Sample A

Title: Can Machines have Minds?
Part of the syllabus to which it relates: The Core Theme—Could animals or machines be persons?
Word Count: 1644 words
Source material: Picture and text extract from 'Troublesome Trucks' James the Red Engine by the Rev.W.Awdry.

Seeing "James the Red Engine"[1] cry, prompted me to ask whether a machine could ever actually experience emotion, which raises the centuries-old philosophical question: Can machines have minds? The immediate, instinctive reply to this question by nearly all people is a resounding 'No', and people develop a variety of reasons to maintain the distinctiveness of the human (and some 'higher' animal) ability to think. Is it just vanity that provokes us to argue against the idea of machines having minds? Or is it conceivable that machines have the power to think in the same way that we do? In order to answer this question it is necessary to determine what the human mind really is and for this we need to examine both dualist and monist theories. The problem here is how to ask if machines have minds when we are unsure of whether we have them ourselves. I therefore propose to answer the question, Can machines think like us?

Let us first examine the natural instinctive argument that most will support. It seems illogical to believe that machines have minds, as indeed we have trouble projecting minds onto everything other than our own species and animals. Some even believe that animals are completely mindless. Furthermore if we create a machine then it would seem that it is our minds that have created programs for the machine, not the machine that thinks them up itself. People would like to think that we are entirely different to machines though in fact the human body is just an extremely complicated biological machine. Nonetheless most people will distinguish between a biological 'machine' and a fabricated machine whose existence is dependent on the actions of a human creator.

A dualist could argue that it is true to say the body of a human is a complicated machine, but the mind of a machine is a wholly different entity. A machine is a purely physical system, this cannot be denied, and in this way is the same as our physical body. But our conscious experience is not a physical event, so the mind could not be described as physical. It follows that a machine, as a purely physical thing would not be capable of conscious experiences or thought. As the mind is not physical we cannot just construct a mind and attach it to the machine's mechanism as another part. Descartes attempted to prove the dualist theory that mind and body are separate, he believed he could "feign" that his body did not exist, but he was unable to do the same when thinking about his mind. He therefore concluded that mind and body are not the same thing. I feel that this is not a valid argument as in reality I believe it is possible to believe our minds do not exist. For instance, who is to say that my mind is not a part of a system of millions of minds? What makes me sure of my independence and singularity? One could also take the determinist line and protest that each and every decision we

make has already been pre-programmed into us through the activity of our genes. Alternatively, our 'decisions' arise through the cause and effect activity of chemicals and electricity in our brains, making our mental life really a phenomenon of physical brain states which are as determined as the motion of snooker balls on a snooker table – or trains on a train track! In this way we are mindless, non-thinking machines. For the purpose of the argument I feel we must ignore this point.

Some thinkers believe machines and people are different due to the fact that machines have been programmed and are pre-determined in an obviously different way to humans. People on the other hand can think for themselves, come up with new ideas and act spontaneously, Lady Lovelace believed, "The Analytical Engine has no pretensions to originate anything. It can do whatever we know how to order it to perform"[2].

John Searle's 'Chinese room' argument attempts to explain the difference between working machines and the human mind. Let us imagine that an English speaking man who knows no other language has been put in a small room. On the wall is a letter box and on the floor is a book of rules and a note pad. Every so often a piece of paper with Chinese writing is passed through the letterbox. The rulebook explains how to process the writing, it tells the man to copy certain characters onto the note pad. The book gives a code informing the man what should be written according to what is on the paper initially sent through the letter box. Once he has decoded the message he sends the reply back through the letterbox as an answer to the questions he received, obeying the rules contained in the book. As time goes by the man becomes more and more accomplished at his job. To a Chinese onlooker it would seem that the person in the room was a fluent Chinese speaker. Searle compares the activity of this man to the activity of a machine or computer. The man did not need to understand the Chinese to be able to give a perfect answer. In this way the computer does not understand or comprehend what it is doing, it only processes information. Searle said that the man (and hence machine) lacked 'intentionality' and possessed only a syntactical ability as opposed to a semantic one. This means that the machine is unable to be aware of the meaning of the information it processes even though it uses correct grammar to communicate with. Simply producing output in response to input according to certain rules does not constitute human thought. Searle uses this argument to refute the so-called 'Strong Artificial Intelligence' position of some thinkers who believe that computer language does more than just represent human thought (via programming); rather, it really *is* human thought.

A thought experiment arguing against Searle's reasoning and supporting Strong AI is the Turing test. Alan Turing, who helped develop the first modern computers, claimed that in future years it could be possible to create a machine that had a mind. Turing imagined the following: There is an interrogator, a machine and a person. The interrogator is positioned in a separate room to the machine and the person. The person and machine are labelled either x or y, the interrogator is unaware which is x and which is y. The interrogator must ask x and y questions, his aim is to guess which is the machine and

which is the person. The aim of the machine is to make the interrogator guess that the person is in fact the machine; the objective for the person is to help cause the interrogator to guess correctly. Turing believed that in the future it would be quite conceivable for a machine to trick the interrogator more than seventy percent of the time. Turing believed that this proved machines were capable of thinking. The problem with this argument is that just because the computer is capable of fooling the interrogator into believing it is human does not directly correspond to the conclusion that the machine is a thinking thing. It seems more likely that the computer has merely been programmed with the correct answers to use and in reality has no understanding of what his answers actually mean. Professor Jefferson argued, "Not until a machine can write a sonnet or compose a concerto because of thoughts and emotions felt, and not by the chance fall of symbols, could we agree that machine equals brain—that is, not only write it but know that it had written it. No mechanism could feel (and not merely artificially signal, an easy contrivance) pleasure at its successes, grief when its valves fuse, be warmed by flattery, be made miserable by its mistakes, be charmed by sex, be angry or depressed when it cannot get what it wants."[3] Having awareness and knowledge of the content and meaning of thought is what Searle describes as 'intentionality' and is a feature of human thinking which machines could never replicate because of their very nature as fabricated, artificial entities.

In conclusion, I feel that it seems impossible for machines to ever have minds. The mind appears to be a purely metaphysical thing that could not be transplanted into a machine. Furthermore the process that a machine goes through is not thought but programming. Everything the machine knows comes from the maker. To say that machines have minds is like saying that even if an evil daemon controlled and planted every thought in our heads, we would still be free thinking beings with conscious minds. Personally I find it hard to conceive the monist approach, though some attempts are made to explain the mind from a monist perspective, which nonetheless gives the mind a special position that could not merely be recreated by fabricated, artificial machines. Such an approach is taken by those who see the mind as an 'emergent property' of the physical composition of the body (specifically brain). A single molecule of water could not be wet or hot or cold; it is only on combining with many millions of molecules in a complex bundle that properties emerge that we associate with water. So with the mind – our freedom and intentionality emerge from the very complex arrangement of our organic bodies, which are unique to humans and animals and could not be shared by machines. For most people using an argument from common sense it feels that our minds are free and unattached to our physical bodies. I therefore conclude that a purely physical man-made machine can never have a real mind of its own. And thus in reality it would make it impossible for James the Red Engine's "thought"[4] and emotions to actually exist.

Footnotes:

[1] James the Red Engine. The Rev.W.Awdry. Edmund Ward (Publishers) Ltd 1945. Surrey 1984.
[2] Sited at http://www.btinternet.com/~glynhughes/squashed/turing.htm. 12th March 2005. Lady Lovelace's Objection.
[3] A. M. Turing, Computing machinery and intelligence. In: D. R. Hofstadter and D. C. Dennett, *The Mind's I: Fantasies and Reflections on Self and Soul* (Penguin, Harmondsworth, 1982). Sited athttp://jimmy. Qmuc.ac.uk/jisew/ewv22n1/REFS.HTM. 12th March 2005
[4] James the Red Engine. The Rev.W.Awdry. Edmund Ward (Publishers) Ltd 1945. Surrey 1984

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