsible for evaluating positive stimuli (Smith et al., 2003). This so-called negativity bias means that negative stimuli (e.g. suspect odours) have a greater impact on information processing than positive stimuli do.

Figure 1: A cascade-like framework of influences on behaviour.



The next level of Figure 1 refers to distal processes that have shaped broadly shared forms of behaviour in periods of centuries or millennia. This includes the rise of practices, values and worldviews that are typical of the modern culture in the Western part of the world. To put it simply, the "modern" period started in 1900 and modern Western societies can be distinguished from their predecessors by their potential democratisation of both their wealth and their political process (Levine, 2001: 11). The overall concept of modernization covers a number of more specific processes,

such as the growing importance of an "engineering culture" characterized by the systemic application of scientific knowledge to societal issues (Carroll-Burke, 2001). The "engineering culture" produced the steam engine and many other things that account for the present welfare.

By their very nature, distal processes like modernization have offered opportunities and constraints for the development of institutions and other coordinated practices that create incentives and disincentives for the behaviour of the people involved. These belong to the proximal processes of Figure 1, which include the development of educational systems and systems of food supply. The current functional integration of nationally and internationally dispersed activities involved in the primary production, processing, manufacturing, transport, marketing and selling of foods has been heavily influenced by all kinds of economic activity around food during the past decades (Fine, Heasman, & Wright, 1996).

The social processes in Figure 1 are more personal than the professional activities mentioned above and take much less time to develop. For example, a person's loyalty to a new housemate may grow in a few days or months. According to Newell (1990: 494) it is characteristic of social situations that there are at least three types of goals. (1) Each person cares about the shared activities the group is performing. (2) The person also cares about maintaining the social atmosphere of the group. (3) And each person cares about his or her own position in the group and the personal satisfactions of group membership. Regarding each of these goals, the person has an impact on the outcomes but he or she is also dependent on the other group members.

The processes mentioned above are external to the person, except for the social processes, which are a mixture of external and internal elements. The lowest levels of Figure 1 refer to processes that are internal to the person or that have been internalised. The rational processes, often taking minutes to hours, include conceptual learning, problem solving and decision-making. Notably, Figure 1 shows that the person's behaviour is not fully determined by rational processes. For example, even if the person aims to take a decision in a purely rational way, he or she will soon find out that on the one hand social commitments and on the other hand perceptual biases can interfere with such an approach as soon as the decision's consequences become serious.

Perceptual processes shape a person's rapid interpretations of a situation and the emotions that he or she experiences. An important distinction at this level is that between mindless and mindful processing. Psychological research has shown that people who are certainly capable of acting mindfully can perform seemingly complex tasks with little if any active mental involvement (Langer, 1989). This means, among other things, that they rely on routines developed in the past and that they do not make new distinctions to accommodate any changes of the task environment. In contrast, mindfulness is essentially awareness of contexts. Without this awareness, a person cannot improve his or her performance, self-esteem or health (Langer, 1989).

The framework of Figure 1 is the result of an attempt to sort a wide range of behavioural phenomena into a logical order. Only purely biological processes at the level of organs and cells (e.g. taking microseconds) have been left aside. The framework is relatively new, although similar ideas have been put forward by others (Diamond, 1999; Newell, 1990; Oyserman, Kemmelmeier, & Coon, 2002). A review of research and theory relating to these phenomena is obviously beyond the scope of this chapter. Without going into details, however, it is possible to highlight some relevant implications.

An important practical message of Figure 1 is that it is not necessary (if feasible) to change a given culture in order to change a particular behaviour. However, a governing body that wants to induce a behavioural change should be very familiar with the distal factors involved. The reason is that these factors provide the context in which

the more proximal or internal factors can have their effect. For example, the taste of a new food may only be pleasurable for those persons who have already learned to appreciate the corresponding cuisine. Similarly, the introduction of a "free-range" label will only have a moral effect on people who value animal welfare. Both industries and governments know that the achievement of specific policy objectives (e.g., selling fat-laden foods or promoting health) can be aided by well-chosen appeals to a few broader values of the same culture (e.g., appeals to the value of "hedonism" or "security" respectively).

Figure 1 can help to generate information on the chances that a particular diet shift will be promoted or inhibited. Generally, the effectiveness of interventions will increase if all the influences on a particular behaviour point in the same direction. If a particular behaviour, such as smoking, is difficult to change, it is essential to combine as many supporting influences as possible. Moreover, it should be kept in mind that the impacts of positive and negative events are not symmetrical. This is evident from the following:

- The pleasure of eating might easily be spoiled by unpleasant ideas about the origin of the food.
- However, the unpleasant taste of a food will not easily be improved by pleasant ideas about its origin.

In sum, the framework can help to get insight into the congruency of the various influences on behaviour. The framework also helps to consider the role of time for diagnoses and interventions. The fact that the various influences on behaviour have their own pace has consequences for the diagnosis of present influences and for the design of an intervention. The pace of change will depend on the type of process to be changed. For example, it may take less time to increase the practical knowledge of consumers than to improve the social status of novel products.

The role of Western modernization processes

Many of the links between current food choices and long-term socio-cultural development can be explained in terms of Western modernization processes. To put it simply, modern society can be distinguished from its predecessor by its potential democratisation of both its wealth and its political process (Levine, 2001: 11). In terms of important periods in world history, it can be said that the "late premodern" period began in 1350 when Europe had to cope with the social, economic and political effects of the Black Death and that the "modern" period started in 1900 (Goldstone, 2002). The overall process of modernization covers a number of more specific socio-cultural processes, three of which should be mentioned here. They are:

- the increasing self-control considered typical of Western civilized man, such as the self-control of animal-like behaviour (since about 1500, see Elias, 1978),
- the rise of consumerism (or the belief that it is good to buy and use a lot of goods) among the middle classes (since about 1700, see Stearns, 2001),
- and the growing importance of an "engineering culture" characterized by the systemic application of scientific knowledge to societal issues (since about 1800, see Carroll-Burke, 2001).

Table 1: Main characteristics of three socio-cultural processes that mediate Western modernization.

Decoupling	Direction of mainstream	Direction of counter-movement
Increasing self-control to weaken the link between impulses and behaviour (since about 1500).	Development of more predictable and civilized behaviour, suppressing every characteristic felt to be "animal," such as spitting or gobbling or the tendency to sniff at food.	Discovery by the upper and middle classes of "pacified nature" as an escape from civilizing rules, a source of pleasure and knowledge (reason for protests against the cruel treatment of animals).
Break with the rule that people should consume according to their rank in society (since about 1700).	Development of social arrangements (e.g., shops) and personal lifestyles (e.g., those of shoppers) in pursuit of the belief that it is good to buy and use a lot of goods.	From its early beginning in Britain, France, the Low Countries and parts of Germany and Italy, consumerism has provoked opposition, inspired by various moral, esthetical and political themes.
Break with the link between what is morally right and scientifically true (since about 1800).	Development of "engineering cultures," which use the powers of engine science in the laboratory for other cultural forms such as agriculture and medicine.	Rise of various subcultures concerned, among other things, with natural foods and holistic medicines, trusting the self-healing capacity of the human body.

Each of these socio-cultural processes implied some kind of decoupling between phenomena that once were closely related, such as impulses and behaviour. For example, people of the Middle Ages could burst out into emotional behaviour, including violence, but this became gradually less acceptable. Other changes would make people's consumption less dependent on their social status, and the conclusions of science less dependent on their moral meaning. The changes were to a certain degree supported by the mainstream of society, but criticized by one or more counter-movements. For example, the "democratisation of meat " among European working-class families in the nineteenth century, influenced by the agricultural and industrial revolutions (Knapp, 1997), was accompanied by moral objections to the subjugation of animals and the foundation of the first vegetarian societies (Thomas, 1983). Table 1 summarizes the characteristics of the three processes in terms of decoupling, direction of the mainstream and direction of the counter-movement.

The process of modernization brought many changes in dietary choice and culinary technique. Due to the prevailing prominent position of the court society in France, most of the changes were at first part of a French-style modernization before they became accepted more generally. As far as meat is concerned, many changes are particularly related to its animal origin. An interesting example is the practice of bringing the whole dead animal, or large parts of it, to the table, where the meat was to be carved by the master of the house or by distinguished guests. Research by Flandrin (1999) indicates that the number of animal species served on the tables of the French aristocrats decreased between 1500 and 1650. This refers, for example, to a decreasing consumption of various large birds (e.g., swan). By contrast, the status of beef rose and much attention was paid to the particular cut of meat.

Focussing on meat-related practices, Table 2 summarizes a number of differences between on the one hand the sixteenth/seventeenth century and on the other hand the beginning of the twenty-first century, based on reports on the history of food (e.g., Flandrin, 1999). The differences refer to the sections of the population who could afford to eat meat, the types of animal that were eaten, the manner in which

they were served, and the scientific (or pseudoscientific) ideas about proper food. Flandrin notes, for example, that as late as the beginning of the seventeenth century, members of the elite left "gross" meats such as beef and pork as well as most vegetables to the common people, whose stomachs were supposedly more robust. The elite ate only "delicate" fowl, relatively "light" fish and soft wheat bread. Notably, the wisdom of these differences was supported by the scientists of those days.

The list of observations mentioned in Table 2 suggests a significant diet shift and it confirms that people's preferences are far from fixed. However, it should be emphasised that it is difficult to assess whether the list is complete. Moreover, each of

Table 2: Some meat-related practices that have changed in the period between the sixteenth/seventeenth century (see Flandrin, 1999) and the beginning of the twenty-first century.

Sixteenth and seventeenth century	Beginning of the twenty-first century
There were very large differences between high and low members of society.	A large part of the population of Western countries can afford to eat meat.
Rich people ate many types of animals, including various birds such as swans.	Consumers mainly choose a few types of animal.
Their cooks served large parts of the animal, which were carved at table.	Consumers seldom serve whole animals; instead they serve cuts of meat.
It was a matter of good manners that upper class men should be able to cut meat from a pheasant still decorated with its feathers.	The cuts are bought at stores in which the carcasses have been hidden from the customer's eye. The practice of slaughtering has been removed behind the scenes of social life.
Scientists agreed that the rich needed to eat birds to keep their intelligence and sensibility more alert.	The nutritional literature has begun to appreciate the value of low-meat diets and vegetarian diets.
The working classes were considered best off eating large amounts of vegetables.	Nutritionists see vegetables as an essential part of each diet.
Local authorities tried to ensure an adequate supply of "good and honest" food.	Ensuring the provision of "good and honest" food is a task for supra-national authorities.

the differences must have one or more proximal causes that explain how changes were created, but the literature only offers some suggestions of what these might have been. For example, that members of the elite ate many types of animal may indicate that 17th-century diet was still largely determined by fluctuating natural circumstances (Flandrin, 1999). In that period in history, beef was considered "crude" and dismissed as indigestible by chefs in the aristocratic kitchens. In later years, progress in the arts of butchery and cooking made it possible that the status of beef rose and that more attention was paid to the particular cut of meat. Accordingly, the serving of large parts of the animal to be carved at table slowly went out of use. This decreasing practice is also connected with the gradual reduction in the size of the household and the transference of household activities to specialists (Elias, 1978).

Although the direct causes and the precise timing of the changes mentioned in Table 2 may not always be clear, their consequences got their meaning in the long-term process of Western modernization. For example, due to the circumstances mentioned above, people got fewer reminders that the meat dish has something to do with the killing of an animal. According to Elias (1978: 120) this shift means that the

mediaeval standard of feeling by which the sight and carving of a dead animal on the table were actually pleasurable, or at least not at all unpleasant, has been replaced by another standard by which reminders that the meat dish has something to do with the killing of an animal are avoided. Notably, this development is not uniform everywhere. There are differences between the urban society of France and the more rural society of, for example, England, where older forms are more prominently preserved. However, the general direction of the changes seems to be the same. As Elias (1978: 120) notes, in many of our meat dishes the animal form is so concealed and changed by the art of its preparation and carving that while eating one is scarcely reminded of its origin.

Current development

The long-term processes mentioned in the previous section can be complemented by a number of processes that have happened during the past decades. Some of these processes refer to shifts in the way people manage to organize their household, taking due account of differences in economy of scale. For example, if the costs of preparing a meal are compared per unit time of the eaters, a decreasing number of persons per household will make convenience food more attractive (Beardsworth et al., 1997; Warde, 1997). Other important processes refer to the way producers manage to supply foods and the way the authorities manage to control the public dimensions of food (Atkins & Bowler, 2001; Nestle, 2002). The main characteristics of these processes are presented in Table 3.

One of the almost unnoticed consequences that the shifts of Table 3 have in common is their match with the long-term process of paying less attention to the meat-producing animal as a whole. As mentioned in Table 2, modern consumers seldom serve whole animals, but they serve cuts of meat that they have bought at stores in which the carcasses have been hidden from the customer's eye. Partly as a result of concerns about risk factors, such as fatty acid profiles, there has been a shift in consumption toward poultry and fish and away from beef and pork. As opposed to whole roasters, many consumers use further processed products, such as fillets.

The psychological and socio-cultural implications of this development have not yet been fully explored. Some results of a recent small-scale experiment among consumers in the Netherlands give an interesting clue. It appears that many people are no longer aware of the animal origin of meat and that this awareness strongly decreases among the younger generations (see Figure 2). Another result is that the "three components" meal (meat, potatoes, vegetables) that was dominant in the Netherlands during the second part of the 20th century has become less popular (see Figure 3). This may indicate that meat is less used as a central part of the meal. It should be emphasized that these people had not become full vegetarians and that they at least sometimes bought meat. Their attitude towards meat was not completely negative and they showed positive responses to either meat from well-treated animals or some meat alternatives.

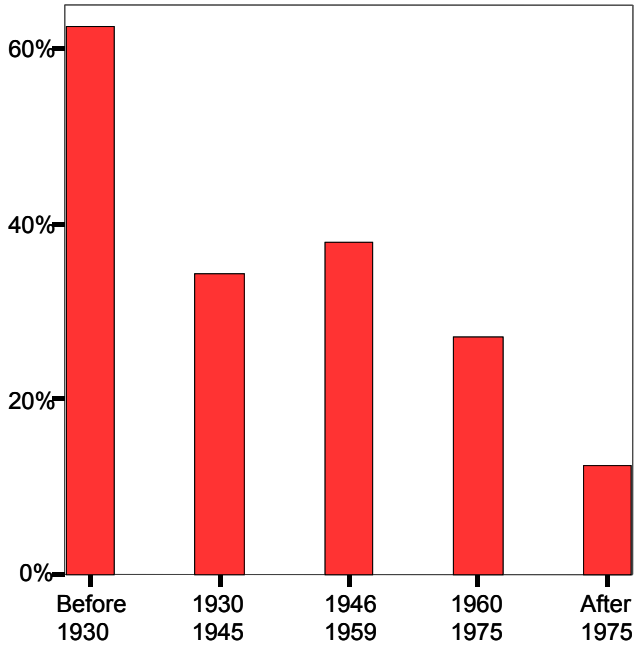


Figure 2 Percentage "always" giving thought to the animal origin of meat according to year of birth.
Source: Sample of 313 supermarket customers in Rotterdam who at least sometimes bought meat (Hoogland, De Boer, Boersema, in preparation).

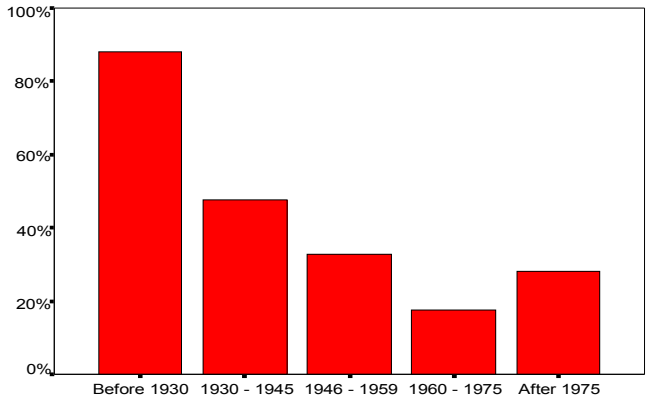


Figure 3 Percentage that prefers a conventional (i.e. three components) meal according to year of birth.
Source: Sample of 313 supermarket customers in Rotterdam who at least sometimes bought meat (Hoogland, De Boer, Boersema, in preparation).

Final remarks

Industrial transformation is not primarily a psychological process. Technical experts might change a technological system in a way that does not have to be noticed by the people that are using it. For example, the fact that meat is less used as a central part of the meal makes it feasible to design ready-made meals that contain less animal and more plant proteins. Such an approach might create a substantial shift from animal to plant protein foods without any involvement of consumers. However, there are at least three reasons why such an approach is not recommendable. Firstly, there are cases in which a behavioural change can contribute to the objectives of an industrial transformation, such as doing more with less. Secondly, it is expected that values will come into conflict in many technology-related areas, such as genetically modified food. This makes it important that all the people involved are mindful of those conflicts. And thirdly, by reinforcing mindless acceptance of technological changes people might become a kind of ecological dummy.

The main message from psychologists to non-psychologists is that there are more opportunities to induce a behavioural change than commonly is expected. Whether these opportunities will result in the desired end-states depends heavily on the degree in which the various determinants of behaviour can be made congruent with each

other. The fact that many people are no longer aware of the animal origin of meat may be interpreted in terms of indifference toward the origins of proteins. This opens possibilities for novel protein foods, based on plants. However, if people are no longer aware of meat's animal origin, they will also be less inclined to pay attention to animal welfare. This might have negative consequences for attempts to stimulate sustainable agriculture by promoting high quality meat from well-treated animals. The solution will be that governing bodies should pay more attention to the segmentation of protein products in terms of bulk products and specialties.

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