

# ABC Defence

A case study for use in teaching in Engineering Ethics

## Abstract

This scenario examines the ethical issues around working for the defence industry

## Teaching Format

1- 2 hour session, small group discussions

## Practicalities

This scenario is aimed at students who have some experience of ethics. It is recommended that this be taught to students at level 3 or 4 due to the sensitive nature of the subject and the fact that the issues addressed are relevant to those students about to enter work.

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## Partners in producing this resource

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## ABC Defence

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ABC Defence is a small British company with about 250 employees, many of whom are Engineering and Technical staff. The company was established during the 1960's at the height of the Cold War and has thrived on defence contracts making equipment for military customers in the UK and abroad. ABC designs and manufactures protective personal armour for soldiers and vehicles and a range of sensors which can detect and warn of the presence of chemical and biological agents.

A new lightweight radar has been designed and developed with company investment which can sense and display the movement and location of soldiers and vehicles on the battlefield. With this information soldiers can quickly call in mortars and artillery fire to destroy enemy positions and their equipment and disrupt their communications and thereby reduce the risks to Allied soldiers. This new project is showing promise in tests and in trials conducted on special test ranges in the UK. It is cheap compared to other more sophisticated equipment and easy to transport being about 25kg in weight and about the size of a large suitcase.

The MD, Brian Fowler, is a Chartered Engineer with many years of military experience in defence and he served in the British Army for twenty years retiring as a Major and joining ABC five years ago. He has seen active service during the Falklands War, the Balkans War in Bosnia and more recently in Iraq and Afghanistan. Brian has seen the full horror of war and conditions on the battlefield and is proud that the equipment that ABC makes helps save lives. ABC pays market average salaries and conditions but finds it difficult to attract and retain engineers.

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## Questions

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- (i) You have just graduated and you secure a number of interviews for positions within engineering firms. As a result of an interview with ABC you are offered a job working on the radar project. What concerns, if any, would you have about working as an engineer in ABC Defence?
- (ii) You are normally a loyal and patriotic person but you feel that the UK's current military involvement in Iraq and Afghanistan is completely unjustified. How does this affect your decision about whether to take the job?
- (iii) To date, ABC's work has involved developing protective equipment, radars and sensors. However, the company is expanding its operations to include developing chemical and biological weapons. The UK government is interested in funding this research as a response to the increased threat posed by terrorists and rogue states. Research into these weapons will also complement ABC's existing work on sensors to detect these biological and chemical agents. Would this new aspect of ABC's work affect your decision to take a job there? Why?
- (iv) You have a brother who is a member of the armed forces, currently stationed in Afghanistan. Does this fact affect how you view working for ABC? Should personal relationships affect your moral views in this way?

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## Tutor Notes

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This case study provides a good framework for a general discussion about the ethical issues surrounding working for the defence industry. As there is no straightforward ethical dilemma posed in this case, discussion can be less focussed and for this reason the session is aimed at students who have some experience of being taught ethics: more experienced students will be able to identify the ethical issues themselves and should be able to discuss them maturely.

To begin with, students should be given time to read the scenario then split into small groups of 5-8 people to discuss the questions. Groups should be given 5-10 minutes to discuss each of the questions at which point they should report back to the class as a whole. Below are summaries of the kinds of answers to expect and the ethical issues that will be raised in relation to each question. These can be used to prompt further discussion and are also given in brief on the student handout. The handout can be use as a basis for concluding the case study and should be distributed to students at the end of the session.

- (i) **You have just graduated and you secure a number of interviews with a number of different engineering firms. As a result of one of these interviews, ABC offer you a job working on the radar project. What concerns, if any, would you have about working as an engineer in ABC Defence?**

This question is an ‘ice breaker’, designed to elicit initial responses from students concerning their feelings about the defence industry. One common response to the issue of working in the defence industry is the “**If I don’t do it, someone else will**” response. It is useful to discuss this response before looking at the other questions as it can often block further discussion of the ethical issues related to defence: if the argument works then there is a justification for working on the defence industry, whether or not one regards the industry as ethically acceptable. However, it is discussion of these further issues that this case study is designed to encourage.

The thought behind the “if I don’t do it” response is that refusing a job in the defence industry is pointless because it will have no effect on whether the research gets done or not; the job will be given to a different candidate and the outcome will be the same as if you had taken the job anyway. Moreover, there might be reasons why you would be better than alternative candidates; you might be a more measured individual and therefore less likely to push for research into more ‘barbaric’ weapons. It would also seem pointless to do oneself out of a wage, particularly if you have dependents: this would mean that not only would the research happen anyway, but that you and your family would also be worse off. The philosopher Bernard Williams discusses this issue\* and says that this argument does not justify taking the job. In the case of refusing the job, you are refusing to take part in an activity that you feel is unethical. In the case of taking the job, you are compromising your principles. It does not matter that in the former case, someone else will do the job anyway, what is important is that *you* do not do the job: the fact that someone else is willing to perform an unacceptable action does not make it acceptable for you to do it. To take a comparable but extreme example; there may well have been Nazi officers who refused to take part in the extermination of Jews because they deemed it morally unacceptable. For soldiers who did participate in this atrocity, it is no defence for them to say that if they hadn’t done it, then there were plenty of other soldiers who would have. It is part of having integrity that one lives by ones principles, and integrity is an admirable character trait. Although by not taking the job it will be the case that someone else will accept it, and the research will continue, there is no meaningful way in which you would be *responsible* for this and so there is no duty to take a job in order to prevent someone more zealous from accepting it.

In discussing this question, students will probably also raise further questions: Is war ever justified? Is research into defence products ever justified? Would people take a job in defence if there were alternative jobs available (of equal

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\* See ‘Further Reading’ section for references.

pay and interest)? Would students take the job if the pay was significantly higher than comparable jobs in other industries? etc. Questions that students raise will more than likely cover four main issues: conscience/personal ethics, the justification of war, weapons research, and chemical and biological weapons (there is obvious overlap between the last two issues). These issues are addressed more directly in questions (ii) – (iv). It is suggested that you wrap up discussion of this first question by getting the groups to list any concerns that were raised in their discussion. You can then write these on a board or flipchart and group them under the four headings. You can then return to these at the end of the lesson and indicate how each has been addressed. You may also want to ask the class if they would indicate whether or not they would take the job. Obviously this must be done with sensitivity. (It is inappropriate, for example, to express disapproval at students' choices)

**(ii) You are normally a loyal and patriotic person but you feel that the UK's current military involvement in Iraq and Afghanistan is completely unjustified. How does this affect your decision about whether to take the job?**

This question concerns the justification of war. It may be that some wars can be morally justified in which case there would seem less reason to refuse to work in the defence industry on ethical grounds. However, some wars may be unjustified, and so considered to be unethical. This may impact on an individual's decision to work in defence.

### The Justification of War

Views concerning the ethics of war take for granted that war is a bad thing; it involves death and injury to human beings and we take harm to humans to be a fundamentally bad thing. However, even if it is granted that war is fundamentally bad, there may still be reasons for thinking that war can sometimes be justified. 'Just War' theory holds that a war is justified if three conditions are fulfilled:

- The war is sanctioned by a lawful authority
- There is just cause for the war
- The war is waged for the right reasons

'Lawful authorities' in this case usually refer to the legal governments of particular states. The United Nations also constitutes a lawful authority, and there are some that argue that *only* a war declared by the UN can count as a just war. There are obvious difficulties with identifying lawful authorities: sometimes it is unclear who the legal government of a particular state is. Also, it is not clear that a war which is not waged by a 'lawful authority' must count as unjust; one can imagine cases where rebel groups wage war to resist government oppression. That these rebel groups lack the lawful authority should not necessarily entail that their war is unjust.

The most obvious example of a just cause for a war is self-defence; if a country is under attack then it is legitimately permitted to defend itself from this attack. Other more contentious 'just causes' are defending allies from attack and defending human rights abuses; there is disagreement concerning whether intervention in the business of other states in this way can ever be justified. Considering whether a war is just or not is not simply a case of considering the *reason* for going to war, it also involves considering whether or not war is the only option for dealing with the problem at hand and whether or not the war will be successful; that it will in fact stop the human rights abuses or prevent allies from being harmed. A war whose aim is to prevent the suppression of a particular ethnic group but whose likely outcome is the further suppression of that ethnic group is not a just one. Just wars must be waged for the right reasons as well as in support of just causes. Good reasons for going to war could include protecting the rights of civilians and restoring peace to a state or region, bad reasons could include lust for power, greed or hatred of the enemy. It is possible that a war be fought for a just cause but from the wrong motives. For example, people have argued that the recent invasion of Iraq may well have been fought for a just cause; the ousting of Saddam Hussein from power and the prevention of human rights abuses as well as the retribution for acts of genocide, but from the wrong motives. They argue that the motives of the USA and UK involved desire for retribution for the 9/11 attacks and the need to preserve the supply of oil from the Middle East. The war in Iraq is therefore an unjust one according to such arguments.

Those who agree that war can sometimes be justified may have no qualms about working in the defence industry, provided that they can be sure that the research that they do will only contribute towards just wars. However, the possibility is open that one's country could become involved in an unjust war; no one can be certain that this will not happen. In this case, the individual would be placed in a difficult position: their job would require continuing with research into weapons that could be used for unjust means. This line of thought indicates that individuals with concerns about the justification for war should not take the job with ABC.

**(iii) To date, ABC's work has involved developing protective equipment, radars and sensors. However, the company is expanding its operations to include developing chemical and biological weapons. The UK government is interested in funding this research as a response to the increased threat of the use of chemical and biological weapons posed by terrorists and rogue states. Research into these weapons will also supplement and assist ABC's existing work on sensors to detect these biological and chemical agents. Would this new aspect of ABC's work affect your decision to take a job there? Why?**

This question should lead students initially to talking about the different roles one could have in the defence industry, and whether any of these roles are more 'unethical' than others. Working for ABC on the radar project or developing protective equipment may be regarded differently to working for ABC developing chemical and biological weapons. The aim of protective equipment is to avert or prevent harm to humans, whereas the aim of weapons is to cause harm; one job has an admirable aim, and the other does not. However, the line is not that easy to draw; lack of personal involvement in a project does not mean that one is not in some way responsible for the outcomes of that project. It may be argued that working for ABC *at all* entails supporting the work that the company does, and this includes any weapons research. Perhaps working for the defence industry in any capacity is engaging with the 'business of war' and should be avoided for ethical reasons. However, this is to assume that there can be no justification for defence work at all, and this is by no means obvious. Reasons why work in defence could be justified are discussed next.

This question asks students to address both the ethical issues concerning weapons research in general and the ethics of chemical and biological weapons in particular. Students may begin by talking about the ethical problems related specifically to chemical and biological weapons; however, these problems are intimately connected with issues concerning the legitimacy of weapons in general. Guiding students on to discussing these issues will help to illuminate the more specific questions concerning chemical and biological weapons.

### Weapons Research

There are general ethical issues concerning weapons research, and whether nations can ethically justify this research. However, scientists and engineers encounter particular personal dilemmas concerning weapons research given that they have the opportunity to be directly involved in this research and possess the knowledge, skills and expertise to make this research a success. There are two separate questions here: Does the scientist or engineer have a duty to engage or refrain from engaging in weapons research? And when, if ever, is research into weapons justified?

- *Does the scientist or engineers have a duty to engage or refrain from engaging in weapons research?*

There are competing arguments concerning the ethical nature of weapons research; some writers argue that this research is unethical; on the other hand there are arguments that conclude that it is the *duty* of the scientist or engineer to engage in such research. Arguments against engagement in weapons research highlight the fact that wars are seldom justified and so the outcome of such research is likely to be used in unjust wars which are, by their very nature, unethical. Opponents argue that the engineer or scientist has a duty to engage in weapons research as that this is part of his or her duty to their country. Whilst this does not entail that weapons research is the *only* form of work that is ethically defensible (there are other ways of discharging one's civic duty) for a scientist or engineer, it does entail that there is nothing morally wrong or shameful for working for the defence industry. Whether individuals choose to work in the defence industry or not depends largely upon whether they regard defence research as ethically justifiable.

- *When, if ever, is research into weapons justified?*

Thinking about the ethics of weapons research involves thinking about what the purpose of this research is. Is the purpose to develop weapons which are progressively more capable of inflicting harm on larger numbers of people, or is the purpose to protect our nation from threats and discourage aggressive nations from using their weapons? These different purposes will make a difference as to how we assess the moral status of weapons research. Swyter\* says that possessing weapons capability and weapons research has three aims, given here in descending order of priority:

- **Non-proliferation:** We all benefit if fewer nations have any kinds of weapon.
- **Deterrence:** If we cannot persuade other nations to give up their weapons then having a weapons capability of our own may deter other nations from using theirs.
- **Limiting Damage:** If other nations are not deterred by our weapons capability then having such a capability means that we can adequately defend ourselves (or our allies).

Given these aims there may be a distinction to be made between disagreeing with war on ethical grounds, and disagreeing with weapons or defence research on ethical grounds. Although weapons are designed for use in war, they need not necessarily ever be employed to kill people so being against war need not entail being opposed to weapons research. For example, one could argue that not responding to the development of more sophisticated weapons by other nations would make war more likely; poorly defended nations are more likely to be attacked. A certain amount of weapons research is therefore necessary in order to maintain the balance of power between nations and avert the likelihood of war. This argument would only justify a certain amount of weapons research, however: a nation would be justified in developing weapons only to the extent that other nations hold these weapons. Any novel or innovative research that would not make war less likely would not be justified. An alternative view is to argue that nations have a right to defend themselves, and part of this right involves building up an arsenal which is large and sophisticated enough to provide an adequate defence, whether or not other nations have these weapons.

Most nations agree that a limited amount of weapons research is justified on grounds of deterrence and self-defence. However, this seems to lead to justifying the creation of an endless and increasingly brutal arms capability; if we are justified in staying one step ahead of the enemy, then where does this process end? We only have to think about nuclear weapons to see how dangerous this line of thought becomes. Some arguments questioning the legitimacy of chemical and biological weapons try and halt this process of reasoning.

### **Chemical and Biological Weapons**

Swyter, for example, argues that given the aims of non-proliferation, deterrence and limiting damage, chemical and biological weapons do not make the achievement of these aims any more likely than the possession of nuclear weapons already does. The only reason to think that these weapons might be justified is to argue that *only* by having a chemical and biological capability can we deter nations from using these same weapons. However, Swyter claims that there is no proof in favour of this hypothesis and that possession of nuclear weapons may be deterrent enough.

Moreover, there might be reasons to oppose such weapons because of their very nature. Chemical and biological weapons are often indiscriminate; in deploying these weapons it is not certain that civilians will not be harmed. People who disagree about the justification for war nevertheless tend to agree that civilian casualties ought to be avoided whenever possible in a war situation. Weapons that make civilians more likely are therefore to be avoided unless they offer significant other benefits. If chemical and biological weapons do not act as deterrents as Swyter argues then there are few, if any, unique benefits that they offer, and so their proliferation cannot be justified.

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- (iv) **You have a brother who is a member of the armed forces, currently stationed in Afghanistan. Does this fact affect how you view working for ABC? Should personal relationships affect your moral views in this way?**

This question concerns the role of conscience in our ethical decision-making process. Although many students may have already decided upon an ethical stance opposed to working in defence, there still may be those who would not rule it out. Often bringing in personal and emotional issues to a moral decision can greatly sway the outcome of our ethical deliberations. While this often seems like a natural reaction, it does raise the question of how far 'conscience' should affect our moral decisions.

### **Conscience as Personal Ethics**

'Conscience' is an ambiguous term, with one connotation being that of personal ethics or convictions, or those moral convictions that are most fundamental to one's identity. This sometimes leads to the thought that matters of conscience should not be interfered with, so personal are they in nature. However, just because an issue is a matter of conscience does not make it immune to scrutiny. For example, some Nazis may have felt the extermination of the Jewish race to be a matter of conscience but this can and should be regarded as morally repugnant, no matter how central this belief may be to someone. Beliefs that form part of someone's conscience will be central to their identity and should be questioned with sensitivity. If someone sees it as a matter of conscience to support, or oppose a war then it is legitimate to ask them (politely) to justify this view.

### **Conscience as Feeling**

'Conscience' can also be regarded as the emotion that accompanies certain actions; a 'guilty' conscience will accompany actions that one believes to be morally prohibited; a 'clean' conscience accompanies morally bad or neutral actions. Jonathan Bennett observes that people's consciences are unreliable guides to the morality of actions as you could feel bad while doing the right thing, and good about doing the wrong thing, if you are mistaken about what the right and the wrong things are. For example, if you believe (wrongly) that slavery is justified, then freeing a slave would be accompanied by a feeling of guilt. Conscience should therefore only be used as a guide to what is right or wrong; sometimes it is best to go with 'gut feelings' but sometimes feelings can cloud our judgements.

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## Student Handout

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Here are some of the issues that were raised by this case study.

- **“If I don’t do it, someone else will”**

The thought is that refusing a job in the defence industry is pointless because it will have no effect on whether the research gets done or not; the job will be given to a different candidate and the outcome will be the same as if you had taken the job anyway.

The philosopher Bernard Williams discusses this issue\* and says that this argument does not justify taking the job. In the case of refusing the job, you are refusing to take part in an activity that you feel is unethical. In the case of taking the job, you are compromising your principles. It does not matter that in the former case, someone else will do the job anyway, what is important is that you do not do the job: the fact that someone else is willing to perform an unacceptable action does not make it acceptable for you to do it. To take a comparable but extreme example; there may well have been Nazi officers who refused to take part in the extermination of Jews because they deemed it morally unacceptable. For soldiers who did participate in this atrocity, it is no defence for them to say that if they hadn’t done it, then there were plenty of other soldiers who would have.

- **The Justification of War**

Views concerning the ethics of war take for granted that war is a bad thing; it involves death and injury to human beings and we take harm to humans to be a fundamentally bad thing. However, even if it is granted that war is fundamentally bad, there may still be reasons for thinking that war can sometimes be justified. ‘Just War’ theory holds that a war is justified if three conditions are fulfilled:

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Just wars must be waged for the right reasons as well as in support of just causes. Good reasons for going to war could include protecting the rights of civilians and restoring peace to a state or region, bad reasons could include lust for power, greed or hatred of the enemy. It is possible that a war be fought for a just cause but from the wrong motives. For example, people have argued that the recent invasion of Iraq may well have been fought for a just cause; the ousting of Saddam Hussein from power but from the wrong motives; desire for retribution for the 9/11 attacks and the need to preserve the supply of oil from the Middle East. The war in Iraq is therefore an unjust one according to such arguments.

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\* Smart, J.J.C. & Williams, B. (1973) *Utilitarianism: For & Against*, Cambridge: CUP: 93-118.

## Weapons Research

There are general ethical issues concerning weapons research, and whether nations can ethically justify this research. Engineers also encounter particular personal dilemmas concerning weapons research given that they have the opportunity to be directly involved in this research and possess the knowledge, skills and expertise to make this research a success.

- *Does the scientist or engineers have a duty to engage or refrain from engaging in weapons research?*

Arguments against engagement in weapons research highlight the fact that wars are seldom justified and so the outcome of such research is likely to be used in unjust wars which are, by their very nature, unethical. Opponents argue that the engineer or scientist has a duty to engage in weapons research and that this is part of his or her duty to their country. Whilst this does not entail that weapons research is the *only* form of work that is ethically defensible (there are other ways of discharging one's civic duty) for a scientist or engineer, it does entail that there is nothing morally wrong or shameful for working for the defence industry.

- *When, if ever, is research into weapons justified?*

This depends on the reason for this research. Hans Swyter\* argues that possessing weapons capability and weapons research has three aims (given here in descending order of priority):

- **Non-proliferation:** We all benefit if fewer nations have any kinds of weapon.
- **Deterrence:** If we cannot persuade other nations to give up their weapons then having a weapons capability of our own may deter other nations from using theirs.
- **Limiting Damage:** If other nations are not deterred by our weapons capability then having such a capability means that we can adequately defend ourselves (or our allies).

Although weapons are designed for use in war, they need not ever be employed to kill people. It can be argued that not responding to the development of more sophisticated weapons by other nations would make war more likely; poorly defended nations are more likely to be attacked. Weapons research is therefore necessary in order to maintain the balance of power between nations and avert the likelihood of war. This would only justify a certain amount of weapons research, however: only to the extent that other nations hold these weapons. Any novel or innovative research that would not make war less likely would not be justified.

## Chemical and Biological Weapons

Given the aims of non-proliferation, deterrence and limiting damage, chemical and biological weapons do not make the achievement of these aims any more likely than the possession of nuclear weapons already does. The only reason to think that these weapons might be justified is to argue that *only* by having a chemical and biological capability can we deter nations from using these same weapons. Swyter claims that there is no proof in favour of this hypothesis and that possession of nuclear weapons may be deterrent enough.

There also might be reasons to oppose such weapons because of their very nature. Chemical and biological weapons are often indiscriminate; in deploying these weapons it is not certain that civilians will not be harmed. People who disagree about the justification for war nevertheless tend to agree that civilian casualties ought to be avoided whenever possible in a war situation. Weapons that make civilians more likely are therefore to be avoided unless they offer significant other benefits. If chemical and biological weapons do not act as deterrents as Swyter argues then there are few, if any, unique benefits that they offer, and so their proliferation cannot be justified.

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\* "Political Considerations and Analysis of Military Requirements for Chemical and Biological Weapons", *Proceedings of the National Academy of Sciences of the United States of America*, (1970) **65(1)**: 261-270.

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## Further Reading

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### Conscience

- Bennett, J. (1974) "The Conscience of Huckleberry Finn", *Philosophy* **49**: 123-134. Also available as a pdf file via the 'other articles' link on Jonathan Bennett's website [http://www.earlymoderntexts.com/f\\_jfb.html](http://www.earlymoderntexts.com/f_jfb.html)

### Integrity

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- Swyter, H. (1970) "Political Considerations and Analysis of Military Requirements for Chemical and Biological Weapons", *Proceedings of the National Academy of Sciences of the United States of America* **65(1)**: 261-270.

### Newspaper/ Web Articles

- BBC religion & ethics webpage: <http://www.bbc.co.uk/religion/ethics/war/>
- British Humanist Association article about war: <http://www.humanism.org.uk/site/cms/contentviewarticle.asp?article=1242>
- Home page of the Organisation for the Prohibition of Chemical Weapons <http://www.opcw.org/index.html>

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<http://www.engsc.ac.uk/downloads/scholarart/ethics/abcdefence.pdf>