Defeasible Reasoning [1]

Defeasible reasoning is most often used in computer science and the development of artificial intelligence, although all science uses it on occasion.

The easiest way of thinking about it is that it is not as rigorous as deductive reasoning [3], although that is a simplification.

It is the process of accepting an argument because of what normally happens. Defeasible reasoning is a useful tool when many facts about a situation are unknown.

An example of defeasible reasoning would be the statement that 'The sun will rise tomorrow'. This statement would not stand up to rigorous reasoning, because the earth could stop turning or the sun could suddenly explode into a nova. The only way that this statement would be found to be supported is when the sun actually does rise.

These are, of course, facile arguments and there is no reason to suggest that the sun will not continue to shine as it has done for billions of years. Therefore, defeasible reason is perfectly adequate. Defeasible reasoning [4] often assumes that certain facts are true, especially things that are unstated or unsaid.

Imagine that you are taking a certain medicine because a doctor told you to. You know nothing about the research behind the drug, or how effective it is, but you assume that the long years of training required to be a doctor means that he knows best.

Some philosophers go as far as to say that there is actually no such process as deductive reasoning [3]. We can never be fully aware of all the facts, or be certain that our initial premises are correct. Therefore, they argue that all reasoning is defeasible.

One example is 'Big Bang Theory'. Many theories of physics are built around the assumption that the big bang was the start of our universe and is where the laws of physics were formed. Deductive reasoning has led to many mathematical and physical proofs explaining the nature of the universe.

If, however, the big bang is proved incorrect, then all of these theories fall down. This is why it may be better to use the term defeasible reasoning.

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