The Logic of Illogic

Straight Thinking on Immigration

by David G. Payne

> *We come to the full possession of our power of drawing inferences, the last of all our faculties; for it is not so much a natural gift as a long and difficult art.*
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> — C.S. Peirce, Fixation of Belief

The American logician Charles Sanders Peirce believed logical prowess to be a developed skill more than an inherited trait. The survival value of abiding by certain fundamental laws of logic has, no doubt, enhanced the rationality of Homo sapiens' gene pool under the ever-watchful eye of natural selection; yet the further ability to analyze and distinguish proper from improper inferences is one that is developed over many years of hard work. I think Peirce would also agree that the majority of persons never develop such an ability, and from this we might infer that there are many more people engaged in illogic than logic. This is too bad, since logic, properly understood, is an all-important tool in any search for truth.

If, then, illogic reigns supreme, should we not study illogical forms of reasoning as closely as we study logical forms? I think we should, and this article is a brief introduction to such a study — a first step for those interested in learning how to distinguish between good and bad argumentation.

In the first section, I will begin by briefly answering the question of why we should bother to take the time and go to the effort of analyzing arguments in a critical fashion. In the second, examples of various fallacies will be presented in order to give a feel for how such things work. Since the confines of this article will not allow a detailed examination of a great many of fallacies (and there are a great many), I will concentrate on but a few representative samples. In the final section, I will consider whether we are ever justified in using logical fallacies to our advantage.

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I. Why Bother?

If I may answer a question with a question, the response to "Why Bother?" when applied to any specific issue is "Are you interested in the truth of that issue?" In other words, do you care whether your positions on various issues are true or do you hold them just because you always have? If the latter is true, then stop reading — you shouldn't bother. But if the former is the case, i.e., if you *are* concerned that your position on an issue is not merely comfortable, but also firmly based on the facts, then you *must* bother, for that is the only way to consistently achieve such an end.

If you are mining for gold, a pickax might be the tool of choice as you search for the mother lode. If you are seeking truth, logic is the tool of choice. Not just *a* tool of choice, but *the* tool of choice. The reason for this is simple. If you decide not to use logic (rational argumentation) in your search, then you have only one other choice — illogic (irrational argumentation). An irrational argument might result in the truth, but only if you are extremely lucky.

To illustrate, suppose you are looking for radiation leaks in containers of radioactive material. The tool of choice in such cases is a Geiger counter. But suppose you disdain such things, claiming that your intuition alone will enable you to find the leaks. Based on this you point to a container and proclaim that it is leaking radiation. You might be correct, but if so it will have been a lucky guess, because there is nothing about your method that insures that you can consistently find leaking radioactive containers.

Here is the point: for any given issue there are a great many irrational arguments parading around

in the clothes of reason; and if you are persuaded by such deceit (unless you are extremely lucky), you will end up with false beliefs about the world. Thus, you must be able to distinguish good arguments from bad arguments.

Another case in point: advertising. Most of us are not gullible enough to be deceived by the claims of advertisers, but the methods they use can be instructive. Advertisements, contrary to what we might think, are not designed to enlighten us with truths about the world. They are, instead, designed to persuade us to buy a product. But this goal is often cleverly hidden by a seemingly scientific appeal to factual claims.

Consider the dandruff shampoo commercial that claims a certain product works better than its rival because "you can feel it tingle." We are supposed to draw the conclusion that our scalp is tingling *because* the shampoo is actually working on our dandruff problem, and, since the rival product *doesn't* make your scalp tingle, it therefore does not work. Against this claim we might point out that sulfuric acid might also make your scalp tingle, but it doesn't follow from this that it would help your dandruff. Thus, there is no necessary causal connection between tingling and dandruff removal. For all we know, the tingling ingredient is entirely neutral, or may even engender dandruff. Its only benefit is that it allows those marketing the product to make a claim that separates their product from its rivals.

Then there is Bayer's infamous claim that their aspirin "contains an ingredient doctors recommend most," a claim designed to show why their aspirin is preferable to other brands of aspirin. The claim is absolutely true, but what they *don't* say is that the ingredient doctors recommend most is simply aspirin itself, available in many formulations. Here again, an apparent factual claim is nothing more than a persuasive device.

We might laugh at these examples (even though they may point to a serious lack of morality in business practices), since nothing of significance really hangs on the issues involved. Your dandruff problem might be important, and you might buy one brand because it tingles thinking that it will therefore work better. But no matter — one brand probably works as well as any other brand. The same is true of aspirin. The additives do little if anything to help aspirin relieve pain — they are chiefly marketing ploys, and your pain will be relieved (if it will be relieved at all) by any brand.

But not all issues are so insignificant. It should give us pause, for example, when we learn that politicians are hiring the same firms that put together aspirin commercials to run their campaign advertising. The politician's message is clear: truth is of secondary importance, above all, get me elected! In this context we are not so amused, for the issues involved in politics have real consequences for our lives. When it comes to campaign rhetoric it is important to be able to disentangle good arguments from bad.

The same is true of any issue that has practical ramifications that we deem important. If we are not careful, we *will* be deceived because most people arguing for a position are far more concerned with convincing us than enlightening us.

If you are unable or unwilling to separate good arguments from bad, and thus unable or unwilling to distinguish truths from falsehoods, you are being manipulated. To have your beliefs and actions manipulated is to be controlled by some-one other than yourself, and when this happens you are, in a very real sense, no longer free.

Suppose, for instance, that I put you in a room and tell you convincingly that I am going to lock you in that room — you will not be able to leave until I return and let you out. Since you are convinced by what I have said, you sit passively and await my return. Unbeknownst to you, however, I lied. The door is not locked, and you could leave at any time; but you don't leave since you sincerely believe that the door is locked. In this situation there are two senses of "freedom" at work. On the one hand, you are free to leave at any time since the door is not locked and there is nothing physically stopping you.

On the other hand, there is a sense in which you are not free at all — since you have believed false information about the world, you are effectively in chains. To disdain critical thinking is to become putty in the hands of an artful debater.

Returning to our original question: why bother to learn how to analyze arguments and think critically? We now see that there are at least two excellent reasons why. **First**, because doing so helps to insure that the beliefs that we hold on important issues are true rather than false. **Second**, because doing so helps to insure that we are not being held prisoner by the rhetoric of others, that we are in control of our own lives as much as is humanly possible.

Don't be discouraged by Peirce's claim that learning logic is the task of a lifetime. Even the beginner soon acquires more ability to distinguish good arguments from bad than someone who never bothers to try. Thus, even a little knowledge of logic will render us better off than no knowledge at all. As time goes by we continually add to our repertoire, becoming more and more adept at argumentation in the process.

II. Some Typical Fallacies

A logical fallacy, for our purposes, is simply a mistake in reasoning. In an introduction such as this all the many different types of logical fallacies cannot possibly be delineated. Instead, we will concentrate on a few and use these to show, in general, what can go wrong within arguments, i.e., why conclusions don't always follow from their premises.

A. AD HOMINEM FALLACIES.

Many people are familiar with *ad hominem* fallacies, the most well-known of which is "*ad hominem* abusive," in which an opponent's character is abused rather than his argument. We will look at an example of this below; but first, we will begin with another form known as "*ad hominem* circumstantial." The nerve of this fallacy is to attempt to show that an opponent is inconsistent — that his own actions in some way contradict his words. For example, in response to an argument that illegal immigrants are taking jobs that Americans might otherwise fill, an opponent might respond as follows:

(1) You have the gall to stand there and argue that illegal immigrants are taking jobs away from Americans when you have already admitted to having hired an illegal immigrant as a housekeeper. What a hypocrite!

This can be a very effective response in a debate — sometimes it is impossible to resist making such responses — but it is a fallacy nonetheless. The arguer might very well be a hypocrite, but being a hypocrite has absolutely nothing to do with whether or not his argument is valid. Just as an atheist can put forth a valid argument for the existence of God, so also a person who has an illegal immigrant for a housekeeper can give an excellent argument against illegal immigration — an argument that needs to be dealt with, not ignored. Notice how the *ad hominem* response side-tracks the issue by changing the focus from the actual issue and the facts surrounding it to a completely different (irrelevant) issue. Hence, the fallacy in trying to counter an opponent merely by showing that there is an inconsistency between words and deeds.

Let's turn now to an *ad hominem* abusive argument. Suppose the following response is given to an argument previously put forth:

(2) The arguments put forth by Mr. X simply cannot be believed. He has admitted to lying before, has been convicted of perjury on several occasions, and has spent the last eight years in prison.

Does Mr. X's past record have any relevance with respect to his present arguments? In this case, it seems it might. As in a trial when a lawyer tries to defame a witness, an argument such as (2) might give us valid reasons for doubting the arguments given by Mr. X. But in fact, this example is really no different from (1). Mr. X's argument should stand or fall on its own merits — questions regar-ding the veracity of Mr. X are irrelevant except as a warning that we should check his *facts* carefully.

A useful test with respect to any *ad hominem* argument is to suppose the argument had been given by a completely different person with none of the character flaws ascribed to the present individual. If the argument works for such a person, then it will work for the present person, character

flaws notwithstanding. Arguments are independent of the character flaws of their propounders.

Moral: the problem with *ad hominem* arguments lies in their introducing material that is irrelevant to the argument at hand. In this sense, every such argument is a red herring, leading the unwary on a wild goose chase — they confuse the issue; and in the confusion, often seem to make a valid point. This ploy is typical of many fallacies, and to avoid falling into this trap, we must always be alert to that which would lead us astray.

B. AD POPULUM FALLACIES.

Another fallacy worth mentioning is the *argumentum ad populum*, or "appeal to the masses." Here, support by large numbers of people is appealed to in order to prove a point which can really only be proved by an appeal to facts. The following is an argument that purports to prove that immigration is destroying the fabric of American society:

(3) Polls show that eight out of ten Americans are convinced that immigration is destroying the very fabric of our American society. What better proof could there be?

It might very well be true that immigration is destroying the fabric of American society, but this argument does not prove it. Great numbers of people are often wrong. (Think of the number of people through the years who thought that the earth was the center of the universe.) There is no logical connection between how many people believe some-thing and whether or not that something is true.

But take care — sometimes it might be relevant to cite such numbers. For example, suppose that instead of purporting to prove that immigration is destroying the fabric of American society, (3) is used to support an argument that our legislators should re-examine their positions with respect to immigration. There would be no fallacy involved in such an argument since the opinions of the American people are (or at least should be) relevant to the legislation of the country.

Moral: the context in which an argument is used can be all-important for determining its worth. We must understand exactly what is being proved in an argument in order to determine the relevance of the argument's premises.

C. CAUSAL FALLACIES.

Another oft-used fallacy is one generally referred to as the "false cause" fallacy. A false cause fallacy occurs when a person assumes that a causal connection exists between two events, and bases an argument upon such a connection when it doesn't really exist. There are many varieties of this fallacy. Here is a simple one in which a long list of the positive benefits of limiting immigration is concluded with the following statement:

(4) Ever since the Immigration Act was enacted in 1965, the federal deficit has been growing at a tremendous rate. Thus another benefit of limiting immigration will be a reduction in the federal deficit.

To simply assume a one-to-one correlation between immigration and the federal deficit is a giant leap of faith. Even if we grant that there may be some connection, it does not follow that immigration is the sole contributor in such a way that a lessening of immigration would automatically cause a decline in the deficit. More likely causes for the rise of the deficit are other measures, put in place around the same time period, that are more relevant to the rise of the deficit.

Sadly, from a logical point of view, at the same time that legislation is passed limiting immigration, legislation will probably also be passed for a balanced budget. Thus, the two will be seen to decline together as they rose together, and our illogical arguer will take this as further evidence of the causal connection between the two.

In defense of those falling prey to the false cause fallacy, cause and effect relationships can be very complex. It might be that the socio-political climate of the U.S. was such that the legislative measures that increased the federal deficit really were related to legislation having to do with immigration. Such relationships would be very difficult to prove, and certainly could not be assumed. Failure to adequately appreciate the complexity of the world has led many fine thinkers into the false cause fallacy.

Moral: oversimplification is a common downfall in argumentation. We tend to opt for the easy solution — the "obvious" connection between two events. It takes mental effort and discipline to avoid such lazy rationalizing.

D. ANALOGICAL FALLACIES.

As a last example I want to use one of the most common forms of argumentation found in everyday life: an argument from analogy. We use analogies hundreds of time every day. For example, the brands of food, clothes, cars, and other items that we buy are usually chosen based on analogical arguments: my last car was a Ford and it was a great car, therefore, probably, if I buy another Ford, it, too, will be a great car. Examples such as this are almost beyond number.

The central theme of an analogy is to show a similarity between one or several items with which we are familiar and another item that is in question. If those several items are similar to the one in question and we like the several items, we conclude that we will also probably like the one in question. Of course, many things can go wrong. Here's an example of analogy gone wrong:

(5) People like you have been prophesying for two hundred years that immigration is going to do great harm to America. You've never been right yet. So, I don't see why I should think you might be right now.

This person looks at past examples where individuals have prophesied dire consequences if immigration is not curtailed. Those examples have the further property of being prophecies that never came true. These past examples are compared with present prophecies, the similarities are noted between them, and then the conclusion is drawn: therefore, probably, today's prophecies will not come true either.

The problem with this example is that one reason the past prophecies did not come true is because those prophecies were heeded in the past — immigration was curtailed because of them. The characteristic of having been heeded is a significant characteristic of those past prophecies. Had this been taken into consideration no analogy would have been drawn between the past and the present prophecies since present prophecies are, by definition, neither heeded nor unheeded. Thus, that one characteristic makes the past and the present prophecies disanalogous instead of analogous, and ruins the inference. This is just one of many different ways in which an analogy can go wrong.

Moral: the threads of analogy often run deep — a fact that cuts both ways. The most diverse events can be made to seem analogous by leaving out relevant characteristics. When drawing analogies we should never forget the importance of the differences (as well as the similarities) between the items being compared.

E. THE PRINCIPLE OF CHARITY.

In our zeal to find fallacies in the arguments of our opponents, we often misinterpret their arguments. Sometimes we want to see a fallacy so badly that we make one appear when it is not really there. To avoid this, I urge the adoption of what is known among philosophers as the "principle of charity." This principle holds that we should always interpret an opponent's argument in terms most favorable to the opponent (though I will hedge on this below).

Suppose that, upon reading an argument, we are unclear how it should be taken. Interpreted one way, we could easily destroy the argument; interpreted another it would be much harder to counter. The principle of charity in such cases demands that we take the latter, more difficult interpretation. This for two related reasons: First, if an opponent has been misinterpreted, he can easily rebut merely by pointing out the misinterpretation. Second, and more important, by refuting the harder position much more damage has been inflicted on the opponent's position.

In this section we have examined several arguments that contain logical fallacies. The fallacies illustrated are typical in that they exhibit what often goes wrong in arguments that do not work, and I have used them to illustrate several points. *First*, that we should beware of being led astray by irrelevancies, no matter how tempting. *Second*, that the context of an argument is extremely important in judging its worth. *Third*, that oversimplifying a complex situation can lead to egregious logical error. *Fourth*, that only exhaustive analysis can insure that our arguments are not running roughshod over subtle charac-teristics that can make or break an inference.

III. USE AND ABUSE

I have admitted above that fallacies can be very powerful — does this mean that we are foregoing an important tool if we do not include them in our debating arsenal? Does the end justify the means when engaged in an argument? I will lay bare my

thoughts on this issue, but ultimately how one deals with such issues will depend upon one's own personal morality.

In order to present my case I must first make explicit a distinction that was made implicitly in section one above. The distinction is between two types of argument: **arguments of fact** and **arguments of persuasion**. An argument of fact is an argument the goal of which is to prove a specific proposition. An argument that uses demographic statistics to try to establish that immigration is actually contributing to the rise of crime in America would be an argument of fact. The success of the argument depends upon whether or not the point has been satisfactorily proved.

In contrast, arguments of persuasion are *not* trying to establish the truth of a specific proposition. Instead, as we saw above with respect to advertising, they are used to attempt to persuade an individual or group of individuals that a proposition is true. Usually, the arguer is either already convinced of the truth of the proposition or doesn't care about the truth, and is simply trying to convey his certainty to the audience.

Perhaps the most famous example of an argument of persuasion is the one known as "Pascal's Wager." Pascal was a 17th century mathematician/theologian who tried to convince his audience to believe in the existence of God with the following argument: If you believe in God, and there is a God, then eternal bliss is yours. If you believe in God, and it turns out you were wrong, no harm was done — you lived a good life. On the other hand, if you do not believe in God and you are wrong, you will spend eternity in hell; while if you are right, nothing is either lost or gained. Thus, you have everything to gain and nothing to lose by believing in God, and everything to lose and nothing to gain by not believing. Pascal's conclusion? "Take the holy water, have the masses said." This type of argument is convincing to many people, but note that it is not an argument for the existence of God, but rather an argument used to persuade someone to believe in God.

What distinguishes the two types of arguments, then, is the goal of the person giving them. If the goal is truth, an argument of fact is used. If the only goal is to persuade, an argument of persuasion is used.

Now back to the question at hand. My position is this:

(P) If we are ever justified in knowingly using a logical fallacy, it is only when our goal is to persuade.

"Anyone who goes into a debate thinking that the goal is to seek the truth of the issues is naive."

Notice the "if." There may be times, even when the goal is to persuade, that advantage should not be taken of an opportunity to use a logical fallacy, for whatever reason. It does not follow from (P) that we are always justified in using logical fallacies in such situations. It *does* follow from (P), though, that we are never justified in using fallacies when our goal is truth. In fact, if a logical fallacy is knowingly used, it would be hard to justify that the goal really was the truth as opposed to persuasion. There are certain situations where it is understood that mere persuasion is *never* a proper goal, such as in most scholarly journals and discussions.

Public debates are good examples of situations in which the goal is to persuade. Anyone who goes into a public debate thinking that the goal is to seek out the truth of the issues is naive. Furthermore, in a public debate, those refusing to knowingly use logical fallacies when opportunities to do so are present may not only be putting themselves at a disadvantage (since their opponents more than likely will not have similar compunctions), but may also not be doing all that is ethically required to promote the truth (assuming that there is an ethical responsibility to promote the truth of issues that affect people's lives in important ways).

Since I mentioned the principle of charity above, I now hedge, as promised, and contend that *the principle does not apply in public debates*. This is because the principle is inconsistent with the no-holds-barred approach of the debate. Thus, its use is determined by the same distinction that determines the use of logical fallacies. We can say, then, that whenever it is impermissible to knowingly use logical fallacies (because the truth is being sought), the principle of charity applies. Conversely,

whenever it is permissible knowingly to use logical fallacies (because the goal is persuasion), then the principle of charity does not apply. Very effective persuasive points can be scored with an audience in a debate by disregarding the principle, e.g., by mocking or ridiculing an opponent's (misinterpreted) argument. Even if the opponent proceeds to correct the misinterpretation, the damage has often been done — as when a judge tells jurors to disregard the damaging testimony of a witness.

Illogic is often most effectively countered by illogic. We have seen, though, that truth is impervious to illogic, i.e., irrational argumentation will not consistently lead to truths about the world. Truths accidentally stumbled upon by means of illogic are thus ill-gotten, and will not yield further gain. Critical thinking is necessary in order to properly battle illogic, and so becomes the tool not only of the seeker of truth, but also of the persuader of masses. □

Further Reading

Barry, Vincent E. *Invitation to Critical Thinking*. New York: Holt, Rinehart and Winston, 1984. A plain English logic textbook with fallacies organized in an interesting way. Well worth reading.

Chase, Stuart. *Guides to Straight Thinking*. New York: Harper & Row, 1956. The best of the bunch for the neophyte — clear and entertaining. Out of print, but worth looking for.

Chase, Stuart. "A Tip on Straight Thinking," *Readers Digest*, February 1954. "Tips on Straight Thinking, II," *Readers Digest*, June, 1954. "Tips on Straight Thinking, III," *Readers Digest*, October, 1954. "Neither Black Nor White," *Readers Digest*, January, 1955.

Copi, Irving and Carl Cohen. *Introduction to Logic*. New York: Macmillan Publishing Company, 1994. A classic logic textbook. Very precisely written.

Fearnside, W. Ward and William B. Holther. *Fallacy: The Counterfeit of Argument*. Englewood Cliffs: Prentice Hall, 1961. An entire book devoted to fallacies. Worth perusing, although the later sections on formal fallacies may be a bit too abstract for the novice.

Flage, Daniel E. *Understanding Logic*. Englewood Cliffs: Prentice Hall, 1995. A more intuitive organization of fallacies than Copi's makes this an interesting textbook, but a textbook nonetheless.

Logical Analysis Checklist

Here is a list of questions designed to help determine whether an author or speaker is using persuasive techniques or common linguistic ploys to convince his audience, rather than sound argumentation. If the answer to any of the questions is yes, then it is possible that the technique or fallacy in brackets is being used.

1. Are there any factual errors? [errors of fact, false analogy, questionable evidence]
2. Are there any ambiguous words and/or phrases that confuse the issues? [ambiguity, equivocation]
3. Are there any relevant *omissions*? [biased reporting, half-truths]
4. Have any groups, individuals, or institutions been appealed to as authoritative that are in fact not really relevant? [inappropriate authority, testimonials, appeal to popularity or tradition]
5. Have *individuals* been attacked or accused of inconsistencies? [ad hominem]
6. Has a position been associated with a specific word, subject, person or organization?
   A. A *distasteful* word, subject, etc.? [guilt by association, innuendo, scare tactics, scare words]
   B. A *popular* word, subject, etc.? [bandwagon, appeal to emotion]
7. Have any claims been made that simply do not follow from the evidence given? [non-sequitur, unwarranted claim, irrelevant conclusion]
8. Have any unjustified causal claims been made? [*Post hoc, ergo propter hoc*, causal oversimplification, slippery slopes that are not slippery]
9. Have the emotions been appealed to in any way? [appeal to emotion, popularity, or pity]
10. Have any other linguistic tricks been used? [statistical trickery, misleading quantification, confusion by obfuscation]
11. Have any diversionary tactics been used to try to distract from important considerations? [ad hominem, humor or ridicule, appeal to fear or force, red herrings]
12. Have contrary positions been misrepresented? [error of fact, straw man]