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Moral and Instrumental Norms in Food Risk Communication

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ABSTRACT. The major normative recommendations in the literature on food risk communication can be summarized in the form of seven practical principles for such communication: (1) Be honest and open. (2) Disclose incentives and conflicts of interest. (3) Take all available relevant knowledge into consideration. (4) When possible, quantify risks. (5) Describe and explain uncertainties. (6) Take all the public's concerns into account. (7) Take the rights of individuals and groups seriously. We show that each of these proposed principles can be justified both in terms of more fundamental ethical principles and instrumentally in terms of the communicating agent's self-interest. The mechanisms of this concordance of justifications are discussed. It is argued that the concordance is specific for areas such as food risks in which agents such as companies and public authorities are highly dependent on the public's trust and confidence. The implications of these findings both for moral philosophy and for practical food risk communication are discussed.

KEY WORDS: food ethics, risk communication, instrumental norms, applied ethics, principlism

Introduction

Moral philosophy is dominated by attempts to specify a consistent, overarching general principle on which all moral judgments can be based. Utilitarianism, deontology, rights-based ethics and virtue ethics all share this approach, although their choices of an overarching principle are different. In contrast, applied ethics tends to be pluralistic and operates with a set of rules that is usually not free from conflict. Hence, principles of professional conduct are commonly expressed in ethical codes that are essentially lists of ethical principles for professional activities, and the ethics of organizations is expressed in similarly structured ethical policies (Hansson, 2009). In medical ethics, a dominant approach is the so-called principlism[1] according to which all ethical judgments in medicine should be based on the four principles, viz. autonomy, non-maleficence, beneficence, and justice (O'Neill, 2001). These have been called "intermediate" or "mid-level" principles since they are conceived as intermediate in terms of generality between fundamental moral theories such as utilitarianism on the one hand, and concrete moral advice in specific situations on the other hand. It has been argued that these intermediate principles have the advantage of being justifiable from different moral theories, so that adherents of different such theories can in practice agree on these principles and on the moral judgments that are based on them (Beauchamp and Childress, 2001, p. 12).

A major problem with intermediate principles is that to cover the intended subject-area, several such principles are required, and since they are not based on consistent application of some overarching general principle, conflicts between them tend in practice to be unavoidable. It is a common criticism of codes of professional ethics that they contain principles that support contradictory recommendations in controversial cases. As one of many examples, ethical codes for engineers typically urge engineers to be loyal to their employers and also to protect the safety of the public. It is not difficult to find situations in which these two recommendations cannot both be fully satisfied. Similar examples can be found in other such moral codes. Since the four principles have not been derived from a common and unified, consistent base, it is no surprise that they do not provide us with a conflict-free basis for ethical judgments. It is, for instance, not difficult to find conflicts between respect for a patient's autonomy and pursuance of beneficence toward her (Kuczewski, 1998; Takala, 2001).

In spite of this deficiency, the use of some sort of intermediate principles in applied ethics seems

difficult to avoid, for the simple reason that fundamental moral theories do not provide us with sufficiently precise advice to handle the problems with which applied ethics is concerned. Scholars with a long experience of serving on ethical committees have observed that differences in opinion on practical issues in bioethics or research ethics have little or no correlation with the discussants' theoretical standpoint in ethics (Heyd, 1996; Kymlicka, 1993; Toulmin, 1981). Philosophers disagree on whether utilitarianism, deontology, virtue ethics, or some other moral theory provides the adequate basis for bioethics. They also disagree on various bioethical issues such as euthanasia, medical paternalism, etc. However, there does not seem to be any correlation between their alignments in these two types of dispute. Hence, utilitarians divide themselves between the various standpoints on euthanasia, and so do virtue ethicists. (An exception must be made for religious ethics. Contrary to secular standpoints, philosophical standpoints based on religions tend to determine the views of their adherents in applied issues such as euthanasia and abortion.)

Hence, fundamental ethical theories seem to be of limited help in dealing with practical ethical issues. Intermediate principles tend to have only loose connections with the fundamental theories. Furthermore, practically relevant systems of intermediate principles seem to lack in coherence and to yield contradictory advice in the difficult cases when we most need moral advice. All this gives us reason to carefully investigate the nature and the status of these intermediate principles.

In this article, we will focus on an issue concerning the application of intermediate principles to practical problems that we discovered in our studies of food risk communication. The general moral recommendations for this area that are found in the literature are intermediate moral principles in the sense referred to above. However, they do not seem to be purely moral principles, since the justifications for them that we found in the literature turned out to be a mixture between moral and instrumental justifications – and often a rather complex mixture in which the two types of justifications are difficult to separate from each other. In order to investigate this phenomenon more in detail, we have condensed the moral advice found in this literature into seven practical principles (''The seven practical principles'' section). For each of these, we have investigated how they are justified or justifiable, morally and instrumentally (''Justifications of the seven principles'' section). Finally, we discuss the implications of our findings, both for moral philosophy and for practical food risk communication (''Conclusions'' section).

The seven practical principles

The academic literature on food risk communication is to a large extent normative. Researchers do not only describe and analyze the communication activities of companies and authorities. More often than not, they also turn normative and comment on what was right and – in particular – on what went wrong in these activities. Case studies are used as sources of lessons on how risk communication can be improved in the future. However, clear-cut recommendations in the form of explicit ethical principles are seldom found in this literature. Instead, recommendations are usually implicit; instead of saying that risk communication should be honest, other authors claim that a risk communication has gone wrong because it was dishonest. In order to discuss the justificatory status of these largely implicit recommendations, we have reconstructed the major (implicit) ethical recommendations that we have found in this literature in the form of seven explicit practical principles:

(1) *Be honest and open*: Recommendations to be honest and open are very common in the literature on food risk communication as well as that on risk and crisis communication in general. Such recommendations are often grounded in the need to build credibility and trust (e.g., Frewer, 2003; Phillips Report, 2000; Poortinga and Pidgeon, 2003; Seeger, 2006). According to Frewer et al. (1996), ''[t]he most important determinant of gain or loss of trust in a source is whether the source is subsequently proven right or wrong.''

(2) *Disclose incentives and conflicts of interest*: The injunction to disclose incentives and conflicts of interest is supported, for instance, by Frewer et al. (1996), who assert that particularly in the case of gaining trust, ''an important determinant of trust is that the source is subsequently demonstrated to be unbiased.'' In a review of literature on trust by Renn

and Levine (1991), one of the five core components identified was referred to as *objectivity*, the absence of bias. Van Kleef et al. (2007) repeatedly stress the importance of providing unbiased information and not appearing to promote vested interests.

(3) *Take all available relevant knowledge into consideration*: Taking all available relevant knowledge into consideration should not be interpreted as implying that every bit of information has to be communicated. Instead it means that one should carefully consider all the available science when deciding what to communicate. The risk communication literature abounds in (divergent) recommendations concerning how much to communicate (as well as how and when to do so, etc.), but most experts agree that the success of risk communication is positively related to the solidity of the foundation upon which the message is based. Frewer et al. (1996) refer to a factor they call ''competence'' – the expertise held by the communicator – and assert its importance in determining trust. Based on empirical data, Sjöberg (2006, 2008) concluded that ''epistemic trust'' – trust in the science on which a risk assessment is based – strongly influences people's reactions to risk communication.

(4) *When possible, quantify risks*: One of the most common complaints about risk reporting in the media is that probabilities are left out or not given a sufficiently prominent role (Cray, 2006). This can make it impossible for the recipients of this information to prioritize properly between risks. Providing appropriate quantifications can be seen as part of what is required to make information about a risk comprehensible to its recipients.

(5) *Describe and explain uncertainties*: In addition to insuring pertinent facts about the risk itself are understood by the audience, researchers have in recent years pointed out that it can also be beneficial in several ways to communicate information about the scientific uncertainties associated with risk assessments (Frewer, 1999; Kuhn, 2000; Löfstedt, 2006; van Asselt and Vos, 2008).

(6) *Take all the public's concerns into account*: An important and often neglected aspect in risk communication is the effects of the public's concerns on their response to risk communication. The public's concerns relate both to those aspects the risk itself the public considers particularly important and other aspects more or less closely related to the risk, for example, animal welfare, the environmental impact of food production, and social or ethical concerns about measures taken to reduce a risk. Recent empirical work supports the conclusion that incorporating the public's point of view into risk management practices is of great importance (Van Kleef et al., 2007). Because people are commonly more closely related to food risks than other risks, as will be developed below, this is particularly important for food risk communication.

(7) *Take the rights of individuals and groups seriously*: Our final principle, to pay particular attention to rights, is grounded in the tendency among risk analysts and communicators to focus on whole populations rather than individuals and groups (Hansson, 2007). Most risks do not affect everyone to the same degree (e.g., Frewer, 2004, who refers to this as ''risk variability''), which has important implications for risk communication. This, as well as detailed justification of all the principles proposed, is further elaborated in ''Justifications of the seven principles'' section.

Some of these principles may be partly overlapping. However, they represent what has in the literature usually been treated as different issues or at least as different approaches to the issues at hand. For our present purposes, there was no need to merge these moral injunctions into rules which are broader or more comprehensive than the ones usually referred to in practical discussions of food risk communication. The ethical principles that have been proposed in practice have about this level of generality, presumably because that is the type of principles that is the easiest to use in practice.

The seven principles are all rather general in their formulation, and most if not all of them have been referred to in discussions of communication of other risks than food risks. However, we will focus on the specific subject area of food risks. For several reasons, food risks are special from a communicative point of view: Everyone is concerned by them in her own daily life. We are all dependent on decisions that companies and authorities make on food risks, but at the same time we are also decision makers who choose our own diets. The sheer impossibility of not eating forces us to regularly make food choices, and information about food risks is thus relevant to and has the potential of affecting our decisions on a daily basis. Decisions on food choice are closely linked not

only (trivially) to the palatability of the food (e.g., Pliner and Mann, 2004) but also to lifestyles and to cultural, traditional and sometimes religious or even political values which are often important for people's social identity. The fact that food is inserted into our own bodies and those of our children seems to make food risks particularly sensitive and emotionally laden. Healthiness, perceived riskiness, and cultural/traditional/religious values are often at odds, pointing the individual who needs to make a choice concerning what to eat in different directions. All of this combines to make the communication of food risks particularly difficult. We should not take for granted that the relation between moral and instrumental justification is necessarily the same for food risks as in other areas of risk communication.

Justifications of the seven principles

On the face of it, the distinction between a moral and an instrumental justification is simple and straightforward. A typical moral justification of honesty would consist in showing that dishonesty is morally wrong, e.g., because it violates some more fundamental moral principles. A typical instrumental justification would be one that shows that dishonesty makes it more difficult to achieve non-moral goals, e.g., because dishonesty will sooner or later be discovered and then make the public suspicious of the organization.

A more careful investigation of the distinction between moral and instrumental justification will show that it is in fact quite problematic since the two concepts represent overlapping categories rather than the two endpoints of one and the same distinction. A justification could for instance refer to a moral principle that is not a final end but a means for some other, final moral end. Such a justification would be both moral and instrumental. Furthermore, a justification could be neither moral nor instrumental, namely if it refers to some final end that is not of a moral kind. However, in studying the literature on food risk communication we have not found any justifications that cause problems for the simplified dichotomy in any of these two ways. The distinction that we are primarily interested in is that between justification in moral and non-moral terms. The justifications of the latter type which we have found to be relevant in this area are those that refer to how adherence to an ethical principle creates instrumental value in terms of the self-interest of the communicating organization. We will refer to this as a moral/instrumental dichotomy since this terminology has the advantage of being generally known and easily understood.

We will focus on the two types of communicating organizations whose activities have been at focus in the academic literature: companies producing and selling foodstuff, and government agencies with a responsibility for food safety. Hence our conclusions do not necessarily apply to other communicators such as NGOs active in the area of food risks.

As we have already emphasized, although the literature on food risk communication is replete with normative statements and recommendations, ethical principles are often implicit (for instance in criticism of purportedly unethical behavior) and argumentation for them is often fragmentary or absent. Therefore, we will not restrict our discussion of justifications to previously published justifications but will also discuss the justifi*ability* of the above-mentioned seven principles in moral and instrumental terms.

Be honest and open

There is no lack of argumentation in the ethical literature for the position that dishonesty is morally wrong. The topic has been discussed by innumerable scholars throughout the centuries. Two prominent examples are St Thomas Aquinas and Immanuel Kant, who both condemn lying strongly. The former discusses lying [partly in response to an earlier treatise on the subject by St. Augustine (*De Mendacio*)] in *Summa Theologica* (Aquinas, 1271/1981). He essentially argues that lying, defined as asserting a falsehood with the intention to deceive, is always wrong (Finnis, 2008; Westberg, 2002, p. 95). Aquinas' argument appears to be based on the intentional dissonance between the liar's self presented through her assertion of something she believes to be false, and her real self. Finnis (2008) writes: "Whenever one asserts, one affirms as true two propositions: explicitly the proposition one articulates as true despite one's belief that it is not,

and implicitly the proposition that one believes what one is assertively articulating.''

Kant's argument against lying resembles Aquinas' in that it, too, is based on self-contradiction. In brief, Kant (1785/1998) argues that it is forbidden to perform an action if that action made into universal law contradicts itself. Thus, lying to get what one wants is forbidden, since the universal law 'everyone should lie to get what they want' is irrational and self-contradictory: in a world where everyone lies, lying to get what you want would serve no purpose, because everyone would expect you to lie and no-one would accept a promise.[2] This is a far-reaching argument against lying, applicable to risk communicators and everyone else alike.

In the utilitarian tradition, lying is not universally prohibited, but has to be judged according to the moral value of its consequences. However, utilitarians have been eager to show that untruthfulness has so bad consequences that it is very seldom justified. Hence, in his *Utilitarianism*, Mill recognizes that ''it would often be expedient, for the purpose of … attaining some object immediately useful to ourselves or others, to tell a lie,'' but he maintains that untruthfulness has the long-term negative consequences of weakening the trustworthiness of human assertion, which is ''the principal support of all present social well-being'' and the lack of which keeps back ''civilization, virtue, everything on which human happiness on the largest scale depends'' (Mill, 1863/1969, p. 223). When these long-term consequences are taken into account, lying will in most cases have predominantly negative consequences, and is therefore not allowed from a utilitarian point of view. In a letter to Henry Sidgwick, Mill said that there ought to be ''some, however few, exceptions'' to what he called ''the obligation of veracity'' or ''the general duty of truth'' (Mill, 1991, p. 185).

Mill's terminology in this letter is interesting, since a duty to (tell the) truth to clearly goes beyond the mere avoidance of lying. In modern discussions of food risk communication, such a wide duty of truthfulness seems to be implicated. Critics of deceitful or secretive behavior by agencies and companies tend to be critical not only against untruthful statements but also against the withholding of information from people who want it. Goldman (1991) introduced the term *epistemic paternalism* to refer to the withholding of information from people for their alleged own good. Grill and Hansson (2005) discuss this in a context of threats to public health that includes food risks. They argue that there are strong consequentialist arguments against the application of epistemic paternalism in public health issues. Although withholding information may be the best way to achieve a short-term, well-defined objective, it leads to an erosion of trust that has larger negative consequences in the long run.

In the food risk communication literature, the same argument structure is often applied to show that truthfulness is instrumentally best in the long run. Although lying or withholding information can be expedient in the short run, in the long run this has negative effects on trust. Lack of trust will severely impede the agent's future efforts in risk communication (Frewer et al., 1996; Finucane and Holup, 2005; Löfstedt, 2005, 2006; Poortinga and Pidgeon, 2003, 2004). Meijboom et al. (2006) and van Dijk et al. (2008) specifically discuss and assert the importance of trust and openness in the food sector.

Traditionally, the focus in this discussion has been on trust in general, e.g., 'social' trust in institutions and experts. However, some empirical work indicates that epistemic trust – trust in the science on which a risk assessment or risky technology is based – explains this effect better than trust in general (Sjöberg, 2006, 2008; Sjöberg and Wester-Herber, 2008). Several authors have pointed out that honesty and openness promote both social and epistemic trust (Frewer et al., 2003; Seeger, 2006; Van Kleef et al., 2007).

In summary, the first practical principle has credible justifications both in moral and in instrumental terms. Furthermore, the argument structure tends to be similar for the two types of arguments.

Disclose incentives and conflicts of interest

Food risk issues are often scientifically controversial. Assessments of risk are largely based on indirect evidence such as animal data. The reason for this is that harmful effects can often be discovered in this way before effects have been demonstrated in humans. Since food risk assessments are largely based

on such indirect evidence, they depend on professional judgment, which may differ between experts. Studies from other areas show that the judgments of experts may be significantly influenced by conflicts of interest. Based on interviews with 136 scientists working for industry, academia and government, Lynn (1986) found significant differences between scientists with different affiliations in their attitudes toward questions such as the existence of thresholds and the value of animal models in identifying human risk. Barnes and Bero (1998) studied 106 review articles on the health effects of passive smoking and found a significant correlation between the conclusion of a review and its author's affiliation; reviews concluding that passive smoking does not harm human health were predominantly written by authors affiliated with the tobacco industry.

The injunction that experts and others who communicate food risks should disclose their affiliations and other connections which may amount to a conflict of interest can be supported by the same type of ethical arguments as those used for our first principle. Assuming that truthfulness to the public is morally required, this truthfulness would have to include any information that may legitimately influence their appraisal of the experts' statements. It is no coincidence that in biomedical publication, publication of conflict of interest statements is considered to be an ethical issue (ICMJE, 2008).

From an instrumental point of view, conflicts of interest have turned out to be very difficult to conceal in the long run. Non-disclosure can delay public knowledge of conflicts of interest, but cannot be expected to exclude it indefinitely. The effects of the ultimate disclosure can be devastating. An organization or person who has misrepresented their loyalties will find it very difficult to regain the public's trust, once the deception has been disclosed (Frewer et al., 1996). As was noted by Frewer (2004), "[…] if a distrusted source provides information that appears to promote its own vested interest, the information will influence people's attitudes in the opposite direction to that being promoted in the first place" (cf. Sjöberg and Wester-Herber, 2008; Van Kleef et al., 2007). In summary, there are strong justifications of both an ethical and an instrumental nature for the disclosure of incentives and conflicts of interest.

Take all available, relevant knowledge into consideration

Food risk issues are often scientifically complex. The data may point in different directions, some studies indicating a higher degree of risks than others. One should therefore expect risk communication to be based on careful assessments of all the available literature. However, studies of risk assessments show that they are often surprisingly incomplete, taking into account some but not all of the available information that could have influenced the risk assessment (Rudén, 2004). Sometimes the exclusion of relevant information may be driven by bias, and on other occasions, it is due to lack of resources or competence. Our third practical principle requires that in the preparation of messages to be communicated to the public, the available knowledge should be taken into consideration as completely as possible. This recommendation should not be confused with a requirement to include all the available knowledge in the message. Recipients of communication about food risks are best served by information aimed specifically at them as a target group, composed with relevant properties of that group borne in mind.[3] For many target groups, relatively brief and non-technical summaries of the scientific information are appropriate. However, in the preparation of such messages the whole range of available evidence has to be carefully scrutinized.

A fairly straight-forward justification of this standpoint in ethical terms can be based on the truthfulness condition discussed in "Be honest and open" section. Similarly, an instrumental justification can be based on the same type of argumentation that was introduced in that section. An agency or company that bases its communications and recommendations on only part of the available knowledge takes a considerable risk in doing so. If the excluded information gives reason to change the public message, then the organization loses much of its credibility when the excluded information becomes available to the public. This seems to have happened to British authorities during the BSE crisis (Phillips Report, 2000; van Zwanenberg and Millstone, 2002). Information that indicated that it was not completely safe to eat British meat was not included in information from authorities to the public, and when the public received that information the

credibility of the authorities was severely damaged (Leiss et al., 2004).

In summary, the injunction to take all the available knowledge into account can easily be justified with both moral and instrumental arguments.

When possible, quantify risks

A common complaint in the risk analysis literature is that the public allegedly treats small and large risks alike. This applies not least in the literature on food risks. It has repeatedly been pointed out for instance that small pesticide residues are given a too high priority in public debates as compared to the more general issue of a balanced diet at an appropriate caloric level (Abelson, 1995). Although probabilistic risk assessment does not necessarily tell us all we need to know about a risk, the probability that a danger will materialize is certainly one of the factors which should be taken into account in the assessment of that danger. Equally obviously, a decision-maker needs to be informed of the nature of the negative effect to which a risk refers. Important aspects of its nature are often best expressed in quantitative terms, e.g., the number of people expected to be killed in a fatal accident or the economic costs in a case of damage to property.

In the case of food risk communication, relative risks are often used in communications to the public. Newspaper reports often tell us that a particular characteristic of the diet leads to a ''doubled risk'' of some disease. However, relative risks are difficult to interpret unless one knows the baseline frequency. A relative risk of 2.0 can be negligible for a rare disease but a major concern if the disease is common. Absolute risk estimates are usually more informative for the individual. A person who wants to decrease the total risk of having her health impaired by bad food should give priority to avoiding the high absolute risks, rather than the high relative risks. In the BBC guidelines for journalistic reporting of risks, quantitative measures of risk have an important role (Löfstedt, 2006). Research by Krystallis et al. (2007) has also demonstrated that members of the public sometimes perceive that they reach a state of ''information overload.'' This highlights the importance of providing information of good quality, i.e., information quantified and worded in accordance with the needs of the target group (Van Kleef et al., 2007).

An ethical justification of this principle can be derived from the truthfulness criterion to which we have already appealed repeatedly. For an instrumental justification, it is useful in this case to distinguish between public authorities and companies. A public authority expectedly has a mandate to give higher priority to a danger with a high probability than to an otherwise similar danger with a low probability. Therefore, in order to fulfil its task, the authority has to encourage other actors to make similar priorities. When it comes to a company producing a potentially harmful product, a distinction should be made between the cases when the public tends to overestimate respectively underestimate the relevant properties (e.g., the probability and severity of harm) of the risk. In the former case, it is obviously in the company's business interest to promote knowledge of these properties. In the second case, the instrumental necessity of truthfulness to obtain trust that we have repeatedly referred to above will give the company reason to promote a correct understanding of the probabilities and effects involved. Otherwise, it runs the risk of being accused of not providing the public with the information it needs to make well-informed food choices. If such accusations can be substantiated, they may have devastating effects from a purely business-related point of view.

Hence, this principle has both and ethical and instrumental justifications.

Describe and explain uncertainties

The term ''uncertainty'' is used in decision analysis to denote such lack of knowledge which cannot be described adequately with an exact probability value. In a classic textbook in decision theory, uncertainty was defined as a decision situation where at least one option ''has as its consequence a set of possible specific outcomes, but where the probabilities of these outcomes are completely unknown or are not even meaningful'' (Luce and Raiffa, 1957, p. 13). In later work, the term ''uncertainty'' has also been used to describe situations where probabilities can be assigned but must be seen as approximate or preliminary.

In practice, the scientific documentation on food risks always contains uncertainties which make it impossible to set exact probabilities with certainty. Uncertainty about food risk may depend on lack of data, on confounding factors and insufficient sensitivity in the available studies, on methodological limits to the sensitivity of any studies that can be performed (Hansson, 1999), on problems in cross-species extrapolation, etc. Even if these uncertainties cannot be expressed in probabilistic terms, it is possible and meaningful to describe the uncertainties and to inform those who receive information about risks about how uncertain various statements about the harmfulness or harmlessness of different exposures are. Such information is important for decision-makers, since their decisions may depend on it. Suppose for instance that there is a choice between two food preservatives, A and B. The estimated risk of negative health effects is equally low for both of them, but the scientific documentation about A is much better than that about B, and consequently the uncertainty about A's health effects is smaller than that about B's health effects. A manufacturer choosing between A and B should be informed about this, and would probably prefer the less uncertain alternative (A). Similarly, a member of the public who chooses between otherwise similar products containing A respectively B would expectedly want to know the difference in terms of uncertainty, and would probably use the information in the corresponding way, i.e., avoid the more uncertain option.[4] It was previously thought that the general public has a hard time understanding uncertainties; however, recent research has shown that this is not always so, and that risk communication audiences want that type of information (Frewer et al., 2002).

From a moral point of view, respect for other decision-makers' autonomy requires that they are provided with the information that would influence their decisions. Since information about uncertainty tends to influence the public's decisions, they should have access to such information. From an instrumental point of view, risk communicators loose the audience's trust if they do not report uncertainties (Jensen and Sandøe, 2002). One of the major lessons from the BSE case is that a public authority that describes scientific information as more certain than it is loses its credibility if the public later learns that it downplayed the uncertainties (Miles and Frewer, 2003; Millstone et al., 2006; Phillips Report, 2000).

Take all the public's concerns into account

In standard risk analysis, risk is perceived as constituted of two components, the probability and the severity of harm. Hence, the International Organization for Standardization (2002) defines risk as "the combination of the probability of an event and its consequences." One of the major reasons why the public is often dissatisfied with the outcome of professional risk analysis is that risk analysts leave out other factors such as the distribution of risks, whether risk-taking was voluntary, the relation between risk-imposers and risk-exposed, etc. (Hermansson and Hansson, 2007). It has been known for some time that these factors are relevant and important to risk perception and acceptance (Slovic, 1987, 1993), and from a moral point of view, it would be difficult to claim that they are irrelevant.

The relevance of factors in addition to probability and severity seems to be even larger for food risks than for most other risks. Food risks are special in that everyone ingests food and also makes his or her own choices between different food items (Löfstedt, 2006). These choices are influenced by a wide range of issues not directly related to health risks: Social, religious and cultural traditions have a large impact on our food choices. New lifestyles often involve changes in food habits, as evidenced by the adoption of vegetarianism in some social sectors. Environmental concerns, animal welfare, worldview-related resistance to GMOs, solidarity with exploited farm workers in developing countries, and a negative view of certain (typically multinational) food companies are other factors that influence some consumers' choice of food. Miles and Frewer (2001) note that psychological concerns about food risks should be subject to particular investigation since they are likely to be unique to the food domain.

From a moral point of view it would be next to absurd to claim that food-related decisions should be based only on health aspects. Several of the additional concerns just mentioned have obvious moral relevance, and should be treated accordingly. Therefore, authorities and companies that communicate with the public should take the public's

concerns seriously, and not dismiss them as irrelevant without studying them carefully. Furthermore, respect for consumers' autonomy as decision-makers is often a strong reason for providing them with the information they want when making their choices of food items, even if the criteria the choices are based on have no scientific foundation. Some consumers may want to know if the food they eat is halal, kosher, made of dog or horse meat, genetically modified, grown without use of pesticides, etc. Denying them access to such information with the motivation that the information is irrelevant for assessing the healthiness of the food would amount to denying them the right to make their own decisions on what type of food they want to eat.

From an instrumental point of view, dismissing the public's concerns tends to result in a decline in public confidence (Van Kleef et al., 2007). Again, we can use the BSE case as an example. One of the major (moral) concerns of the public, ''making cows into cannibals'' by feeding them bone meal, was largely ignored by public authorities during the crisis. Previous research has demonstrated that if societal values are not integrated in the risk analysis, subsequent risk management activities may appear to promote particular vested interests (Van Kleef et al., 2007; cf. ''Disclose incentives and conflicts of interest'' section above), and the public looses trust in risk assessment and management (Frewer et al., 2005).

It should be noted that this need to take the public's concerns and values into account implies that good risk communication necessarily must involve communicating *with* the public rather than just sending messages *to* the public. Input from the public, stakeholder involvement and public engagement in the risk management process can increase transparency and consumer trust, provided that the way these inputs are used is also communicated back to the public (Jensen, 2006; Rowe and Frewer, 2005).

Take the rights of individuals and groups seriously

In professional risk analysis, risks are usually treated on an aggregated level (Hansson, 2004). This means that risks (and corresponding benefits) are added up, and judged according to the sum, irrespective of how that sum is distributed. The use of this approach for analytic purposes tends to encourage the view that the justification of risk-taking can follow the same structure, i.e., refer only to the total amount of risk-taking and disregard how it is distributed. In actual social contexts, this does not work. Actual social morality does not operate on the aggregated level but on the individual level. People have *rights* not to be unfairly treated or exposed to unreasonable risk by others. The language of rights is indeed often used by persons who consider themselves to be subject to unjustified or illegitimate risk-exposure: They claim that they have a right to be informed about unhealthy components in food, that the local factory has no right to poison the air they breathe, etc.

From a moral point of view, it is evident that rights are involved in situations of risk. We all have rights not to be injured by others, and we have corresponding duties not to injure them. We have no right to kill other persons; neither do we have a right to expose them to great danger of death. Selling food that is sure to kill the consumers is obviously immoral (and legally prohibited); the same applies to food that has a large probability of killing the person who eats it. The difficult question is where to draw the limit; requiring zero probability would be infeasible. We will not try to solve this issue here [but see Hansson (2003) for a discussion of some relevant aspects]. For our present purposes, the essential conclusion is that rights (of groups and individuals) are an inescapable component of the moral discourse on food risks. This is sufficient for the moral justification of our seventh principle. Its instrumental justification is obvious: Treating risks on the aggregate level, without considering the rights of the people who may be exposed to the risks seems to be an infallible way of turning these people against you. This is a lesson that many organizations have learnt the hard way, and to avoid making this mistake, it is necessary for risk communicators to make sure individuals and groups get access to the information that is relevant to their specific needs (Scherer and Juanillo, 1992).

Conclusions

All the seven principles for food risk communication that we have identified as central in the literature

turn out to be easily justifiable not only from a moral but also from an instrumental point of view. (Our usage of these terms was clarified in "Introduction" section.) The generality of this result need not be overemphasized. There may be some other reasonable moral injunctions for food risk communication that we have failed to identify, and for which no credible instrumental justification can be given. However, in spite of extensive search, we have not been able to find any such principle. Neither have we been able to find a clear example of a particular action in food risk communication that some authority or company is morally required to perform but does not have an instrumental justification to perform. Although the harmony may not be perfect, there seems to be a high degree of harmony between ethical and instrumental justifications in this area.

Of course, this harmony does not extend to the ethics of organizational behavior in general. We do not wish to claim that reasonable moral requirements on companies or other organizations are always in compliance with enlightened self-interest. In all probability, the profit-making capacity of a weapons industry is inversely related to the ethical standards it applies in its choice of customers.

Why then do we find this harmony between ethical and instrumental justifications in the area of food risk communication? As far as we can see, it depends on a simple fact about the ethical requirements in this case: *The ethical requirements all consist in serving the interests of those who consume the product*. The ethical requirements on food risk communication, at least as discussed in media and in the academic literature, are all of that nature. For ethical requirements that satisfy this criterion, it can be expected that "consciousness-raising" activities, making companies aware of what they can gain from satisfying the requirements, should be efficient. The same type of measures should expectedly also have some effects for other requirements toward which costumers in general tend to be sympathetic. Examples for the food industry include requirements to reduce its negative environmental impact and to improve animal welfare. As we have already mentioned, there are also ethical requirements on companies that are not supported by enlightened self-interest. In an implementation-oriented ethical discourse, it is useful to differentiate between these different categories, since they may give rise to quite different implementation strategies.

Notes

[1] The principles have been defended by Tom Beauchamp and James Childress since the 1970s (Beauchamp, 1994; Beauchamp and Childress, 2001); the term "principlism" was coined by their critics K. Danner Clouser and Bernard Gert in their article *A Critique of Principlism* (1990).

[2] For further details on Kant's moral philosophy, see, e.g., Kant's discussion of the example of lying as constituting a perfect duty to others in *On a supposed right to lie because of philanthropic concerns*, published as a supplement to the *Groundwork for the Metaphysics of Morals*, and Johnson (2010). For further details on Aquinas' moral philosophy, see Pope (2002).

[3] Such properties can be, e.g., prior knowledge, whether that group is more or less at risk than other groups, factors that may increase or decrease risk perception and/or aversion, etc.

[4] It should be noted that products rarely differ only in the uncertainty of the product's riskiness. Other properties of products – typically, cost and palatability in the case of food products – also tend to influence the decision concerning which product to buy. It is consequently of great importance that uncertainties are communicated and explained well in order that the uncertainty information be able to exert the appropriate influence (in competition with other pertinent factors) on those making the choices.

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