Logical fallicies

Term Paper K. Wesley Jarboe I February 8, 2011 Logical Fallacies Before we can understand what a logical fallacy is, we establish some common background information for the purposes of accurate communication. There are two types of reasoning, inductive and deductive. The primary difference between the two is that inductive reasoning automatically allows for an appeal to probability, the assumption that what could happen will happen, while deductive reasoning considers this a logical fallacy.

Thus for the purposes of this document we only need to examine deductive reasoning because it has the full list of logical fallacies while inductive reasoning short by one. In deductive reasoning the proponent of an idea attempts to prove that the one solution or conclusion is the only one that is possible given the identified facts or premises. For instance in the above paragraph I stated the following premises: 1. Inductive reasoning allows for solutions that would be considered fallacious in deductive reasoning 2.

The purpose of this document is to examine logical fallacies rather than types of reasoning Based on these premises I drew the conclusion that we only need to discuss one type of reasoning and that one type should be deductive reasoning because it has the full list of logical fallacies. Among many scholars this is called an argument. It is a set of premises and a conclusion that can be drawn from those premises. And this is deductive reasoning because it attempts to eliminate all other options rather than deciding which is the most probable.

In the ideal circumstances the premises will represent what is known and the conclusion will relate to the premises in such a way as to be the only possible option. In practice this is rarely the case. The two main reasons for

lack of accuracy in problem solving by deductive reasoning are factual fallacies and logical fallacies. Factual fallacies are when the premises are actively false. To say that factual fallacies are the subject of this paper would be a factual fallacy. Logical fallacies, on the other hand, assume that the premises are true but do not support the conclusion.

I'll use mathematics to illustrate the difference between factual and logical fallacies. If someone says that there are two pencils in this bag and two in another bag and therefore we have five pencils, there are two possible errors that could have led the person to this conclusion. If there were actually three pencils in one bag then the error would be a factual error as the person miscounted the number of pencils in one of the bags and one of the premises is false. If both bags contain two pencils however, then the person has committed a logical fallacy in that his premises are true but he has added incorrectly.

And, while most people assume that their logic is sound, logical fallacies are far more common in every day life than factual fallacies. Many people have not even considered all of the many types of logical fallacies to be capable of eliminating all of them from their arguments. The Nizkor Project [1] lists 42 types of logical fallacies, in a single category, on their website. Wikipedia [2] by comparison lists more than a hundred types of logical fallacies in two major categories and several sub-categories.

Other resources list varying numbers of types of logical fallacies. So we can conclude that there are many types of logical fallacies and that there is some dispute on how they should be defined and categorized. Wading through this muddle of information can be a daunting task until one learns that the

concept of logical fallacies apply to all humans including the humans who produce lists of logical fallacies. Once the person realizes that the people making or presenting the lists of logical fallacies the person can take a moment of brief comfort.

But that moment of comfort is usually short lived however because the person then realizes that he/she, the reader, is also subject to the miasma of logical fallacies. That can cause the initial feeling of dread to turn to sheer terror. So let's look at some of the types of logical fallacies. The website www. logicalfallacies. info [3] divides logical fallacies into three categories. The categories are " fallacies of relevance, of ambiguity, and of presumption. "[3] Fallacies of relevance come in two major forms with a host of variations on the theme. The two major forms are ad hominem or personal attacks, and irrelevant appeals.

Ad hominem fallacies are based on attacking the person presenting the argument rather than the validity of an argument. One of the most common ad hominem attacks is done by lawyers. If the person presenting the legal argument doesn't have a law degree then many lawyers will attempt to discredit the person's argument, not on any logical fallacy of the argument, but simply by saying that the person isn't qualified to present such an argument. These attacks tend to be very effective, not because of the validity of the argument, but because of the extensive logical fallacies that many people commit without realizing it.

It is hard to discredit a line of reasoning when that line of reasoning produces a correct answer eighty percent of the time, even though the method of reaching that correct answer is logically flawed. And thus the lawyers

continue to get away with committing ad hominem logical fallacies. Irrelevant appeals are a different but related form of logical fallacy. The irrelevant appeal attempts to appeal to the authority of some entity which may or may not be capable of presenting authoritative information that is relevant to the premises and/or conclusion.

Continuing the example of lawyers above, let's say that the person presenting the argument manages to convince the lawyer to listen to the argument despite the fact that the presenter doesn't have a law degree. The lawyer could then cite legal precedents which may or may not be relevant to the question. For instance the state's attorney in the Miranda case most likely cited the fact that other courts had accepted confessions in the past regardless of how those confessions were obtained and attempted to claim some type of authority of those courts to over rule the plaintiff's arguments.

Luckily for us the US Supreme Court saw through logical fallacies such as that and now we can no longer be tortured until we're willing to confess to stealing green cheese from the moon by law enforcement authorities. Fallacies of ambiguity also come in two varieties. The varieties are accent fallacies and equivocation fallacies. Accent fallacies regard changing the meaning of a sentence by changing which words in the sentence are accented. Even a sentence as simple as " That's nice" can have several different meanings depending on which word is emphasized.

Equivocation involves words with multiple meanings. For instance consider this example quoted from www. logicalfallacies. info: 1. The church would like to encourage theism. 2. Theism is a medical condition resulting from the excessive consumption of tea. Therefore: 3. The church ought to distribute

tea more freely. Most people don't realize that the word " theism" has more than one meaning. And if a person didn't realize this then the above argument might make sense to that person. Both types of fallacies of ambiguity involve misunderstanding of the meaning of the premises.

As in the argument presented above the premises are correct as far as they go. But the reader may not realize that the premises are not relevant to each other and do not support the conclusion. The third category of logical fallacies is fallacies of presumption. Fallacies of presumption come in three basic varieties, false dichotomy, complex questions, and circularity. False dichotomy, also called false dilemmas or bifurcation fallacies in some cases, is when the problem is artificially limited to fewer options than reality offers. For instance consider the question " Are you going to admit that you're wrong, or what? This question limits the responder to being wrong and admitting it, or being wrong and not admitting it. The question eliminates the possibility that the responder might not be wrong. This is false dichotomy. Complex questions are questions that assume some information when the question is asked. For instance let's consider the question Are you still drunk? The question assumes that the responder was drunk in the first place, which may not be the case. If the responder wasn't drunk to start with then the person asking the question has committed a complex question fallacy.

Circular reasoning is when the one or more of the premises includes the conclusion. Consider this example quoted from www. logicalfallacies. info: 1. The Bible affirms that it is inerrant. 2. Whatever the Bible says is true. Therefore: 3. The Bible is inerrant. While I personally believe the Bible is inerrant, I recognize that this particular line of reasoning is flawed. The

second premise is effectively the same as the conclusion therefore anyone who accepts this as a premise is automatically going to accept the conclusion. The scary part is that people actually do this stuff. In conclusion logical fallacies are sneaky.

They creep in on us when we least expect it. Even our most strongly held beliefs must be examined for logical fallacies or we risk being the one in the wrong. Bibliography: 1. http://www. nizkor. org/features/fallacies/ The Nizkor Project is a group that attempts to refute arguments that the holocaust never happened by pointing out logical fallacies in those arguments. As such they have become one of the world's foremost research teams on logical fallacies. 2. http://en. wikipedia. org/wiki/List_of_fallacies Wikipedia is an online open source website that provides information to users free of charge.

It is open source in that anyone can modify the contents. Ostensibly this allows all viewers to check the accuracy of the information against other sources. Supporters of Wikipedia claim that it can't be too far off with a hundred million people per day checking the accuracy of its data. Detractors counter that if viewers knew the information they were looking for then they wouldn't be looking it up, and conclude that editing by viewers is fallacious. For the purposes of this document Wikipedia is considered a secondary or supporting source of information but will be used as a primary or stand-alone source of information. . http://www. logicalfallacies. info/ This website provided me with an efficient method of categorizing logical fallacies. 4. http://www. theskepticsguide. org/resources/logicalfallacies. aspx This website is dedicated to proving all religions (or possibly just Christianity) by pointing out (alleged) logical fallacies in religious beliefs. While their ideas on

religion contain some logical fallacies in the opinion of this writer, their knowledge of logical fallacies seems extensive.