Author's Commentary on "A Young Woman's Struggle for Peace"

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A Young Woman's Struggle for Peace

"A Young Woman's Struggle for Peace" may be read on two levels. First, it is a case of an individual's personal moral dilemma. Ann must weigh her duties as a student and her desire to become a researcher in light of the wisdom of her developing conscience. Regardless of the basis of her dilemma, the realm of professional ethics includes resolution of conflicts that may arise between personal convictions and professional activities. Questions 1-7 are roughly contained within this framework. I have outlined approaches to these questions in some detail.

Ann's dilemma does not exist in a vacuum, but necessarily rests upon more fundamental issues. The second reading of this case, therefore, addresses the basis of Ann's dilemma, primarily by questioning the ethics of developing military technology and the related notion of the just war. These underlying matters lie beyond the immediate scope of professional ethics, for they appeal to more basic philosophies. Dismissal of such questions, however, silences discussion of the very issues that give rise to practical problems and consequently squanders the wisdom that can be gleaned from earnest deliberation. Progress in professional ethics, therefore, requires consideration of basic questions, even if consensus cannot be reached. In this spirit, Questions 8-13 investigate broad issues that surround Ann's situation. I make no attempt to answer them systematically. I sincerely hope the reader finds these questions engaging, and that they will inspire thought and dialogue that will inform the consciences of engineers and scientists as they choose to participate in various research activities.

Discussion Questions

1. *Characterize Ann's dilemma. Is it a conflict of interest or a personal moral dilemma? Depending on Ann's course of action, does Doe have a conflict of interest? (See Question 7.)*

The purpose here is to distinguish between a personal moral dilemma and a professional conflict of interest.

Clearly, Ann has a personal moral dilemma. If she has a conflict of interest, then it is necessary to identify vested interests and show them to be in opposition. "Interests," in the professional sense, correspond to duties associated with employment, contractual obligations or financial interests.(1)

It is not clear that Ann has any interests in this sense. Perhaps she has duties as a student, but as yet they are not directly related to her research. Ann's conscience is not regarded as an interest. Therefore, this case does not present a conflict of interest. As a point of reference, Harris, Pritchard, and Rabins note that a person's objection to developing military technology is regarded as a personal moral dilemma.(2) (See comments to Question 4.) On the other hand, a conflict of interest would occur if Ann were a hired researcher asked to perform military research, while at the same time she were a professional in a church or other organization that actively professed noncooperation with military interests.

As for Doe, he clearly does have duties to his students and to agencies that fund his research. He could conceivably have a conflict of interest if Ann begins to work on the Air Force project and later determines that she cannot continue the work.

2. *Does Ann's dilemma change if she is Jewish? Muslim? Buddhist? Hindu? Humanist? If so, how?*

The purpose here is to acknowledge that Ann's dilemma is not dependent on her Christianity, but could arise in a variety of faiths and belief systems. Adherents of particular belief systems are encouraged to consider this case from their own perspectives.

3. *Identify Ann's goals and purpose as she matures and progresses. To what extent do Ann and Doe perceive differently the relevant applications, goals, or purposes of the research?*

Here the reader is asked to critically consider the basis of the attitudes of Ann and Doe. Ann's intellect and conscience are both developing. Initially, her goals are based on her zeal for science and her desire to become a scientist. While she attaches some sense of purpose to her scientific work (sustainable energy), the

science is an end in itself. Later, as a result of her budding understanding of nonviolence, she begins to attach greater importance to the military application of the science rather than the science itself. We can only conjecture how her views will develop in the future.

The text does not elaborate on Doe's character. One possibility is that he has not considered ethical issues surrounding the application of science and is therefore oblivious. He may be happy simply to conduct research irrespective of its source of funding. On the other hand, he may have thought very critically about such issues, and perhaps is even a devout Christian who supports a notion of just war. In this case, he may have determined that the research he is conducting is acceptable, and even necessary. Either way, he does not appear to consider that Ann may be sensitive to issues beyond rote science.

4. *Does Ann have responsibilities to know and understand the applications of her work? How might these responsibilities depend upon the stage of her education or career?*

Professional ethics asserts that each person, as part of his or her professional duty, is called to act as a moral agent. That means that professionals must be sensitive to ethical concerns in their working environments and must be able to make informed judgments to solve or prevent ethical problems. In this light, two basic questions emerge concerning Ann's situation:

- Does the domain of moral agency include the objectives and premises of professional activities?
- As a graduate student, is Ann a professional, and thereby required to act as a moral agent?

A reasonable answer to the first question is "yes." Moral agency is not confined to the ethics of conduct within a profession, such as conventions of authorship, confidentiality, data reporting, informed consent, etc. Vigilant moral agents may legitimately question the basic objectives and premises of their professions. Imagine that a new version of the Tuskegee study is devised to study untreated HIV. Perhaps the study is scientifically sound and provides for informed consent of the participants. Surely a clinician would be justified in questioning the premise of the study if he or she felt that it targets poor people who cannot afford treatment.

However, not all ethical problems are necessarily problems in the professional

sense. In Ann's case, one basis of analysis rests on understanding the ambient system of law. One may presume that Ann is working in a nation whose constitution authorizes the power to declare war, and in which subsequent laws have provided for the systemic development of military technology. Therefore, Ann's potential objection to military research per se is not an issue of professional ethics, but is rather a personal moral dilemma. (Of course, this case could be modified to examine the specific nature of the research and analyzed with reference to additional criteria, such as international law and conventions of warfare. In some instances, Ann could object to certain types of military research on professional grounds.)

Regarding the second question, Ann is a junior student and is clearly not a professional. She is not expected to master any of the dimensions of her work, whether they are research techniques, mathematical skills, or ethical reasoning. Furthermore, just as beginning students enter with varied technical skills, they enter with different backgrounds in ethics. While loose ethical standards can be expected of all students (in the general area of academic integrity), it is my own experience that beginning and even advanced students lack a full conception of moral agency. Given this climate, I contend that Ann is not responsible for understanding or affirming the wider applications of her thesis work at its outset.(3) However, as she progresses in her studies, her professional responsibilities increase. I suggest that a reasonable benchmark is to expect that at the time of her thesis defense, she does understand the applications of her work to the point that she could reassess her initial decision to pursue the work in the first place. To her credit, she is thinking along these lines at a much earlier stage.

The assertion that a graduate student is free from the full obligation of moral agency is perhaps less than satisfactory. The argument that relieved Ann from considering the applications of her thesis work rested not on philosophy, but rather on an estimation of the current norms among graduate students. As ethics education is implemented at the undergraduate level, these norms will change. Students will become more responsible for acting as moral agents before they become full professionals.

5. *Is Doe obligated to reveal the applications of the research to his advisees and the corresponding funding agencies? Does he have a responsibility to be aware of ethical concerns that others may have about his work, even if he does not share those concerns?*

This question is a companion to Question 4. Doe is clearly a professional and therefore has the duty to act as a moral agent in the course of his work, including research, teaching, and advising. Based on the arguments given in Question 4, Doe is clearly responsible for understanding and affirming the applications of his research.

As an adviser, Doe has the duty to help his students become aware of information that is pertinent to their career development, in order that they will learn to think independently and make informed decisions. Therefore, he must be prepared to engage his students in both technical and ethical matters. In particular, Doe is obliged to discuss with them the applications and funding of his research, for the following reasons:

1. In Question 4, the argument is made that moral agency includes the possibility of questioning the basic purpose or premises of one's work. Doe cannot assume that his students are unconcerned about the applications of their research. Reticence on their part may be due to their fear of raising sensitive issues. He must actively create an environment in which his students have the freedom to investigate their ethical concerns. To this end, he has a responsibility to be reasonably aware of ethical matters that students might raise, even in cases in which he personally disagrees.
2. Even if his students do not have ethical concerns about the applications of their research, Doe must raise their consciousness to include these concerns as part of their ethical thinking. As professionals, they will be asked to devote their time and energy toward achieving certain goals in accordance with the norms of their fields. As students prepare for professional service, they must realize that they are not merely developing technical skills to qualify for employment; they are actively choosing how they wish to participate in society, a choice for which they will ultimately bear responsibility. I submit that ethics education must reveal the interests and objectives of the various professions in order that students may make informed, deliberate career choices.

3. The solicitation of research funding requires justification of the proposed work. Doe should discuss with his students the current interests and trends in their fields and which agencies are likely to provide support. That is especially important for students who decide to pursue research careers.

Special Note. I contend that researchers in engineering and science have a special obligation to consider the motivations and applications of their work. In his essay *Target Equals City*, Thomas Merton argues that during warfare in which new technologies are applied, ethical principles shift very quickly, and yield to "practical dictates."(4) Should our system of ethics (including ethics of warfare) be based primarily upon what is physically possible and "effective?" Does a system invested in the presumed need to develop military technology rely on sound ethics to discern what is "effective" in the first place? The nature of scientific and engineering research is to expand the envelope of control over matter and energy. Within this envelope, questions of how to control matter and energy are clearly ethical. Researchers who choose military endeavors must draw upon theories of warfare and principles of nonviolence in order to evaluate and justify the objectives of their research. They must be aware that their research may play a role in changing the very system of ethics that is presumed to inform their work *a priori*.

6. *How is the funding agency related to the application of the research? Does Ann's dilemma change if*

- *she pursues the same basic research with funding from NSF or DOE?*
- *she pursues research that has no direct military application but is funded by the Air Force?*

This is a line-drawing problem.(5) None of the alternatives appear to be purely satisfactory or purely unsatisfactory. A practical distinction that Ann might make is whether her research directly contributes to the development of a new weapon system.

1. It is unlikely that the NSF or DOE would be funding research specifically for the purpose of designing a new weapons system. However, Ann may still wish to determine whether the research has clear military applications.
2. The Air Force and other military branches do fund basic research that is not directly related to weapons systems and in fact may be far from technological development. Ann must consider whether she is an accomplice to the

development of weaponry even if she is not directly involved.

7. *Consider the extent to which Ann and Doe have entered into a contractual relationship (written, verbal, implicit). It may help to draw upon your own experience as a student or faculty member.*

- *Is Ann bound by this contract if she discovers information that contradicts the initial premises of the contract? Is she obligated to reveal her own attitudes, which may conflict with her research?*
- *What risks does Ann take if she voices her objections? What risks does she take if she decides to change her research course?*
- *Does Doe have responsibilities to Ann if Ann determines that she cannot participate in the research, given its intended purpose?*

This situation may vary according to institution and individual faculty-student relationships.

- Ann has not yet begun any research. If she is certain of her convictions, now is the time to raise them. This strategy is in the best interests of her credibility as well as Doe's research program. A stickier situation occurs if she realizes her dilemma in the midst of her research, or if she is uncertain of her convictions at the beginning of her research. That could happen if she is not certain of her convictions at the beginning of her research. In such a case, she is advised to raise the issue and seek a mutually acceptable arrangement with Doe.
- Ann may at least perceive a risk that she will be labeled "uncooperative" if she changes her research course based on a nontechnical issue. Depending on the availability of other research projects in her department, it is conceivable that she risks working in an area that interests her less. In the long term, she may risk losing employment opportunities in research if her objections are perceived to conflict with general conventions of research in her field.
- Doe has a right to sponsor research that may not meet Ann's approval, and may reasonably determine that she cannot work in his lab. However, his duty as a mentor requires him to respect Ann's convictions and at least try to find common ground. Perhaps he can find an alternative source of funding or help to establish a position for her with another faculty member.

While Doe may have to reveal information about Ann's convictions as he helps her find a satisfactory position, it is ultimately Ann's responsibility to report her

convictions to her associates as they are relevant. It would be unethical for Doe to discuss Ann's moral convictions with colleagues indiscriminately. His faithfulness to this duty will help to prevent some of Ann's fears from being realized.

For Further Thought and Investigation

The following questions are very broad and may serve as the basis of discussion in a range of settings, including academic, professional, and religious. I have only a couple of comments here.

11. *University teaching, especially at the graduate level, is influenced by faculty research. Research is typically funded by external organizations that have their own agendas (corporations, government agencies, nonprofit institutions).*

- *To what extent is the relationship between basic research and research sponsorship discussed in teaching settings? In research settings?*
- *To what extent do the values and interests of the research sponsors bias the teaching of basic science? Are students aware of these biases? Is objectivity compromised?*
- *What can be done within the educational system to convey to students the need to understand the applications and implications of science and technology? Can social responsibility be "taught?"*

I believe that these questions are centrally important in modern education and apply to issues beyond military technology. Another example to consider is the relationship between genetic engineering and large agricultural corporations that produce food.

13. The medical profession is generally agreed that the advancement of knowledge -- even with the intent of extending and enhancing life -- is unethical if research deliberately compromises human life or health. Guidelines to govern research on human subjects emphasize protection of the individual. This philosophy may be generalized as follows: It is unethical to enhance the life or lifestyle of certain individuals at the expense of the basic health, will, or dignity of other individuals.

Consider now that civilian technology (transportation systems, computers, etc.) has historically been developed as a result of military endeavors. Given the generalization stated above,

- *Is it ethical to choose to develop civilian technology in tandem with military technology, especially weapons technology?*
- *It it ethical to commit certain acts of violence with the intention of ensuring the safety of others?*
- *Why might medical research be especially concerned with the welfare of the individual at the potential risk of the general population? Why might these factors not apply to warfare?*
- Medical practitioners and researchers generally have face-to-face contact with individual patients and subjects. The encounter with a person's face is very compelling and naturally engenders feelings of love and respect. Nonviolent objectors and just war theorists alike can agree that modern methods of warfare -- bombing civil infrastructure form a distance -- remove the face of the victim from the vision of the attacker. It is much easier to lose love and respect for one's fellows when they are referred to as "collateral damage," and not as "Bushra" or "Vicktor." To use force from a distance is to reject the elements of just ware theory that argue fo the restriction of force to protect innocent civilians.

- (1)A discussion of conflicts of interest can be found in Deni Elliot and Judy Stern, eds., Research Ethics (Hanover, N.H.: University Press of New England, 1997), Chapter 6.
- (2)Charles Harris, Michael Pritchard and Michael Rabins, Engineering Ethics,(Belmont, Calif.: Wadsworth, 1995), Chapter 4.2.
- (3)P. Aarne Vesilind asserts that it would be unfair to expect a graduate student to question arrangements surrounding the funding of his or her research. I considered this argument in writing my commentary. See P. Aarne Vesilind, "Commentary on 'Owing Your Soul to the Pharmaceutical Store'" in Brian Schrag, ed., Graduate Research Ethics: Cases and Commentaries, Volume 3 (Bloomington, Ind.: Association for Practical and Professional Ethics, 1999).
- (4)Thomas Merton, Passion for Peace: The Social Essays, ed. William Shannon (New York: Crossroad, 1995), Chapter 3.
- (5)A discussion of line drawing can be found in Harris, Pritchard and Rabins,

Engineering Ethics, Chapter 5.