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Developing a Well-Reasoned Response to a Moral Problem in Scientific Research

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Description

An essay from the 1995 "Moral Reasoning in Scientific Research: Cases for Teaching and Assessment." This essay provides background on the importance of providing students on instruction around ethical decision-making in research and provides a framework for leading a case study discussion.

Body

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Introduction

Every day you make decisions about what to do. Some decisions are just matters of prefer-ence that have no moral implications, like whether you would rather wear a

red or green sweater, or whether you would prefer an apple to an orange. Even technical questions, such as whether to use a flask or a beaker, or a pair of pliers or a wrench to accomplish a given task, may be simply matters of preference. However, when the exercise of preference somehow affects the welfare of others, moral questions arise. One of the problems for persons entering a profession, such as science, is that they may not recognize when choices about technical matters have moral implications. One purpose of instruction in research ethics is to alert future professionals to such situations.

In most cases, when moral questions arise, you do not wonder what you should do. You clearly know what you ought to do — even though you may feel compelling pressures not to follow through and do it. You may question whether you can escape the consequences of not following through, but you do not question what is right. As an educated person, you rely on knowledge of existing laws or even intuition to tell you what to do, without necessarily reflecting on why a given act is right or wrong. As law-abiding citizens, we recognize that we can be held accountable for our actions and that even ignorance of an existing rule or law does not exempt us from its consequences, should we break it. For the most part, each of us functions pretty well without giving much thought to the reasons a particular act, such as stealing or cheating, is wrong. Knowing the rules and laws is essential for maintaining a law-oriented society, but reflecting on the reasons for those rules and laws may not be.

However, there are some situations and contexts in which a well-developed ability to reflect on moral issues and to undertake ethical reasoning is crucial. For professionals in science, as well as in other fields, skills of moral reflection are important — perhaps even essential — because new moral problems arise as technology advances, as societal expectations change, and as the various scientific disciplines evolve. Sometimes professionals face moral problems that

1 The author acknowledges the contributions of Kenneth D. Pimple, Karen M. T. Muskavitch, and David H. Smith, members of the Teaching Research Ethics Team, Poynter Center for the Study of Ethics and American Institutions, Indiana University. This paper was adapted from an earlier work, “Developing a well-reasoned argument for a moral dilemma,” designed for the University of Minnesota dental ethics curriculum. The process for discussion and criteria for assessing the moral arguments presented herein have been extensively tested with several cohorts of Minnesota dental students.

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were not anticipated by the profession's existing codes of conduct and are not explicitly stated in laws and/or procedural rules. Yet case law shows that professionals can be held accountable for their decisions.2 Professionals are expected responsibly and knowledgeably to apply moral principles to arrive at morally defensible positions — even on novel and unprecedented issues.

If we think that the work of professional scientists is important and that they should be held accountable for actions that affect the welfare of others, we must ask what values and norms undergird the practice of science, and by what standards professional practice should be judged. Professions, including scientific professions, differ in the extent to which they have made explicit the norms and values that govern professional practice. Some professions, such as engineering, law, medicine, dentistry, and psychotherapy, have explicit codes of conduct, describing how the profession's ideals translate into specific expectations and obligations. Scientific societies (with the possible exception of medical science) tend to simply set forth the organization's aspirations or ideals. For instance, in science, rather than speaking of professional obligations, professionals refer to traditions or norms of practice. In its report, the National Academy of Sciences Panel on Scientific Responsibility and the Conduct of Research observes that:

The community of scientists is bound by a set of values, traditions, and standards that embody honesty, integrity, objectivity, and collegiality. These values are reflected in the particular principles and practices characteristic of specific scientific disciplines.3

Scientists need practice in how to apply these values when formulating a response to one of the practical ethical problems that frequently arise in the course of doing and presenting scientific research. Some research indicates that skills of ethical reasoning are also a necessary condition for excellence in practical problem solving.

For these reasons, we have concluded that training in decision making for young scientists should devote considerable effort to developing and strengthening skills in ethical reasoning or reflection. In turn, each person's skills can be judged on the basis of his or her ability to develop a well-reasoned response to the kinds of moral problems scientists encounter in professional life.

2 One of the more stunning examples is the 1976 case of Tarasoff v Regents of the University of California (17 C.3d425; [3] Cal.Rptr. 14,551 P.2d 334), wherein psychotherapists were held accountable for failing to warn Ms. Tarasoff that her ex-boyfriend was making life-threatening statements about her during his counseling sessions. In a wrongful death action brought against the Regents and psychotherapists at the university hospital by Tarasoff's parents, the California Supreme Court ruled that the duty to warn took precedence over the duty to protect the client's confidences, and held the professionals accountable — arguing that they should have recognized the limitation of the duty to confidentiality — even though their profession's code of ethics was not explicit on this point. As a result, ethics courses for mental health professions routinely include cases patterned after Tarasoff.

3 Panel on Scientific Responsibility and the Conduct of Research. Committee on Science, Engineering, and Public Policy. National Academy of Sciences, National Academy of Engineering, Institute of Medicine. *Responsible Science: Ensuring the Integrity of the Research Process*, Volume 1 (Washington, D.C.: National Academy Press, 1992), p.1. Developing a Well-Reasoned Response / Page 3

Judging responses to moral problems.

How does one decide whether a response is well-reasoned? What criteria apply? Can the adequacy of a response to a moral problem be reliably judged? These are questions of concern to students in an ethics course. Responses can be judged based on these criteria:

(A) Whether the response addresses each of the **issues and points of ethical conflict** presented in the case or problem;

(B) Whether each **interested party's** legitimate expectations are considered;

(C) Whether the **consequences** of acting are recognized, specifically described (not just generally mentioned), and incorporated into the decision; and

(D) Whether each of the **duties or obligations** of the protagonist are described and grounded in moral considerations.

These are the criteria generally used to evaluate the adequacy of responses to ethical problems. Persons with training in ethical analysis can reliably rate and rank the adequacy of the arguments for a chosen response. The purpose of this paper is to help you understand the criteria for judging the adequacy of moral arguments so you can develop a strong argument in defense of your posi-tion on the problem presented to you.

Case discussion

Before saying more about the criteria, let us address the process for a case discussion.

Step I. In a classroom setting you will be presented with a case study and you will be asked to take a tentative position (e.g., “Yes, the protagonist should do something,” or “No, the protagonist should not do something”). In each case, you will focus on the protagonist and tell why (on SIDE 1 of your response form) he or she should or should not do something.

As you read the problem, you may find yourself compiling a mental list of the issues involved, like data ownership and access, collegial interactions, plagiarism, responsible use of animals, authorship, confidentiality, data falsification, and the like. As you describe an issue, try to address the point of conflict that each issue represents, e.g., a conflict of interests, rights, or needs of two or more interested parties, conflicting obligations of the protagonist to other parties, or conflicting values for the protagonist.

When you develop your response, focus on the reasons the protagonist should or should not do something. Do not just pronounce an act as ethical or unethical; tell why you think so. In considering why an action is acceptable or unacceptable, it may be helpful to consider:

• Who has a stake in the action?

• What might the consequences of the action be?

• What obligations might the protagonist have?

• What professional norms and values give rise to those obligations?

Note that each problem usually contains two or more issues; you should try to describe all of them.

Step II. Participate in the discussion. During the discussion, you will have an opportunity to hear what others think and learn what additional conflicts, interested parties, consequences, and Developing a Well-Reasoned Response / Page 4

obligations they may have identified. You will also have an opportunity to ask questions of the facilitator. Use this opportunity to expand your understanding of the issues, gain more informa-tion, and rethink your initial response to the problem(s) presented by the case.

Step III. When the discussion is finished, use SIDE 2 of your response form to either strengthen or reformulate your response. At this point, you may change your mind on the position you initially took if compelling arguments have been made to convince you to do so. You may rewrite or simply refine your response. Note: You need not repeat points made on SIDE 1, and you need not be concerned about errors of fact or reasoning made on SIDE 1, as long as you address the error on SIDE 2. Notice that your response will also be evaluated according to your willingness to reassess your position. Even if you do not change your mind about the correctness of your position, you ought to be able to provide clearer reasons for maintaining that position. **If you do not change your mind about your position and no new arguments to support your position occur to you after discussion, you still should not leave SIDE 2 blank. You should at least address the arguments raised for other positions and explain why these arguments are insufficient to make you change your mind.**

Obviously, in some situations, there is little disagreement that one position is more defensible than another, so it would be unlikely that people would disagree on the position itself. Responses are evaluated based on the logical adequacy of the argument, not on whether you picked the “correct position.” Remember, however, that one of the marks of a good scientist is the willing-ness to change one’s mind in the face of compelling reasons. It is not a virtue to “stand one’s ground” when the

evidence suggests a change of position is warranted.

Step IV. Turn in your paper for evaluation by your instructor. Your response will be read, evaluated, and returned to you with suggestions as to how you might further strengthen your argument.

Applying the criteria

The following are some additional suggestions to help you apply the criteria as you analyze an ethically problematic situation and formulate a reasoned response.

1. Issues or points of conflict. To provide a convincing ethical analysis, you will want to move beyond naming the issue (e.g., data ownership and access, plagiarism, etc.) to describing the nature of the moral conflict. What constitutes an ethical conflict? A dilemma, by definition, is a situation in which rights or obligations of interested parties conflict. For example, there's a famous hypothetical case called "Heinz and the Drug." The scenario is this:

Heinz's wife is dying. A cure is available from a druggist in Heinz's town, who is the one who discovered the drug, but the druggist charges much more for the drug than it costs him to make it, and much more than Heinz can afford to pay. Heinz can't raise the money and the druggist will not agree to let him pay later.

The dilemma is whether Heinz should steal the drug to save his wife's life. One issue in this case has to do with property (whether the druggist's right to his property should be respected), and another has to do with life (whether Heinz is obliged to act to preserve his wife's life). When we examine the case in terms of conflicting rights, Heinz's wife's right to her life is in conflict with Developing a Well-Reasoned Response / Page 5

the druggist's right to his property. Heinz tried to resolve the problem without compromising either the druggist's or his wife's rights and was unsuccessful. He exhausted his ability to resolve the problem and is considering which of his conflicting obligations (to save his wife's life or to respect the druggist's property) should take precedence.

Real-life dilemmas often present choices between equally unfavorable or disagreeable alternatives. Consider the case of the researcher considering data enhancement of preliminary findings to assure continued funding for his research

lab. He sees a conflict between his obligation to report his data honestly and his obligation to secure enough funds to keep his lab technicians employed. You might reason that honesty is a more important consideration than maintaining jobs for lab technicians, but such practical considerations can influence professional judgment.

Note that identifying the points of ethical conflict is often one of the hardest jobs in ethical analysis. Most people find it easier to begin by considering interested parties, consequences, and obligations before trying to describe the issues more fully.

2. Interested parties. Skills in perspective-taking are called for by this criterion. Other par-ties, besides those directly mentioned in the case, may have a stake in the protagonist's decision. You might think of interested parties in progressively larger groupings, from the person facing the ethical problem, to the person(s) immediately affected (such as that person's students, teachers, or research subjects), to the people in the relevant institution (the laboratory or university), to the scientific community and society in general. Consider the reasonable expectations (rights) of each interested party. Frequently, consideration of the interested parties will bring more issues to mind.

3. Consequences. For each action considered, there are often several possible outcomes. The challenge in identifying consequences is not to identify every remote consequence, but to identify those that have a good probability of occurring, or those that would have very serious consequences even if the probability of occurrence is not particularly high. For example, the possibility that someone might die due to the release of a small amount of a toxic substance during an experimental procedure may be relatively remote, but the consequences would be so devastating that the potential benefit may not even be worth a remote risk.

When considering consequences, be sure to consider, in turn, each of the interested parties and the probable consequences of the proposed action on those parties. When considering conse-quences to the protagonist, keep in mind that consequences may be multifaceted. On the one hand, he or she might get caught in an unethical act and face a lawsuit, loss of funding, loss of reputation, or other serious negative consequences. On the other hand, he or she may get away with an unethical act and get a publication or grant more easily and quickly than if he or she had acted ethically. But whether or not the act is detected, engaging in actions we believe are wrong undermines our sense of integrity. The effects of an action on a person's character may appear to be minor in the short run, but often have a

cumulative and debilitating effect on one's self-confidence, self-esteem, and habits — each time we reap the benefits of questionable acts and successful avoidance of the negative consequences, we enhance the probability that these acts will be repeated. Developing a Well-Reasoned Response / Page 6

4. Obligations. For each case, consider primarily the obligations of the protagonist toward the various interested parties. It is sometimes tempting to dismiss the obligation of the protagonist when some other person fails to live up to his/her moral obligation. For example, the protagonist may reason as follows:

Everyone else fudges data points, and I'm competing with them for grants, so I have to *(read: am morally justified to)* fudge my data, too.

One party's failure to live up to his/her moral obligations can have an impact on another party's moral obligations, but this kind of reasoning often amounts to nothing more than a ratio-nalization — an excuse to do whatever one wanted to do in the first place — without real regard to the moral questions at hand.

When writing about the obligations of professionals such as scientists, it is not enough to say that someone has a duty to do "x." You must say why the professional has that duty. That is, you should refer to the moral justification in terms of values, principles, character, or outcomes. For example, consider the case of a researcher who is considering fabricating additional supporting data to speed publication of an exciting preliminary result that could be very important in the treatment of viral disease. In such a case, your reasoning might go something like this:

The scientist should not fabricate the data. Every scientist has a duty to report data truthfully because honesty is one of the most fundamental values of science.

When describing ethical obligations, consider the various responsibilities of scientists. One responsibility is to achieve at least the minimum standards of technical competence, and maintain those standards during the course of professional practice. For example, scientists need to know how to calibrate their instruments accurately. If you do not know how to calibrate a thermometer properly, your experiment may be completely invalid. Given the right context and consequences, lack of technical competence can become a moral issue. But even when we do know how to calibrate instruments, there are honest mistakes, such as forgetting the calibration on one particularly hectic day, or mistakenly assuming

your assistant did the calibration.

Each of us is fallible. This fact of human nature gives rise to another responsibility: In addition to achieving and maintaining competence, one is expected to engage in responsible research practices, like replication, proofreading, and peer review to guard against error. Responsible research practice also includes the obligation to correct one’s technical errors, as well as errors of interpretation and judgment.

In order to maintain the integrity of the research enterprise, almost every scientist will, at some point, be asked to make distinctions: on one level, between honest error and honest differences of interpretation and judgment; on another level, between negligent acts (e.g., mistakes resulting from sloppy experimentation, poor scholarship, and other forms of negligent behavior) and intentional acts and misrepresentations, such as fabrication, falsification, or plagiarism. Scientists have a responsibility to colleagues, to the research community, and to society to participate in the monitoring of research practice. This means that the professional must be knowledgeable about the process and procedures for dealing with allegations, and responsibly exercise his or her obligations to the accused and to the institution or scientific society in which the alleged misconduct is discovered. Developing a Well-Reasoned Response / Page 7

By considering this partial listing of the responsibilities of scientists, one gains an appreciation of the complexity of moral issues that can arise in scientific practice.

Summary

In this paper, we have suggested that professionals, including professional scientists, have a particular responsibility to have well-developed skills of moral reasoning. We briefly set forth the following four criteria for evaluating the adequacy of a moral argument:

• Whether the response addresses each of the ethical issues and points of ethical conflict presented in the case or problem.

• Whether each interested party’s legitimate expectations are considered.

• Whether the consequences of acting are recognized, specifically described (not just generally mentioned), and incorporated into the decision.

• Whether each of the obligations or duties of the protagonist are described and whether the obligations are grounded in moral considerations.

Next, we described a four-step process for discussing case studies in research ethics in the classroom:

Step I. Writing your response to the case.

Step II. Participating in discussion.

Step III. Refining your response.

Step IV. Turning in your response for assessment and feedback.

We concluded with an in-depth discussion of the four criteria, which we offer as a guide for developing a well-reasoned response to a moral problem.

Notes

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