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Abstract: This paper distinguishes between two types of ethical problems. A Type I ethical problem is one in which there is no consensus as to what is ethical. A Type II ethical problem is one in which there is a consensus as to what is ethical, but incentives exist for individuals to behave unethically. This paper shows that Type I ethical problems can only be resolved by making, challenging and reasoning through moral arguments, and Type II ethical problems can only be resolved by changing the institutional environment so that people do not have incentives to behave unethically. Applications to and examples from agricultural and environmental problems are provided.

Key words: Agricultural ethics, environmental ethics, ethical solutions, incentives, moral conflicts

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Introduction

There are many ethical issues germane to agriculture. These include, in part, problems of food safety, animal welfare, pollution and environmental sustainability, and the general corruption of regulators and policy makers. These problems are serious and therefore require dedicated and consistent efforts in finding and implementing solutions. However, the types of solutions required to resolve ethical dilemmas in agriculture depend fundamentally on the nature of the ethical challenge.

According to Nash (1990), there are two different categories of ethical problems. The first category can be referred to as Type I problems.¹ These involve ethical issues in which there is not a general consensus as to what the "ethical" course of action is. Examples in agriculture include controversies concerning the application of biotechnology in food production, the genetic modification of crop plants, and the use of animals in biomedical research. Type I ethical problems are serious because they are controversial. "What is the appropriate norm or standard in this matter?" is the relevant question that ethicists must address in attempting to resolve Type I ethical problems. The second category can be referred to as Type II problems.² These involve issues in which there is a general consensus as to what the appropriate norm, standard or action is, but people have incentives to violate the consensus norms. Examples in agriculture include the dumping of toxic waste into a public water system, the violation of food safety standards by food processors, and the bribery of government regulators in order to obtain a favorable farm policy or ruling. Type II ethical problems are serious because of the existence of incentives for individuals to violate the ethical norms. "We know what the appropriate ethical norm is in

¹ Nash (1990) refers to this as the "Acute Dilemma."

² Nash (1990) refers to this as "Acute Rationalization."

this matter, but why do some individuals violate that norm?" is the relevant question ethicists must answer when attempting to resolve Type II ethical problems.

The purpose of this paper is to build on the typology of ethical dilemmas introduced by Nash (1990) by presenting a more extensive characterization of the differences between Type I and Type II ethical problems and by examining the types of solutions necessary to resolve them. Moreover, this paper provides illustrations and applications to a number of important agricultural and environmental ethical issues. As explained below, the types of solutions required to resolve Type I and Type II ethical problems differ depending on what type of problem it is. Because Type I ethical problems involve the question of identifying the appropriate norm or standard, Type I ethical problems can only be resolved through careful presentation of reasoned arguments and relevant evidence as the parties with differing perspectives work to construct a consensus as to what the appropriate solution ought to be. In contrast, because Type II ethical problems involve incentives that agents face to violate ethical norms, Type II ethical problems can only be resolved through institutional changes that remove the norm-violating incentives people face. The principle conclusion of this analysis is that a recognition of the differences between Type I and Type II ethical problems in agriculture is necessary because, as illustrated below, Type I solutions will not resolve Type II problems, and Type II solutions will not alleviate Type I dilemmas.

Type I Ethical Problems and Their Solutions

Type I ethical problems are those in which a consensus does not exist as to how they should be resolved. Type I ethical problems arise because of "conflicting judgments depending on the theory applied, conflicting marketplace norms and difficulties in rendering definitive ethical judgments" (Dunfee, 1991, p. 25). That is, Type I ethical problems arise when different individuals have conflicting values or ethical perspectives, especially when they involve contradictory evaluations of relevant social

benefits and costs and contrary perspectives on individual rights and duties that are germane to the ethical problem in question.

In agriculture, these value conflicts are often manifested in the relationships between people in agriculture and other people and between people in agriculture and nature (Aiken, 1984a). An example of how the relationship between people in agriculture and other people can represent a Type I ethical problem is Burkhardt's (1986) observation that conflicts of interest often exist between agribusinesses and their social stakeholders. For instance, he examines the question of whether agribusinesses should develop and cultivate mechanically-harvestable plants rather than hand-harvestable plants, if doing so increases corporate profits but harms farm laborers (who would lose their jobs) and small farmers (who might not be able to afford the machinery needed to harvest machine-harvestable plants). An example of how the relationship between people in agriculture and nature can represent a Type I ethical problem is provided by Aiken (1984b), who notes that "[s]ince agriculture causes environmental damage as a result of growing food to feed people, there seems to be a still-to-be-resolved conflict between human needs and environmental integrity" (Aiken, 1984b, p. 258). For instance, he asks whether it is worth it to destroy forests, wildlife, and watersheds; to deplete ground water; to poison surface water; to erode topsoil and fertility; and to eliminate species and germ plasm, "all for the sake of chemically saturated and nutritionally questionable 'food'" (p. 248). The fact that there are different or even opposing answers to the questions of whether machine-harvestable plants and nutritionally-questionable food should be developed indicates that these are Type I ethical problems.

Type I ethical problems are most pronounced when the dominant ethical theories of utilitarianism and deontology produce conflicting assessments of ethical problems. Note that an action is ethical from a utilitarian perspective if and only if the total welfare produced by that act is greater than the total welfare produced by any other act an agent could have performed in its place, and an action is ethical from a deontological perspective if and only if it does not violate another's rights and if it is consistent with the duty of the person performing the act. If a utilitarian argument in favor of a particular action in which the social benefits exceed the social costs conflicts with a deontological argument in which the action

represents a violation of one's duty towards another, then we face a Type I ethical problem. For instance, in the debate over the use of animals in biomedical research, proponents might argue that the knowledge gained from animal research will benefit society while simultaneously reducing the risks to humans as experimental subjects (see Cohen, 1986), while opponents might object because the use of animals in research violates inherent rights they possess to be treated with dignity and respect (see Regan, 1985). The controversy surrounding the use of animals in biomedical research is a Type I ethical problem because the utilitarian argument in favor of animal research conflicts with the deontological argument against it. Which argument is the correct one? Which perspective, the utilitarian or deontological one, is the appropriate one in this context? To the extent that it is difficult to answer these questions illustrates why the issue of animal use in biomedical research is a Type I ethical problem.

Type I ethical problems also arise when arguments within a particular ethical theory produce contradictory conclusions – that is, when one utilitarian argument conflicts with another utilitarian argument, or when deontological arguments conflict. For example, proponents of a state-sponsored welfare system might claim on utilitarian grounds that "the welfare system relieves the burden of poverty and helps people escape" while opponents might claim on utilitarian grounds that "the welfare system may perpetuate poverty and dampen the economy." Similarly, proponents of a state welfare system might argue on deontological grounds that "the welfare system corrects radical disparities and meets basic needs," while opponents might claim deontologically that "taxpayers have the right to use their [money] as they see fit" (see Weston, 2001, pp. 69, 71). The fact that there are conflicting arguments within the utilitarian and deontological perspectives is evidence that the appropriateness of state-sponsored welfare is a Type I ethical problem. To take another example, proponents of economic development in the form of the construction of a factory in a rural area might utilize a utilitarian argument showing net social benefits from the development, perhaps due to the expected increase in the standard of living resulting from the higher incomes employment in the factory brings, while opponents might produce evidence showing a net harm to society due to the expected increase in pollution. Similarly, proponents of the construction of a rurally-located factory might utilize a deontological argument to claim that landowners have a right to

develop the land as they see fit, while opponents of the factory might claim that the anticipated pollution from the factory will violate the rights of neighboring land owners to breath clean air and drink clean water. Because one utilitarian argument in favor of the factory contrasts with another utilitarian argument against the factory, or because one deontological argument in favor of the factory contrasts with another deontological argument against it, the factory construction question represents a Type I ethical problem.

Because Type I ethical problems involve conflicting values or perspectives, they are resolved only when parties reach some form of agreement or consensus as to what the solution or ethical norm ought to be, which generally occurs through careful articulation of reason and presentation of relevant evidence. The framework for resolving Type I ethical problems is thus an application of the pattern of constructing and defending moral arguments presented in many business ethics textbooks. A moral argument "is a group of statements, one of which (called the *conclusion*) is claimed to follow from the others (called the *premises*)" (Shaw and Berry, 2001, p. 21; emphasis in original). There are generally two types of premises – factual premises and evaluative premises. Factual premises are statements of evidence or fact (which might be verifiable), and evaluative or definitional premises define the relevant standards by which the factual premises are evaluated. We say a moral argument is *valid* if the conclusion logically entails the premises (conversely, a moral argument is invalid if the conclusion does not logically follow the premises), and a moral argument is *sound* if each premise is true (conversely, a moral argument is unsound if there is at least one false premise). Accordingly,

If a moral judgment or conclusion is defensible, then it must be supported by a defensible moral standard, together with relevant facts. A moral standard supports a moral judgment if the standard, taken together with the relevant facts, logically entails the moral judgment and if the moral standard itself is a sound standard. (Shaw and Berry, 2001, p. 23).

The purpose here is not to present a comprehensive discussion of the pattern of moral reasoning (which can be found in many ethics textbooks), but rather to make the point that Type I ethical problems are resolved only through carefully reasoned defense and challenge of conflicting ethical premises and moral arguments. Solutions to Type I ethical problems become identified as proponents articulate sound ethical premises, clear and factual evidence, and valid moral arguments that show a connection between

ethical premises and factual evidence, and as opponents respond by evaluating the factual claims, challenging the soundness of ethical premises and validity of moral arguments, defending their articulated moral standards, and revising and modifying their arguments as needed (see Shaw and Berry, 2001, pp. 23-24). This process of presenting, challenging, and refining moral arguments often takes time – indeed a great deal of time – which explains why Type I ethical problems often appear to be intractable.³ However, it is the necessary process by which Type I ethical problems are resolved.

There are many examples in agriculture of research utilizing the approach of clarifying and modifying factual and evaluative premises and moral arguments in order to move Type I ethical problems towards a consensus or solution. For instance, Häyry (2000) presents a refined utilitarian argument for why the use of bovine growth hormone in milk production is unethical. Burkhardt (2001) critiques the future benefits argument as a way of justifying biotechnology applications in agricultural. And Holtug (2001) argues that the Harm Principle is insufficient as a means of evaluating the ethics of genetically modified food and that a consideration of both harm and benefits is necessary.

Type II Ethical Problems and Their Solutions

Type II ethical problems arise when individuals have an incentive to violate established or recognized ethical or legal norms of behavior. That is, Type II problems arise only after Type I ethical problems are resolved; hence, the question is how to ensure that individuals comply with the standard. Whereas the Type I ethical problem is one of consensus, the Type II ethical problem is one of conformity and compliance. Type II ethical problems are a concern not because different individuals have conflicting ethical perspectives (as in the case of Type I ethical problems) but rather because incentives exist for

³ The example of the ethics of slavery is germane. Mankind had been debating the morality of slavery for millennia. Only recently have we become "enlightened" enough to reject slavery on moral grounds, in part through social dialogue and debate within a political process akin to the pattern of moral reasoning described here.

individuals to violate the ethical norms. Accordingly, Type II ethical problems are resolved by focusing on the behavior of individuals vis-à-vis the ethical norm rather than by constructing reasonable moral arguments.

For example, bribery is generally recognized to be *prima facie* unethical (see Carson, 1987). Nevertheless, bribery remains a persistent and widespread problem, particularly in developing countries (Kaufmann, 1997). Although different and even conflicting definitions of bribery might explain part of the pervasiveness of bribery (see James, 2002a), most experts agree that bribery exists because "the motivation to earn income is extremely strong" and because "accountability is typically weak" (Gray and Kaufman, 1998, p. 9). In other words, bribery is a problem when the institutional environment within which people operate creates incentives for them to offer or take bribes. The presence of such incentives to offer or take bribes, coupled with evidence that some people do in fact offer or take bribes, makes bribery a Type II ethical problem.

Type II ethical problems can be understood by recognizing that ethical behavior is influenced by *individual* and *institutional* factors. At the individual level, ethical behavior is assumed to be affected by one's ethical sensitivity, personal values and moral development (see Kohlberg, 1973), as well as by one's attitudes, beliefs and desires. These aspects are anchored in the internal drives and needs of the individual rather than triggered by situational or external forces. Under this perspective, ethical behavior is promoted by appealing to one's sense of right and wrong and by sensitizing people to the ethical problems they face. Businesses typically do this by specifying and communicating ethical objectives through training and codes of ethics, devices used by many managers as ways of promoting ethical behavior within the firm (see Metzger, Dalton, and Hill, 1993).

At the institutional level, ethical behavior is assumed to be affected by factors external to the individual, such as formal organizational structures, official laws, informal cultural norms, and regulatory enforcement mechanisms. The idea here is that the incentives people face shape ethical behavior and that these incentives are created by formal and informal institutional structures. The formal organizational structure includes the nature of monetary and non-monetary rewards; the performance-evaluation,

monitoring, and control processes for individuals and business units; and the systems of partitioning and assigning decision-making rights and responsibilities to workers, including job design and the level of empowerment (Jensen, 1983; Brickley, Smith, and Zimmerman, 1997). Culture consists of the shared and espoused values and beliefs of members, group norms, embedded skills, heroes, rituals, myths, and language of the organization or society (Trevino, 1990; Reidenbach and Robin, 1991). According to the institutional perspective, both formal and informal structures affect the propensity of individuals to engage in unethical behavior (James, 2000).

The combination of individual and institutional factors affects the likelihood that individuals face Type II ethical problems in the following sense: The greater are an individual's moral code, personal values, and willingness to conform to social norms and ethical standards, other things being equal, the less likely that person would be expected to engage in an activity characterized as a Type II ethical problem. Similarly, the more extensive are the incentives that create a Type II ethical problem, other things being equal, the more likely that a person would be expected to behave unethically. Conceptually, this means that people tradeoff personal desires to conform to ethical customs with monetary (or other) rewards produced by the institutional structures within which they operate.⁴ For instance, suppose a person values both money (m) and the belief that he conforms to an ethical standard of honesty (h), such that an increase in either m or h increases the person's utility, U , represented by the function $U = u(m, h)$. A Type II ethical problem arises when the institutional environment within which people act provides opportunities for them to increase m by taking actions that causes a decline in h . In such cases, a person would be dishonest if the *marginal* increase in his utility resulting from the increase in money, denoted by u_m , is greater than the *marginal* decrease in his utility resulting from his dishonesty, denoted by u_h . If there are individuals who have moral codes that constrain them to be honest even though there might be a

⁴ See Brickley, Smith, and Zimmerman (2001, ch. 2) and James (2002b) for examples of models depicting this tradeoff between ethical values and incentives.

monetary gain for dishonesty, we say that $u_m \leq u_h$. However, for many people there would be at least *some* level of income that could induce at least *some* degree of dishonesty. In these cases, dishonesty would represent a Type II ethical problem.

The point of this discussion is that if we recognize that Type II ethical problems are created by environmental or institutional incentives that give individuals opportunities to increase their utility by not conforming to ethical standards or by lowering their moral codes or ethical sensitivities, then Type II ethical problems can be resolved through changes in the institutional environment that remove these incentives. Quite simply, if incentives are what create Type II ethical problems, then incentives can be used to resolve Type II ethical problems. Thus, Type II problems are resolved by institutional changes that cause u_m to decline, either because explicit or implicit rewards to unethical conduct are reduced or formal or informal sanctions resulting from unethical conduct are increased. To be sure, some individuals might respond to educational or other activities that increase their level of ethical sensitivity (i.e., that cause u_h to increase). But unless the underlying incentives to engage in unethical activity are removed so that u_m decreases rather than increases when individuals engage in unethical conduct, there will be no ultimate resolution of Type II ethical problems. For example, most Fortune 500 companies, and many other businesses, have some form of corporate code of ethics (Murphy, 1988). However, corporate officers often do not perceive behavioral changes in workers after these codes are adopted (Rich et al, 1990), and manager's attitudes towards ethics typically do not change significantly after receiving formal training in ethics (Crandall et al, 1996). Moreover, most business schools incorporate some form of ethics training in their management degree programs. In fact, there is some evidence that teaching ethics promotes cooperation among students playing a prisoner's dilemma game (Fan, 2000; James and Cohen, 2002). Nevertheless, research also indicates that business students are generally more willing to cheat than non-business students, especially once they leave college and move into the business world (McCabe, 1992; Kidder, 1995), suggesting that the positive effects of education are short-lived and not sufficient to counteract incentives to behave unethically students would face outside of the classroom.

Hence, to be most effective, the primary focus on Type II problems should be on identifying what institutional characteristics provide the incentives for people to engage in unethical activity and how those incentives could be reduced or removed, rather than on efforts to educate people to recognize and avoid ethical pitfalls.

For example, many transnational corporations voluntarily adopt "best practices" standards (such as ISO 14001) with respect to workplace and environmental practices when conducting international trade in an effort to show trading partners that they are operating according to recognized ethical and legal standards – that is, that they are regulating themselves. For instance, an oil company might claim that it is following sound environmental practices, or a textile distributor might claim that it is not selling products made by child labor. However, if the underlying economic incentives to violate the recognized ethical and legal standards remain – in that profits could be increased by dumping toxic waste into a nearby-lake or by selling products manufactured with child labor – then Type II ethical problems would not be resolved in spite of corporate claims to the contrary. In these cases we should not be surprised to find business or individuals violating the ethical norms or legal standards.

Kimerling (2001) provides a case study of an oil company's "voluntary initiative to use international standards and best practices for environmental protection in the Amazon Rainforest" (p. 426). In her study, the oil company's voluntary agreement to "minimize pollution" did not always translate into their engaging in ethically sound or even legal environmental practices. For example, the oil company violated an Ecuadorian law that prohibited the dumping into waters of materials that threatened aquatic life (p. 441), while simultaneously claiming to be ISO 14001 compliant. Kimerling concludes, rightly so, "that for the application of international standards to be meaningful, the international community needs to move beyond statements of principle and develop mechanisms that can be used to evaluate, verify, and monitor independently environmental claims by [transnational corporations]" (p. 427). That is, in order to resolve the Type II problem of poor environmental practices endemic in many international business activities involving third-world countries, the focus should be on changing the

institutional environment so as to remove the incentives firms have to skirt ethical environmental practices, such as by strengthening and enforcing international anti-pollution laws.

To take another example, Burkhardt (1986, pp. 342-343) presents the following set of ethical business principles that, he argues, agribusiness should adopt:

(1) Agribusiness should respect as persons each agent in the agricultural production/consumption system. ... (2) Agribusiness should not engage in actions which systematically undermine the obligations of other agents in the production system. ... (3) Agribusiness enterprises should not engage in actions – either direct or indirect – which are environmentally damaging and ecologically unsound. ... (4) Alternative agricultural production processes and technologies should be considered when a research, farming, processing or distribution system is established, 'modernized,' or reorganized. ... (5) Agribusiness should make every effort to upgrade the quality of food which is produced ... [and] (6) Agents in the production system are obligated to inform society, through appropriate means, of intended changes in the structure of the production system.

Although we might agree that the adoption of these principles would alleviate many of the Type I ethical dilemmas agribusinesses face, the question remains as to why agribusiness would necessarily have an incentive to abide by these principles. Stated differently, if society agrees that these principles should be adopted by agribusinesses, then many Type I ethical problems would be resolved, but Type II ethical problems might in turn be created. Burkhardt notes that the social contract approach, in which agribusinesses agree to abide by these principles in exchange for a "moral right to exist" (p. 344), would be sufficient. However, it is unclear as to how such a "moral right to exist" would be granted and removed by society, unless there are corresponding legal sanctions such that, if agribusinesses violate the principles of the social contract, they would lose not just their "moral right to exist" but also their "legal right to exist." Such an institutional change might be necessary in order to ensure the widespread adoption of these business principles in agriculture.⁵

⁵ Of course, members of society could stop doing business with companies that fail to abide by these principles. But this would represent an institutional change that provides the requisite incentives for agribusinesses to abide by these principles. For examples of theoretical work consistent with this idea, see Axelrod (1984) and Gauthier (1986).

The belief that a publicly stated consensus or a well-articulated moral argument will alleviate all ethical problems fails to recognize that the problem has shifted from being a Type I to a Type II ethical problem. If there is still some controversy as to what the ethical norm or standard should be, then the problem remains a Type I ethical problem. However, once the ethical standard has been established, the conformity to that standard becomes the principle issue. If the problem has, in fact, become a Type II ethical problem, in that there are institutionally-created incentives for individual or businesses to violate the recognized ethical or legal norms, then the ethical "problem" has not yet been resolved; rather, it has shifted. In order to resolve Type II ethical problems, effort must be placed on changing the incentives people face to violate the ethical or legal norms, perhaps by creating rewards to compliance with the ethical principle or by creating sanctions that will result if the ethical norm is violated.

Summary

Type I ethical problems are those in which there is no generally accepted understanding of what the "ethical" course of action should be. These types of problems are pervasive in agriculture, particularly when they induce value conflicts that are often created by technological change (biotechnology applications in food and drink and the genetic modification of crop plants being just two examples). However, Type II ethical problems, in which people have incentives to violate recognized ethical principles, are also prevalent. The principle insight from this analysis is that solutions to ethical dilemmas must be consistent with the type of ethical dilemma in question. Therefore, before one can attempt to resolve ethical problems in agriculture, one must first identify what type the ethical problem is. This is particularly important in the case of Type II ethical problems – Type I solutions cannot be used to resolve Type II ethical problems. Type I ethical problems, involving value conflicts, are resolved through reason and moral dialogue, and Type II ethical problems, created by perverse institutional incentives, are resolved through changes in the institutional environment so that individuals or businesses have

incentives to comply with generally recognized ethical norms (or at least so that they do not have incentives to behave unethically).

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