

# The Virtual Sky is not the Limit: Ethics in Virtual Reality

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## **Introduction: What is VR?**

Virtual reality (VR) is the name applied to one of the latest trends in high technology research. In essence it is the delivery to a human or several humans of the most convincing illusion possible that they are in another reality. This reality exists only in digital electronic form in the memory of a computer or several computers. Hence it is accurately described as 'virtual'. Its reality stems from the convincing nature of the illusion, and most importantly for moral considerations, the way in which human participants can interact with it. If one were to ask for a demonstration of VR, one would probably be asked to don a strange looking helmet. Inside this helmet would be a number of small screens on which pictures are projected immediately in front of the wearer's eyes.

to a human being requires a computer which can handle a vast

course, such a 'virtual laboratory' will be limited in its ability to give practical familiarity with the equipment and techniques. However in many areas, the handling of radioactive and other dangerous materials being a conspicuous example, it will have clear advantages. Even less obvious may be the usefulness of using VR to let users 'enter' a period of history. This would provide a useful way of teaching history, either in a school or a museum. The use of VR is already proving of interest to creative artists. Anne Barclay Morgan (Barclay Morgan 1992) has pointed out that VR (or cyberspace as it sometimes called in this area) is a medium which offers possibilities such as interactive paintings and sculptures and plots which can be changed by the audience. In addition to training and the acquiring of factual information VR will provide a useful tool for education. It is, in many ways, the ultimate development of Seymour Papert's 'microworlds' (Papert 1980). The attractions of being able to learn through doing, particularly in co-operation with others will soon be seen by educators. Another major area where VR will sooner or later find successful application is in the field of entertainment. This again, is an application area which is essentially an extension of existing technologies and practices. Just as the flight simulator can be seen as a training precursor of VR, so can the cinema, video game, and computer-game be seen as entertainment precursors of VR. Already arcade games are moving towards military VR in terms of the realism of their displays and the richness of interactions possible. As the technology improves there will be a strong market for VR in arcade and home entertainment. The development of the entertainment market depends on the technology achieving a sufficiently low cost and this may take slightly longer than the developments discussed in the last couple of paragraphs. However, there is every good reason to believe that VR used for entertainment will become commonplace within a few years. Two routes of development are possible. Firstly, (relatively) low-tech, low-cost VR could become available for use in the home. Secondly, (relatively) high-tech, high-cost VR might be set up in population centres and hired by the minute by large numbers of users. These two routes are not mutually exclusive and may well be able to co-exist, just as at present many people both visit

victim of intrusive advertising and to ensure that the advertising does not give a totally false impression of the value of the product to him. This may prove somewhat more difficult in the case of VR than in television or film because of the ability of a VR designer to tailor the advertising to the needs and desires of an individual. The present day advertiser tends to work with media that are aimed at groups of potential customers. A VR designer, by contrast, can easily take account of choices made by a user and use those choices to target more effective advertising techniques at a particular individual. However, there are codes of practice in place for television and film and there is no obvious reason why these should not be immediately extended to cover VR. In the light of the sort of problem discussed in the last paragraph, improvements to these codes may well prove desirable. It is important to recognize that this constitutes no argument against using what already exists now. Most public concern is likely to be voiced with respect to the use of VR in entertainment. The following section will therefore take the entertainment applications of VR as typical, though the conclusion will attempt to draw all three application areas together. It is the entertainment application area which will be most likely to be experienced by the general public. In addition, there are important ways in which the use of VR in entertainment is likely to be less tightly controlled than in training. On the other hand, it would seem that with VR as entertainment the sky is the limit.

## **The Ethical Implications of VR**

Doubts have been voiced about the implications of the sort of freedom that can be provided by VR. In particular, there are worries about users having the freedom to commit rape and murder within VR. Before examining such worries in detail it is worth observing that this is an ethical rather than technical issue. It is technically possible to construct

porary crisis in philosophy. There is evidence that philosophical problems are raised by VR. In particular, VR (at least in its most hyped versions) closely resembles the philosophers' notion of 'the experience machine'(Nozick 1974, Glover 1984). Beardon is correct to point out that debates about VR can aggravate cultural and philosophical splits in contemporary society, however this paper takes his conclusion that the best response to this is a pragmatic one. It is sometimes even argued that morality itself no longer has any meaning with the rise of modern secular societies. To a certain extent it is simply the case that morality has always been in a state of flux. That is to say that there is a process of general debate on moral questions which probably rarely approaches consensus. This is not the place to attempt in any way to expand on this sort of debate. Instead it will be argued that there is an immediate need to resolve certain questions about what is morally acceptable in VR. These questions can be resolved by applying familiar principles. The doubts mentioned at the start of this section are about the impact of VR on human beings and the debate is therefore easiest to resolve when seen as a continuation of similar debates about the impact of older technologies on human beings. A further group of misunderstandings surrounds questions as to who should take responsibility for discussing and resolving the moral questions surrounding new technology. The (usually unjustified) belief on the part of laymen that they are incapable of understanding the technology makes them reluctant to enter the debate. The (sometimes unjustified) belief on the part of technologists that moral questions are something they neither know nor care about makes them reluctant to start such debates. The position is further complicated by the fact that those designers of VR who set themselves high ethical standards need support, preferably from the public at large. Without this sort of support they will not be able counter the arguments of customers or managers who demand morally dubious features in VR. A less satisfactory, but more practical alternative may be to form professional organizations and draw up codes, as has been done with many other forms of technology. However this takes time and there is a certain urgency to these matters.

## **Virtual Reality: The Case for Restrictions**

VR is a technology which can offer significant benefits in training applications. In entertainment applications, it is probable that we could feel at least as positive about VR as we do about visual art or cinema, for example. In addition there are a number of arguments related to traditional views of the the freedom of the individual. These take as central the technical claim that what happens within a VR is truly private. (At least in the case where there is only a single user). If one believes that individuals should be free to do absolutely anything which does not affect the freedom of others, then a VR would seem to be the ideal place to do such things. It may not always be completely true that others' freedoms are unaffected by what one does within VR. In a multi-user competitive VR winning will involve someone else losing, for example. It is important not to confuse this issue. What one does within a single-user VR does not directly affect others and can therefore be regarded as private. (Indirect effects will be considered in the

following.) In a multi-user VR, one can carry out actions which directly affect other users, firstly in a 'virtual' sense. The 'virtual' nature of these actions clearly reduces their moral significance, but may not completely remove it. The degree to which a 'virtual' offence is morally reprehensible depends on (among other things) its believability to the user against whom it is committed. This would seem to be an area where empirical research is needed. Not all the offences which might be committed within a VR are necessarily 'virtual' in the above sense. The nature of interaction in a multi-user VR renders physical offences 'virtual' in this sense, but there is a whole range of non-physical offences such as slander, libel, and verbal degradation which is just as 'real' when committed within a VR. This is another area where the correct moral response is not difficult, but there is some urgency in ensuring that existing provisions are extended to cover the area of VR. A more difficult set of moral problems is raised by the case of the single-user VR. If we

different ways. On the one hand it might be seen as an indication that the use of VR had delayed the real performance of the morally reprehensible act. On this view the pressure to perform such acts might sometimes become too great for the cathartic effect of VR to work. On the other hand, the correlation might be interpreted as showing that performing events in VR often leads to performing them in reality. There is little prospect of resolving this debate in a scientific fashion. However, it would be extremely foolish to dismiss this argument simply because we can see no way of testing its major claim. With many Western societies showing both a rise in civil violence and crime and an increase in the portrayal of such actions by entertainment media, there is at least the possibility of a causal link. There is also a possibility that VR might pose more of a problem than previous more 'passive' media. This is because it involves physically 'practising', in an important sense, the morally reprehensible acts which we would not wish performed in reality. It may well be the case that some of 'behavioural conditioning' can therefore more readily be produced by VR than by previous technologies. If there is such a process, there should already be reliable, but secret, data emerging from the area of military training. Perhaps a 'peace dividend' for psychological researchers could be in the form of unrestricted access to this data. The difficulty of resolving the empirical questions should not cause us to ignore the problem. Morally speaking, it behoves scientists to commit a vast research effort to devising some way of answering these empirical questions. In the absence of such hard evidence, many people will simply assume that the answer to the empirical question must be in line with their personal prejudices. A more realistic response to this argument is that, not only do we not know at present, but we are

The widespread influence of views similar to Mill's is likely to form the basis of opposition to any restriction on VR based on this argument. It must be concluded, therefore, that this argument



#### 4) 'The designers of VR can signal social approval and disapproval'

This argument takes note of

of widespread social debate<sub>1</sub>. Urgency of itself need not entail poorly thought out responses. This paper makes two, fairly simple, practical suggestions. Firstly there is the immediate need to extend the age-based censorship on media such as film and television to all foreseeable interactive media, including VR. Secondly it encourages public (which might entail legislative) support of VR designers in establishing high ethical standards in their work. More might well be needed, but there are greater dangers in procrastination than in partial action. Solving the immediate problems is, of course, a beginning rather than a conclusion to debate on the ethics of VR. That is an inevitable consequence of the nature of morality. Since morality entails unconstrained choices by human agents, the idea of a code (or any similar device) removing the need to think through the moral implications of our choices is impossible. This observation applies equally to the idea that VR designers can simply outlaw immoral behaviour within their system. Since the users are effectively denied the choice of whether or not to behave in a moral fashion, their behaviour cannot therefore be described as moral. Ideally, therefore VR should allow to users to behave in ways as wicked or as saintly as are possible in reality. Ideally again, the consequences of those behaviours should be as close as possible to reality. To constrain VR users is to deny them the chance to be moral within VR. It should be noted that this neutral position is most certainly not attained by the current crop of arcade games which allow user to indulge in extreme violence tlymoral ain extremeexprathe099.349(eha)9990.6(simi8r)5

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