

Science and the Morality of Weapons Research

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INTRODUCTION

If it were not for *weapons research*, there would be no predator drones or smart bombs or improvised explosive devices or assault rifles. The insurgents in the Middle East and elsewhere would have no means to fight, and there would be no wars, large or small. Even more importantly, there would be no vast arsenals of thermonuclear weapons capable of ending much of the sentient life on the planet. The world would then most certainly be a safer place. But weapons research is not something new: the gunpowder weaponry of the early modern period was the product of research, as were the torsion catapults in Greece at the time of Philip and Alexander of Macedon. Whatever else is true about weapons research, it is clear that it introduces new (or improved) means of killing and destruction, and this is sufficient to define the activity. For instance Forge has given the following, generally accepted, definition: Weapons research is research carried out with the *intention* of designing new weapons, or improving the design of existing weapons, or designing or improving the means for carrying out activities associated with the use of weapons (Forge, 2013: 14., emphasis added). Weapons research would appear to be a very weighty matter, something that one might imagine philosophers, and others who think about such things, would have had a lot to say; surprisingly, not much at all has been written on the subject, though some explanation of this neglect will be given in this chapter.

The main issue for *ethics* and weapons research centres on the ethical or moral evaluation of the activity: Is it *ever* morally justified to design the means to kill, harm and destroy, and if so, under precisely what circumstances? Turning to science and its relation to weapons research, the question here is the *role* that science plays in weapons research. Perhaps weapons research is a wholly (applied) scientific endeavour or perhaps science is a part of weapons research? Bringing ethics back in, if weapons research is deemed morally wrong, then is it the case that *whatever* role science plays is also wrong? To talk about science playing a role here means in practice that it is scientists, people, who are undertaking actions that appear morally suspect. To answer these questions, four examples will be given which will clarify the roles that science can play in weapons research. For instance, if weapons research itself is understood as applied science, as it is by Arrigo for instance (Arrigo 2000: 303), then one might expect this to entail the application of theory to the design for new weapons, for true or radical innovation.

There are other ways in which science can inform weapons research, as will be seen presently. The first of the three examples show how science, both as theory and as method, can directly inform weapons research in the sense that the intention of the work in question was to produce new or improved weapons. The fourth example is different. It concerns *dual use* research, work that is not motivated by the desire to produce weapons but nevertheless provides a basis for doing so. This is an issue of current concern, so is worth discussing here. Before moving on to these examples, some general, and very brief, comments about ethics and the way it can apply to an intellectual activity such as science are in order.

This is appropriate because it cannot be assumed that the audience for the present topic is familiar with philosophy or ethics; but it is necessary to have a framework.¹

BACKGROUND

A straightforward way to describe ethics is to say that it is a study which deals with what persons ought and ought not to do. It is thus to do with the choices, actions and behaviour of mature competent people. Some of the things that people do do not affect others, other humans, other sentient beings, in any significant way and hence these do not come under the purview of ethics. Those actions that do affect others are, however, open to moral or ethical evaluation: are they right or are they wrong? To resolve that question, one needs to appeal to a moral system. All such systems forbid certain actions, namely those that inflict unjustified harm on others. This is surely intuitive and obvious: *no one* wants to be harmed. It is almost by definition that no sentient being wants to feel pain - assuming that the pain does not indicate that some medical treatment is working or some such – and to be in pain is one form of being harmed.

Some moral systems require people not only to refrain from harming others but also to provide some positive benefit for them. Jeremy Bentham and John Stuart Mill, the nineteenth century English philosophers, famously believed that one ought to strive to increase the amount of happiness in the world. However, morality is supposed to be *impartial* in the sense that it forbids discrimination in regard to moral action. Prohibitions on harming do not end with family or friends or community or country: *nobody* should be harmed, no one at all. Some critics of the style of morality advocated by Bentham and Mill have pointed out that it is impossible to increase the amount of happiness in the world impartially: no one can make everyone happy! Just how serious this objection is is a matter of ongoing debate. But it is only necessary here to note that this kind of moral system shares the prohibition on harming with the former kind: for the topic at hand, it is clear that the moral evaluation of weapons research, whatever else it might involve, will not be such as to see it as an activity which aims to increase the amount of happiness in the world.

When a person does something that contravenes the dictates of morality, they are guilty of moral wrongdoing. If one person harms another, then this is obviously a bad thing from the perspective of the victim, but what of the agent, is it also somehow bad for her? The short answer is that it is bad for the agent, in the sense that performing immoral acts attracts the disapprobation and distrust of others, although this is not an easy idea to explain when space is limited, as it is here (see Forge 2008: 92-93) And we also need to ask if all actions that harm attract such moral censure or only those that are intentional. All intentional acts are such that the agent foresees the outcome, assuming that matters do turn out the way they were planned, but not all foreseen outcomes are intended. A dentist who drills her patient's tooth foresees that it will hurt, and in the sense harm the patient, but she intends to save the tooth not cause harm. This raises the issue of the justification of actions that knowingly but unintentionally cause harm. Some such action can be justified, but others cannot, as is the case for dual use research.

Most philosophers do not believe that the rules of morality are absolute and cannot be broken in any circumstances. For example, most accept that a moral rule such as “Do not cause pain” has justified exceptions. Clearly, a dentist who inflicts pain on her patient to save his teeth has not done something morally wrong – provided that the patient understands and assents to the treatment. Also, it is generally agreed that it is permissible to cause pain in self-defence, if that is the only way to defend oneself. This leads to the view that *justifiable* exceptions to the overall moral prohibition against harming will be such as to show that the harm inflicted will prevent other harms. Just how this is worked out will vary from

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