Fallacies and heuristics

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Abstract

In this paper, an explanation is proposed for the persuasiveness of fallacies. Most discourse is dependent on a broad presumption of acceptability that limits evalutation of claims to noticed trouble-spots: evaluation is triggered by identifiable symptoms of something wrong. Furthermore, the evaluation of claims occurs at varying levels of depth, depending on the level of suspicion aroused and the amount of effort the evaluator is willing to spend on the evaluation. The main implication of this is that fallacies are not incorrect argument schemes, or correct argument schemes applied incorrectly, but products of evaluation heuristics that can be given good defense as diagnostic tools.

Fallacies have long been understood as forms of argument that gain assent for assertions without authentic justification: patterns of argument that are persuasive without being sound. From a certain point of view, a form of argument that gains assent without deserving assent is worse than even a transparently invalid argument: not only does it fail to justify its conclusion, but it also conceals its own failure to do so, leading hearers into error along with speakers.

Although many scholarly and pedagogical treatments of fallacy seek to explain what is wrong with certain patterns of argument, few give serious attention to what is persuasive about these patterns--why, given that they are defective, they often gain assent. Yet the question of why fallacies are persuasive is certainly as interesting as the question of why they are incorrect, and moreover, a practical approach to the improvement of argumentation depends not only on some idealization of how things ought to look but also on some insight into why real-life circumstances deviate from that idealization.

As an explanation for the persuasiveness of fallacies I propose the following sketch: first, that most discourse, argumentative and nonargumentative, is dependent on a broad presumption of acceptability that limits evaluation of claims to noticed trouble-spots; second, that evaluation of claims is triggered by identifiable symptoms of something wrong; third, that this evaluation occurs at varying levels of depth, depending on the level of suspicion aroused and the amount of effort the evaluator is willing to spend on the evaluation; and fourth, that many fallacies are incidental products of evaluation heuristics that can be given good defense as diagnostic tools.

Before elaborating this sketch for the case of some familiar fallacies, I will review some of what we know about the role and functioning of presumptions in ordinary discourse.

Minimalism in ordinary discourse

From work on the organization of argument in conversation (Jackson 1987, 1992; Jackson & Jacobs 1980; Jacobs 1987, 1989; Jacobs & Jackson 1983, 1989), the following more-or-less empirical observations can be advanced:

1. The performance of any speech act creates an open-ended and indeterminate disagreement space, consisting of anything reconstructible as a belief the speaker can be assumed to hold (van Eemeren et al. 1993: 95-102; Jackson 1992).
2. This disagreement space is an opportunity for argument, but most of the time argument does not occur; the normal case is for hearers to assume that whatever the speaker believes is in fact true and defensible. This assumption figures in Grice's analysis of conversational cooperativity (Grice 1989) as the Quality Maxim. Argument occurs only selectively, so it will be important to give attention to how participants decide when to make the cooperative assumption and when to challenge another speaker's apparent beliefs.
3. Argument is about repairing disagreement in a 'locally managed' way; it expands speech act sequences only as necessary to fix something noticed as amiss (Jackson & Jacobs 1980; Jacobs & Jackson 1989).
4. Enthymeme is the normal form of argument (Jackson & Jacobs 1980); even when reasoning for one particular conclusion is laid out explicitly in a 'logically complete' form, the premises will typically just be statements both parties are willing to stipulate as acceptable.

The main implication to be drawn from these four observations is that in conversational argument, minimalism is the rule and departures from minimalism are the exceptions. Anything a speaker says, implies, or implicates is potentially a standpoint, and every reconstructible standpoint is in principle arguable. This is not to say that in performing speech acts, the deep structure is a complex of full-blown arguments and the surface structure is some partial representation filled out through response to challenges or disagreement, but rather to say that full-blown arguments are interactionally emergent just in case a standpoint does provoke challenge or disagreement. The grounds for any standpoint are likely to require excavation; in putting forward a view a speaker may never have given a moment's thought to what grounds would be required should that view be challenged (Jackson 1992). Nor is this a special defect of undisciplined argument; indeed, this seems as true of, say, scholarly discourse as of ordinary conversational interaction.

Like dialectical positions generally, the view of argument advanced here depends heavily on the concept of presumption. Presumption may be understood as the "default" position on a question, when nothing in particular is known about the circumstances to which the question refers. The most important presumptions shaping the organization of conversational argument are those underwritten by the Cooperative Principle. These standing presumptions mean that an assertion advanced in conversation is assumed to be acceptable unless there is something weighing against it, such as independent reason to doubt the assertion itself, independent reason to doubt the cooperativity of the speaker, or contextual information suggesting that the assertion is regarded as arguable by the speaker.

Much of what we accept, positively or provisionally, is accepted on no grounds other than that someone else has been presumed to have adequate grounds for having accepted it. Scott Jacobs and I argued that to account for certain facts of conversational organization, one must posit a "Reason Rule": an obligation to align one's utterances with the beliefs and wants of others. According to this Reason Rule, "One party's expressed beliefs and wants are a prima facie reason for another party to come to have those beliefs and wants and, thereby, for those beliefs and wants to structure the range of appropriate utterances that party can contribute to the conversation. If a speaker expresses belief X, and the hearer neither believes nor disbelieves X, then the speaker's expressed belief in X is reason for the hearer to believe X and to make his or her contributions conform to that belief" (Jacobs & Jackson 1983: 57).

An explicit outline of this background of presumption might look like the following:

i)   Speaker S asserts or implies proposition P to be true.
ii)   [By the Cooperative Principle] S may be assumed to believe that P is true and to believe that there is adequate basis for that belief.
iii) [By the Reason Rule] S's belief that P is true is reason for Hearer, H, to believe P, unless contradicted by other evidence or presumptions.
iv)   P is not contradicted by other evidence or presumptions.
v)   P should be accepted presumptively by H.

In the ordinary run of things, that is, when nothing triggers an examination of P, P would be accepted presumptively, as a matter of course. Note that the absence of other contradictory evidence or presumptions is part of the ground on which P is accepted. But absence of contradictory evidence is impossible to establish systematically, and as an empirical matter, people seem to depend not on any sort of in-depth search for reasons to disagree but on a few diagnostic tools organized around their standing concerns for communicative and interpersonal values (Jacobs et al. 1991).

Reasoning of the sort outlined above is of course quite suspect if evaluated against any sort of normative model. But we do not generally notice the pervasive occurrence of fallacious reasoning underwritten by the Reason Rule. Unless a presumptively

accepted proposition has been somehow formulated as a debatable claim, we would not want to say that any sort of fallacy has occurred, even though it is evident that S's belief in P is evidence in P's favor only under certain unexamined conditions having to do with S's abilities and motives, and even though it is evident that the absence of evidence against P is no assurance that P is true. This broad and unremarked reliance on presumption, which certainly leads us into error more often than does our reliance on authority, popular opinion, or other explicitly formulated "appeals," will figure heavily in our analysis of both formal and informal fallacies.

Informal fallacies: authority dependence

Recent work in informal logic suggests that many fallacious arguments gain their persuasiveness from resemblance to argument schemes with legitimate usefulness. Appeal to authority, for example, is a fallible but widely useful form of argument. Walton (1989a, 1989b) describes it as a type of "plausible argument," a type of argument sufficient to establish a presumption in favor of a conclusion, so long as there is no better evidence to suggest that the conclusion is false. Appeal to authority is considered fallacious only when it is used to close down discussion of a claim, to answer genuine controversy with an implicit claim that better minds have already settled the issue. The explanation for the persuasiveness of fallacious arguments *ad verecundiam* would be that these arguments gain plausibility from the hearer's failure to differentiate illegitimate from legitimate uses of the pattern.

Another contemporary account of the persuasiveness of these argument forms can be drawn from empirical research on cognitive processing of persuasive messages. Many attitude theorists now espouse one version or another of the theory that people process messages in more or less depth depending on contextual factors such as the importance of the issue or personal factors such as prior knowledge about the topic. The theory as articulated by proponents of the Elaboration Likelihood Model (Petty & Cacioppo 1986) or the Systematic/Heuristic Processing Model (Eagly & Chaiken 1993) is that people generally rely on superficial cues to guide their response to messages unless specially motivated to examine and evaluate the quality of the message content. Among "persuasion cues" identified in the social psychological research literature are such things as source credibility (Petty, Cacioppo & Goldman 1981) and response of other audience members (Axsom, Yates & Chaiken 1987). Hearers *not* motivated to engage with an argument are much more swayed by source credibility and by the reactions of their fellows than are hearers motivated to engage. In other words, fallacies are persuasive because audiences use them as shortcuts to avoid careful thinking about issues, whenever the cost of careful thinking exceeds what the hearer thinks the issue is worth.

Integrating these two contemporary accounts, we may interpret research on cognitive response to persuasive discourse as showing that fallacies are not mere logical errors but interpretive strategies with defensible design features and important

communication functions. Specifically, many textbook cases of informal fallacy (notably *ad populum* and *ad verecundiam*) have been shown to function as simplifying strategies (termed heuristics) used by audiences under certain conditions to substitute for "reasoning from scratch." These heuristics are not arbitrary rules of thumb, nor are they mere habits of thought. On the contrary, each can be defended as a plausible way of approximating decisions that would be made under ideal conditions of rational discourse. For example, *ad verecundiam* (a virtual prototype of plausible argument) can be given a very good defense based only on the assumption that well-qualified sources are less likely to make mistakes in their conclusions than poorly-qualified sources.

Measured against the empirical properties of argumentation, these accounts have much to recommend them. The view of informal fallacies as overextensions or misapplications of plausible reasoning strategies contains the important insight that an argument may aim only to assign presumption to one side or the other in a potential controversy. The idea that recipients of persuasive messages often evaluate the conclusion using simplifying heuristics in place of careful analysis contains the important insight that informal fallacies may describe not the materials presented by a speaker but the interpretive and reconstructive choices of the hearer. But taken together, these accounts have a soft spot: They assume that evaluation of a conclusion waits on evaluation of whatever material is offered as support.

A different account follows from the premise that argumentation functions as repair of disagreement within a system that presumes agreement. On this premise, argument is a collaborative production in which the recognition of some sort of disagreement stimulates the search for a resolution. This association of argumentation with inter-actional repair is a fundamental departure not only from traditional logical approaches but also from the contemporary approaches of informal logic and attitude theory. Instead of assuming that evaluation of conclusions ordinarily waits on evaluation of materials, this view assumes that in the ordinary run of things evaluation of materials waits on (preliminary or provisional) evaluation of the conclusion, and that further, the evaluation of materials is not always aimed at arriving at a judgment about the conclusion but often premised on a fixed judgment that the conclusion is wrong. In ordinary conversational circumstances, people search out and examine the grounds for conclusions only when there is some reason for disagreeing or some reason for thinking that disagreement might be in the offing.

Consider argument *ad verecundiam*. Analyzing *ad verecundiam* as a pattern of plausible argument, Walton outlines its form as follows (Walton 1989a: 193):

> E is an expert in domain D.
> E asserts that A is known to be true.
> *A is within D.*
> ∴ A may (plausibly) be taken to be true.

In Walton's discussion, this pattern is not in itself fallacious, but is prone to intrinsic weaknesses associated with the three premises: E may not be a real expert; A may not

be an accurate rendition of what E really said or may not in fact be known to be true; or A may not belong to the domain in which E is expert. The fallacy of *ad verecundiam*, according to Walton, occurs when such an appeal is "pressed too hard in a persuasion dialogue" (1989a: 197), specifically when the appeal to authority is used to close off debate over the impersonal grounds for belief in A.

It will be helpful to note that while Walton's pattern might describe the structure of a persuasive message, this pattern of reasoning is not restricted to cases in which a speaker argues from authority but occurs as well any time an audience evaluates a speaker's conclusion taking the speaker's expertise into account: when, for example, the speaker's carefully reasoned position is accepted or rejected not on the merits of the argument but on the speaker's own credibility, or when the speaker presents a summary of expertise-based arguments all of which are ignored in favor of information on the source of the arguments. In other words, the occurrence of an *ad verecundiam* fallacy does not necessarily involve a speaker making an *appeal* to authority; appeal to authority is a speaker's formulation of a much more general class of acts involving authority dependence in one form or another.

Some argumentation theorists (e.g., Willard 1990) suggest that reliance on authority is both widespread and reasonable, especially so when directly relevant evidence is unavailable or inaccessible. But in the social psychological study of attitude change, there is substantial evidence to suggest that people apply inferential patterns of this kind even when the materials available to them include *both* evidence supporting a conclusion and information concerning the source. In Walton's outline of appeal to authority, all that is included is information on the source and association of the assertion with that source. But in many actual instances in which the *ad verecundiam* fallacy may be said to occur, the material available to the audience includes impersonal grounds for belief in the assertion.

Audiences are said to employ the "credibility heuristic" when they substitute assessment of the source of a conclusion for assessment of the grounds the source might have for that conclusion (O'Keefe 1990: 182). Notice that the credibility heuristic is a method audiences use to evaluate a conclusion, not a pattern of argument speakers use to justify a conclusion. Walton's outline of appeal to authority is quite a good description of this method, at least of its careful employment.

Hence, there is something lacking in Walton's outline, whether intended as a description of materials advanced as an argument or as a description of the underlying logical structure of the credibility heuristic. What is lacking, empirically, is the other material a speaker may have presented or the other material an audience might have taken into account. These other materials need to be represented in any discussion of appeal to authority, because these other materials have something to do with why people rely on authority--and also something to do with the difference between legitimate and illegitimate appeal to authority.

In Willard's analysis of authority-dependence, the defense of argument from authority is built from the impenetrability of expert fields and the incompetence of the

audience to evaluate the evidence available to experts; argument from authority is a purposeful delegation of responsibility for conclusions in expert domains. In the entirely independent experimental work on the credibility heuristic within social psychology, it has been found that people are most likely to rely on source judgments instead of direct evidence when the importance of the conclusion is low relative to the effort required to evaluate it.

To adequately represent authority-dependence, to explain its occurrence, and to differentiate its legitimate and illegitimate forms, we need to add to Walton's outline some representation of the role of the invisible other materials that might have been taken into account. Consider the following revised outline, in which the speaker, E, may be said to have advanced grounds G in support of assertion A:

> E asserts A based on grounds G.
> *[The adequacy of G is unknown.]*
> ∴ A should be accepted or rejected depending on E's expertise in the relevant domain.
>
> The domain relevant to A and G is D.
> *E is an expert in domain D.*
> ∴ A should be accepted.

In this revised outline, the construction of a text is not what is at issue, but the reconstruction of the text by an audience. Of course some texts do contain good examples of appeal to authority, examples that look very like Walton's outline. The point is that explicit appeals to authority are one manifestation of authority-dependence in reasoning, and if we are to understand their role in disagreement management, we need to understand them in relation to a more general willingness on the part of audiences to select information on source and even prefer that information to other, objectively better, evidence.

Why do people accept information on source in lieu of directly relevant information, and more importantly, why do they seem to rely on evaluation of the source when directly relevant information is available to them? In understanding the role of authority in argument, it is very important to see that the point of relying on authoritative reasoning is to get to a conclusion with the information at hand, and sometimes to avoid having to conduct any deeper examination of the conclusion. As an empirical matter, people rely more heavily on authority when unable or unmotivated to evaluate the grounds on which the authority's conclusions are based. And this is true whether the grounds are disclosed to them or not; even when the quality of argument offered is much better than mere appeal to authority, audiences unprepared to evaluate grounds for a claim often reduce the information available to something like the form Walton gives as an outline of argument from authority. Note that if the audience is in fact unable to make a competent evaluation of the grounds for an authority's conclusions, it is quite sensible to treat authoritative opinion as a basis for strong presumptions.

To understand both legitimate and illegitimate appeals to authority, we need to position appeal to authority between, on the one hand, assertions offered with no defense at all, and on the other hand, assertions offered with impersonal grounds for

belief. As compared with no defense of a claim at all, an appeal to authority has two interesting design features: first, it implies that the conclusion is such that the hearer is *not* expected to accept it presumptively, and second, it invokes expertise or some similar quality as backing for a limited presumption in favor of the claim. The first of these features provides for some sort of problematization of the claim. The second makes the quality of the source available as a diagnostic cue, along with whatever else might have been available in any case.

Many textbook cases of fallacious appeals to authority involve invocation of irrelevant authority or bogus authority. On a presumption based account, the persuasiveness of such appeals--the fact that they work, while appeals to some other irrelevant or bogus authorities would not--can be explained as a consequence of a use of source information as diagnostic. When a claim is argued on someone's say-so, that someone is checked, but the checking is subject to the same presumptions as anything else stated or implied in conversation. Unless something negative is known about the source, two presumptions operate: first, that the speaker appealing to the authority believes that the authority's views are relevant to the truth of P, and second, that the authority committed to P believes that there is adequate basis for P. When nothing is known against the authority, a superficial check should result in acceptance of the authority. Note a paradoxical implication, though: an appeal to a patently unreliable "authority" is likely in some circumstances to be less persuasive than a completely unsupported assumption.

Formal fallacies: the atmosphere effect

On a characterization of fallacy as "an argument that seems valid but is not," a large and homogeneous class of fallacies may be identified among categorical syllogisms. Consider the following form:

> No A are B.
> Some B are C.
> ∴ Some A are not C.

This form is invalid, of course, but it is also exceedingly likely to pass as valid, along with all of the following (likewise invalid) forms:

> Some A are B.
> Some B are C.
> ∴ Some A are C.
>
> No A are B.
> No B are C.
> ∴ No A are C.

Some A are not B.
All B are C.
∴ Some A are not C.

What do all of these forms have in common, and why are they more likely to mislead than the following transparently invalid forms?

Some A are B.
All B are C.
∴ All A are C.

No A are B.
No B are C.
∴ All A are C.

Over 60 years ago, experimental psychologists took up the problem of explaining why people persist in accepting certain invalid forms as valid but readily recognize invalidity in other similar forms. Woodworth and Sells (1935) hypothesized that people do not really reason carefully about such materials, but instead extract certain superficial features from the premises and use them to predict the sort of conclusion that can be drawn. The pattern of errors to be explained was termed "the atmosphere effect," and I will refer to the hypothesis offered to explain the errors as the atmosphere hypothesis.

According to the atmosphere hypothesis, people evaluating categorical syllogisms take note of the logical features of the premises, without regard for the actual relationships among the categories, then apply simple heuristic rules to the extracted features. The four types of statements involved in categorical syllogisms are completely described in terms of two features, quality (affirmative or negative) and quantity (universal or particular). Woodworth and Sells did not suppose that untrained people thought about statements in the special technical vocabulary of formal logic, but they did assume that these features were noticed spontaneously and used to compute conclusions. Woodworth and Sells suggested that people compute or evaluate conclusions on the basis of the following simple rules: (1) if the premises (as a set) are affirmative, the conclusion must also be affirmative; any negation in the premises requires negation in the conclusion; and (2) if the premises (as a set) are universal, the conclusion must also be universal; any particularity in the premises requires particularity in the conclusion. If a pair of premises has a valid conclusion about category A, that conclusion will be generated by the atmosphere rules.

The atmosphere *effect* is a tendency for people to accept conclusions that "match" the features of the premises, and the atmosphere *hypothesis* is the idea that the way this comes about is by computing an appropriate conclusion through application of these rules to the features of the premises. A variety of competing explanations for the pattern of errors have been proposed, but these are not my concern at present.

Two observations can be made at this point. First, the atmosphere hypothesis explains why people accept invalid arguments as valid, not why people reject valid arguments. We do not seem to need a theoretical explanation for the rejection of valid conclusions, for these do not seem to occur in a regular pattern; for materials like those we are considering, people accept many invalid syllogisms but rarely reject valid ones. As noted earlier, the study of fallacies is for all practical purposes the study of underjustified assent.

Second, and more importantly for our stance toward fallacies, the atmosphere effect itself can be washed out by creating concrete substitution instances of the invalid forms, *if* the substitution instance involves an easily evaluated falsehood. Compare the three syllogisms below. The first is extremely likely to be accepted as valid, by which I mean if you present it to a classroom full of people, a lot of them will judge it as valid; the second, though formally identical, is extremely unlikely to be accepted as valid; the third, despite the presence of familiar, concrete content, is as likely as the first to be accepted as valid.

All A's are B's.
Some B's are not C's.
∴ Some A's are not C's.

All flowers are living things.
Some living things are not plants.
∴ Some flowers are not plants.

All vegetables are healthful.
Some healthful things are not tasty.
∴ Some vegetables are not tasty.

The crucial difference between the two concrete examples of this form is that the conclusion "Some flowers are not plants" is obviously false, while the conclusion "Some vegetables are not tasty" is almost certain to be taken as true. It is important to know that people are not just assuming that arguments with false conclusions are invalid. People can recognize arguments with false conclusions as valid and correctly diagnose the trouble as reasoning from false belief, at least in cases like the following:

All women are mothers.
No mothers are athletes.
∴ No women are athletes.

Why does the atmosphere effect appear? The original atmosphere hypothesis suggests that it is because people process premises superficially and apply correspondingly superficial rules to the task of inference or evaluation. But this hypothesis is conceptually and empirically unsatisfactory. Conceptually, there is no independent evidence, other than the atmosphere effect itself, for thinking that people use premise

features in any active way to arrive at or evaluate a conclusion. Empirically, the atmosphere hypothesis offers no explanation for why the atmosphere effect *fails* to appear in certain circumstances: any sign of trouble, be it manifestly false content or criticism by other evaluators, will disarm this interesting class of fallacies (see, e.g., Jacobs, Allen, Jackson & Petrel 1985).

With a minor repair, however, this hypothesis dovetails nicely with the notion that people use a variety of heuristics to simplify the task of evaluating what they hear. It happens that every conclusion that fails to match the features of the premises will turn out, on inspection, to be invalid; in other words, a type mismatch between conclusion and premise set is sufficient, but not necessary, for invalidity. The same is true of falsity; when a conclusion is false, it is sure that either the premises are false or that the argument is invalid, though not every unsound argument has a false conclusion. The point of heuristics is to make evaluation easier; if an evaluator with no pronounced reason to suspect anything amiss checks for obvious symptoms and finds nothing, then the evaluator will be led into error for any argument whose particular defects do not appear as visible symptoms of the sort the evaluator habitually notices.

What I am suggesting is that the atmosphere effect is a byproduct of a sort of triage, in which any claim encountered in discourse is judged loosely against some set of indicators of trouble, but evaluated carefully only when one of these indicators comes up positive. The default decision is to accept a claim, and in fact, it would be better to say that the default decision is to presume the truth of the claim, explicitly deciding to accept or reject it only when something triggers an in-depth evaluation of the claim and its grounds.

Implications

The main implication of what I have said is that fallacies are not incorrect argument schemes or correct argument schemes applied incorrectly, but failed diagnostic strategies. The search for some rule that will differentiate reasonable appeals to authority from illegitimate appeals to authority will always come up empty, because the problem is that once one accepts the diagnostic strategy as a general method for screening claims, one must accept asymptomatic cases as the cost of doing business in this way.

Many standard fallacies can be re-thought in terms of presumptions applied without awareness that the case at hand is an exception. That social interaction depends on a broad presumption of acceptability does not mean that it is reasonable to cling to these presumptions regardless of circumstances. Presumptions are not, in themselves, pernicious. Presumptions without reliable methods for recognizing exceptions *are* pernicious. Many patterns of reasoning that appear to arise from inability to recognize flaws in argument may be better understood as side consequences of a broad and unremarked presumption of acceptability controlled by attentiveness to certain kinds of diagnostic cues.

Within the view of fallacy proposed here, the signs people use to recognize exceptions become very important; critical thinking on such a view requires not memorization of suspect patterns but development of a sense of when to be suspicious. Although it is almost certainly the case that people can be made more critical through instruction and practice, it will be useful to start by inventorying the sorts of things people use spontaneously to diagnose trouble.

Most obvious is the recognition that a proposition reconstructed from discourse is directly contradictory or otherwise inconsistent with a previously held belief. People are notoriously tolerant of fallacies in the case for their own side of a controversy; this is not so much a matter of applying looser standards to arguments they favor as a matter of applying no standards at all when not doing evaluation. If argument functions as repair of misalignment in belief, there is no purpose in evaluating argument once the conclusion has been accepted, except in those special discourses structured by a contrived skepticism (such as debate and academic argument).

But a search for problems can be triggered by many other circumstances. One such circumstance is overjustification. When a conversationalist gives explicit defense of what would otherwise appear uncontroversial, other conversationalists search for explanations, as for any other violation of Gricean maxims: one possible implicature drawn from such occurrences is that the speaker expects the position to be controversial, and when hearers draw this implicature, they have reason to search for what might be the problem. Conversation prefers under-elaboration of the grounds for belief rather than over-elaboration (Jackson & Jacobs 1980); the enthymeme is a rational strategy for controlling disagreement space.

Yet another such circumstance is awareness of controversy. A listener who knows an issue to be controversial, or who is warned that a message soon-to-be-presented concerns a controversial topic, will be more attentive to possible troubles than a listener not forewarned of controversy. Mere forewarning makes people more resistant to persuasion (O'Keefe 1990: 182); this interesting psychological fact is easily explained in terms of disturbance of the presumption the upcoming message would have enjoyed without the forewarning. Forewarning ought not lead to rejection of conclusive argument, and so far as I know, there is no empirical evidence to suggest that it does; a presumption-based account predicts that if there is any weakness in an argument, it will be more likely to be noticed when the audience is put on alert and more likely to be overlooked when the audience is allowed to respond on the basis of the general cooperative presumption.

A search for problems may lead immediately to evaluation in depth of the grounds for a conclusion, but it may lead instead to a quick survey of diagnostic cues. Alerted to the possibility of controversy, a quick check that all is in order might include assessment of all sorts of easily noted features such as the general trustworthiness of the source, the availability of evidence to support key contentions, the apparent orderliness of the argument, the apparent response of other audience members, and so on.

Even alerted to the chance of disagreement, a listener may orient to superficial diagnostic cues to aid in the decision about whether to go any further in evaluation of the argument. Moreover, these diagnostic cues can be used in diverse ways: to predict soundness, but also to project the difficulty of a direct, in-depth evaluation of argument quality. When an argument depends on technical material or very complicated reasoning, for example, an audience may take the difficulty of the material both as an indication that they will be unable to assess the evidence directly and as indirect evidence that the source is a knowledgeable person.

One general implication to be taken from the association of fallacies with heuristics is that people *choose* to reason fallaciously. This sounds ridiculous, but in effect, when a person chooses a general strategy with some acknowledged risk of error, the person is buying something at a cost: efficiency, for example, at the cost of occasional blunders. When an issue is important enough to justify effort, heuristics decline in importance; when the issue is important and the argument disagreeable, fallacies become extraordinarily easy to spot.

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