

The One Fallacy Theory

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Abstract: My One Fallacy theory says there is only one fallacy: equivocation, or playing on an ambiguity. In this paper I explain how this theory arose from metaphilosophical concerns. And I contrast this theory with purely logical, dialectical, and psychological notions of fallacy.

For many years now, I have held a theory I call the One Fallacy theory. It says that there is only one fallacy: equivocation. By “equivocation,” I mean any playing on an ambiguity. So all fallacies involve playing on some ambiguity, according to the One Fallacy theory.¹

In this paper, I want to discuss, or at least sketch, some of the theoretical issues surrounding the One Fallacy theory. I shall sketch my theory and some of these issues and address somewhat less sketchily one contrary theory, the “psychological criterion.”

To understand the One Fallacy theory, one has to first understand the theoretical context in which it arose. It did not start life as a separate theory about fallacies but as a *part* of a theory of philosophical method.

I wrote my dissertation² on philosophical method.

I was impressed with Whitehead’s observation³ that philosophy was “speculative,” by which he meant it is hypothetico-explicative. We put forward our philosophical theories as *hypotheses*, argue from them boldly, and see how they work out.

Still, it seemed to me that Whitehead was also misled by this idea. Philosophy is also deductive. A philosophical theory is not a *mere* hypothesis. Philosophers always claim to *prove* what they are saying. They give arguments which purport to show that their views *must* be true.

So philosophy is somehow hypothetico-explicative, which means, in a broad sense, *inductive*. But it is *deductive* and deals in *proof*. How can the same field be both inductive and deductive?

Or, how can philosophy be both deductive and yet dialectical? Math isn’t dialectical. You prove something and your opponents—if we can even imagine having opponents in math—just shut up! But in philosophy, they just keep talking!

Suppose philosophers disagree about *p*. One side gives arguments purporting to show that *p* must be true. The other side argues that *p* must be false.

Suppose the first group is right and some of their arguments are correct. They really have proven that *p*. So *p* is now deductively proven and beyond reasonable doubt. All the arguments against *p* are purported proofs that aren’t really what they purport to be. They are fallacious. They really give *no reason*

whatsoever for believing that p is false. The p -deniers have no reason for denying p . So the p -deniers are just irrational in their belief and the p -asserters are also irrational if they take the p -deniers as serious opponents.

It thus appears that philosophy cannot be dialectical.

To resolve this problem, I introduced a distinction between two senses of “reason” which I came to call reason-1 and reason-2.

Suppose I am doing math but often fall into fallacious reasonings. Suppose I develop what looks like a proof that p . So this argument appears to put p beyond reasonable-1 doubt. It appears to give conclusive reasons-1 for p . In fact it actually is a proof—a proof-1—that p . I have made no mistake. Still, I often do make mistakes. I don’t know for sure that I haven’t made one here. So even though I have a proof-1 that p , it is not a proof-2. It does not put p beyond reasonable-2 doubt. For I have some doubt that I really have a proof-1. Still, it looks like a proof-1. So I have some reason-2 to believe that p .

Now I develop another argument that appears to prove-1 that $\sim p$. Actually, this argument contains a hidden fallacy. It is really worthless-1. It really gives no reason-1 for $\sim p$. Still, I do not see the mistake. It looks like a proof-1 that $\sim p$. If it is a proof-1, then p must be false. Since it *looks* like a proof-1, I have some reason-2 to think it is a proof-1, and therefore I have some reason-2 to believe that p is false.

So, although from a reason-1 standpoint, p is proven and there is no reason whatever to believe $\sim p$, from a reason-2 viewpoint, I have conflicting reasons. From a reason-2 viewpoint, the two views are on an equal footing.

Basically reasons-1 are the reasons we would recognize as such if we were in no way conceptually confused or worried about being so, and reasons-2 are the reasons we have *given* our actual state.

In my metaphilosophy, I conceive philosophy as a deductive enterprise conducted by people who are working with unclear and only partially understood concepts. Therefore, in reason-2 terms, there are conflicting reasons and philosophy becomes dialectical and hypothetical-explicative, basically because philosophers cannot accurately distinguish real proofs-1 from the worthless-1 fallacious pseudo-proofs-1.

From these reflections about philosophy, there arises an idea about fallacies. A fallacy is an argument which, when not seen through, gives a *reason*, a *real* reason (a reason-2, of course), for believing its conclusion. Of course, this reason is *prima facie* and can be overridden.

At the 1994 Amsterdam meeting, Sally Jackson noted my slogan that a fallacy must have a *vice* (badness) and a *virtue* (apparent goodness). She quite sensibly said that most people would regard this “virtue” as a further vice. It is bad enough that the argument is bad; it is even worse that it appears good!

Still, my meaning in speaking of a virtue here is that an appearance of goodness-1 is itself evidence-2 that the conclusion has been well-argued and is true.

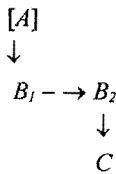
In other words, fallacy is for me a *positive* term. When I say an argument is a *fallacy*, I am saying something *positive* about that argument. Of course, I am also saying something negative.

When I say that *ad baculum* is *not* a fallacy, I am saying something negative about *ad baculum*. It fails to give any apparent reason (any apparent evidence-1) for its conclusion. It therefore does not deserve the high name of "fallacy!"

Well, let us go back to my metaphilosophy. In later writing,⁴ I reduced my account of philosophical method to a three phase model.

In phase one, the deductive phase, each philosopher puts forth arguments purporting to prove his philosophical view.

In phase two, the explaining phase, each philosopher X explains the apparent proofs of his opponent Y by exhibiting Y's arguments as what I call "allowable." Thus X's opponent Y may have argued " $A \therefore B \therefore C$." X may explain this argument by himself saying that A is self-evident, that A entails B_1 , which is one sense of B , and that another sense of B , B_2 , entails C . So Y's argument is explained by X as:



So, Y's argument is exhibited by X, and in accord with X's theory, as incorrect but allowable.

An allowable argument begins with obvious truths and proceeds to its conclusion in such a way that every invalid step is covered by an appropriate ambiguity.

In phase three, the inductive (or concluding) phase, each philosopher chooses as the true theory the one he thinks best explains all the relevant arguments, and he concludes also that *that* theory was already proven-1 in the first phase.

In the present paper, we are interested in the idea of fallacy involved in my metaphilosophy. The idea of fallacy is principally involved in phase two: the explaining phase.

In exposing phase two, I am in effect proposing a rule of philosophical method; a dialectical rule. The rule is that a good philosophical theory should *explain* the arguments against it by pointing out appropriate fallacies. As in philosophy of science, so in metaphilosophy it is important to have a criterion of what *explanation* consists of.

Now my One Fallacy theory does not claim that all fallacies are deductive. Equivocation can also mediate inductively invalid arguments. If my account of allowable arguments in philosophy sees these (the allowable arguments) as deductive, it is because I conceive philosophy as deductive, not because of any requirement of my One Fallacy theory as such.

But my definition of allowability does presuppose the One Fallacy theory. I thought of all the usually recognized kinds of “fallacy” and decided that only those involving ambiguity deserved to be called “allowable.”

Still, maybe I was wrong. Maybe my One Fallacy theory misses some other types of real fallacies and is a bit too narrow. But even if this is so, my idea in phase two *does* require a fairly *narrow* concept of fallacy. Or, otherwise, the explanatory requirement will require nothing and will lose all force.

In phase two, I am trying to require X to be *dialectical*, so to speak: to respond to Y’s argument in some way that involves *more* than simply rejecting Y’s *conclusion*. I want X and X’s theory to *explain* Y’s argument by pointing out some *fallacy*. So pointing out a fallacy must be an explanatory act.

Well, X proved in phase one (or appeared to) that Y’s *conclusion* is false (otherwise Y wouldn’t be an *opponent* of X.) So, since (for X), Y’s *conclusion* is false, therefore, for X, Y’s alleged proof of that conclusion *must* be unsound. If a fallacy is an unsound argument, then X can now and without further ado label Y’s argument a fallacy: the fallacy of “reaching Y’s wrong conclusion”. This concept of fallacy does not give X anything more to do. Suppose we add that a fallacy is not only unsound, not really a proof, but also it must *appear* to be a proof in the sense that there is someone who thinks it is a proof. But this concept of fallacy also puts no burden on X. After all, there is the opponent Y himself thinking it is a proof. Therefore, X is able to label it “Y’s fallacy” without further ado, without *examining* the argument at all!

My concept of fallacy requires X and X’s theory to give an explanation of how a *rational person*—a rational-2 person, such as I am assuming Y to be—might be led to think that Y’s argument is a real proof. The concept of fallacy must require that there be such an explanation and that pointing out a fallacy includes pointing out such an explanation, or else *that* concept of fallacy will do no work in my metaphilosophical theory.

In other words, a fallacy must have both a vice (badness-1) and a virtue (goodness-2). And, for me, the *virtue* is the more important point. If the virtue is not clear, we should not speak of “fallacy.”

Recently, at a meeting of the Ontario Philosophical Association’ Christopher Tindale gave a critical exposition of the pragma-dialectical approach as represented by Douglas Walton, and Bob Binkley attacked that approach and supported the logician’s approach to fallacies.

Bob Binkley said there was a great custody battle: the logicians and dialecticians were fighting for custody of the concept of fallacy. The logicians (including Bob Binkley) defined a fallacy as an argument committing some

logical error, whereas the dialecticians defined fallacy as a violation of some dialectical rule. In terms of this image of a custody battle, I shall argue somewhat sketchily that both parties should stop squabbling and should surrender custody of the concept to *me!*

Of course, I reject both of the proposed definitions since they both define fallacy in terms of vice without virtue. My familiarity with recent developments in the dialectical approach is admittedly little⁶, but I should urge that people interested in dialectics should not accept its definition.

My account of philosophical method is an attempted discussion of an important sort of dialectics, and in my theory, the “dialectical” concept of fallacy seems worse than useless.

In my theory at least, besides the fact that the “dialectical” approach leaves out the virtue, which is, for me, the dialectically important part, other difficulties arise:

- a) Since an actually self-evident-1 premise may be wrongly but powerfully rejected-2, an argument may be perfectly correct-1 and contain no fallacy, and yet be dialectically bad-2.
- b) Since fallacies are rational-2 and irrational-1, they *satisfy* the dialectical rules in my theory but violate *logical* ones which the dialectical process has to *find*.
- c) Since we need a rather specific concept of fallacy to *formulate* a dialectical rule—that X should point out a fallacy in Y’s argument—a concept of fallacy which presupposes we already know the dialectical rules is useless (Tindale I believe raised essentially this point).

Finally, plausible dialectical rules exist whose violation does *not* clearly involve any fallacy. Elsewhere I hope to discuss both question begging and *ad hominem* arguments from this point of view.⁷

Of the two views, dialectical and logical, I disagree much less with the logical view. I agree that every real fallacy involves a logical badness, either deductive or inductive. But I shall argue that a person interested in logic should *not* be satisfied with a purely negative concept of fallacy.

First, since logic itself already tells us all we know about logical goodness and badness, there would be no need for any special theory about fallacies.⁸

Second, logicians should *want* the more positive concept of fallacy out of, so to speak, self-interest. Logical truths are self-evident. But how can any truth be *interesting* if no reasonable person would ever wonder whether it is true?! My reason-1/reason-2 distinction is partly trying to address the worry that, since no reasonable person could ever commit any fallacy, therefore no reasonable person could ever be interested in logic!

I now turn from the dialectical and logical concepts to discuss what I call the “psychological” criterion of fallacy.⁹ This concept is often raised against me in conversation, besides being suggested by Hamblin and by Finocchiaro.

A fallacy is an argument which is invalid or otherwise bad and which nevertheless *appears* valid or good in whatever way is in question. So far I agree. But what is meant by “appears valid” or “appears good”? The psychological criterion takes it that an argument appears valid or good just in case ordinary people are likely to be *taken in* by the argument and to *think* it is valid or *think* it is good.

This concept of fallacy is then used against me in two ways.

The first is that this concept is used to defend alleged fallacies that I reject. I say that $p \supset q, q \therefore p$ (“affirming the consequent”) is no fallacy since it is just nakedly invalid, or that *ad baculum* is no fallacy for the same reason. People respond that their Intro Logic students are forever affirming the consequent and that truculent friends of theirs are forever committing *ad baculum*.

I reply that $p \supset q, q \therefore p$ is unambiguously invalid and is no fallacy. True, there could be a real fallacy in ambiguous ordinary language behind the affirming. But, though I know of some fallacies which can be used here,¹⁰ none is sufficiently compelling to explain the extraordinary reputation and widespread acceptance of this alleged fallacy. I believe that the widespread acceptance of this alleged fallacy is itself based on a fallacy. My idea here derives from Hamblin.

Aristotle referred to a fallacy of affirming the consequent. The fallacy he meant was, I think, the following, expressed in a way natural in ancient Greek:

Man is animal.
Dobbin is animal.
 Dobbin is man.

The argument looks like:

Cicero is Tully.
This is Tully.
 This is Cicero.

and therefore it looks valid.

Now the example was “translated” into clearer form:

Every man is an animal.
Dobbin is an animal.
 Dobbin is a man.

or else:

If anything is a man, *then* it is an animal.
Dobbin is an animal.
 Dobbin is a man.

My contention is that the real fallacy Aristotle was talking about has been lost in this translation.

But what about the Intro Logic students? They have never heard of Aristotle. Don’t they commit the fallacy of affirming the consequent?

Intro Logic students are not committing fallacies, for the most part. They are just *guessing*. They are guessing which arguments are valid because the symbols

really mean nothing to them. To give only one example, a student may argue: $p \supset q / \therefore p$. Reason? Simplification, of course!¹¹ But guessing is not a fallacy!

For brevity, I say just the following about *ad baculum*. A guy says to me “If you don’t believe that p , I’ll break your head and bend your fingers into pretzels. So you’d better believe that p !” I conclude that *I’d better believe that p !* I certainly see no fallacy here!

Logicians *think* this fellow has actually argued that p . He has not.¹²

This first way the psychological criterion is used against me, involving “common mistakes,” simply reminds us of my general disagreement with standard approaches.

The second way brings us to my more profound disagreement with the psychological criterion. People use this criterion to reject fallacies I accept. Consider: “Rivers run. Whatever runs has feet. Therefore, rivers have feet.”¹³ And just to keep things simple, let us put aside confusions about the term “feet” and understand it in terms of “running on your feet.”

Now I say the argument is a fallacy, equivocating on “runs.” But people say: “In the whole history of the human race, not one single solitary person has ever been led to think that rivers have feet by this argument. It has never appeared valid to anybody and does not deserve to be called a fallacy!” Yet I say it obviously does appear valid and, since its premises are obviously true, sound as well. It is an absolutely clear case of a real fallacy.

True, the argument has always appeared to everybody to be silly, preposterous, and ridiculous. But *why*?

Many of us look at the argument, see that it is ridiculous to say that rivers have feet and then we look further and see that “runs” is ambiguous. We see, and yet see *through*, the appearance of validity.

But not everybody who rejects this argument understands the equivocation involved. Even in philosophy, equivocation was not at first understood. Heraclitus and Parmenides saw contradictions where there were really only equivocations. Even Plato saw merely verbal contradictions as half-refuting ordinary things, and concluded that only Forms were fully real. It took Aristotle to correctly work out the role of ambiguity in reasoning.

At any event, when we say that *everybody* rejects the argument that rivers run, this “everybody” includes a lot of people who *don’t* grasp the equivocation involved. I call such a person OP, Ordinary Person. He says the argument is ridiculous, silly, absurd, crazy, in short, bad. Why? Because rivers don’t have feet! OP rejects the argument because its *conclusion* is obviously false. He does not consider the argument any further.

Now suppose almost everybody rejects the argument in just this way. The psychological criterion says that since everyone rejects the argument, therefore it isn’t even a fallacy and it deserves no further consideration. The psychological criterion simply *endorses* the OP’s brisk rejection of the argument!

And this is what horrifies me about the psychological criterion: if enough people briskly reject an argument as silly, the criterion simply endorses this unphilosophical practice.

Well, the OP says that rivers *don't* have feet. So the argument is silly. Indeed rivers *don't* have feet. It follows that the argument has a false conclusion and *must* be unsound. Further, rivers *do* run, and when we see John running down the street, it is obvious that nothing can run without feet. So the *premises* of our argument are true, it seems. Having true premises and a false conclusion, our argument is clearly invalid as well as unsound.

So the argument is unsound and invalid and obviously so. So it clearly *appears* invalid and unsound as well as actually being so. So the OP rejects it with scorn and the psychological criterion says it is no fallacy.

But wait. Appearances *can* conflict. The fact that the argument strongly appears unsound and invalid, and even appears invalid *to everyone*, does not show that the argument may not *also* appear valid and sound, perhaps in a more subtle way.

And indeed, the argument *does* have a clear appearance of validity, an appearance which the OP has not addressed. By definition, the OP does not grasp the point that “runs” is ambiguous. But our argument appears to have (essentially) the form: “This is A. Whatever is A is B. Therefore this is B.” The argument “Socrates is a man. All men are mortal. Therefore, Socrates is mortal” has this form. This Socrates argument is valid and valid *because* of its form. How, then, can the river argument have this same form and yet be *invalid*? It can't!

And if it thus appears that the argument must be *valid*, it also appears that it must be sound. For each premise is true, and *known* to be true for that matter. So it appears that the argument *proves* its conclusion and is valid and sound.

Still, the psychological criterion may now admit that the example in question does “appear” valid in a textbook way. But this kind of “appearance” is unrealistic and not really of interest. After all, the fact remains that the argument about rivers running is a silly example which *takes no one in*! It is therefore a completely *harmless* type of so-called “fallacy.”

In reply, I shall urge that the mere fact that someone stoutly rejects the *conclusion* of a given fallacious argument does *not* mean that they are not “taken in” by the fallacy involved in that argument.

Suppose we press the OP. We talk about the Socrates being mortal argument and others like it. We point out the valid *form*—or so it appears—of the river argument. What about *that*? Suppose we succeed in getting the OP to talk further and to address this point. How will the discussion continue?

One type of continuation is that the OP may simply transpose the fallacy and reject one of the premises as unambiguously false. Thus OP may conclude that rivers simply don't run and throw out all his geography books which “falsely” speak of rivers running. Or he may conclude instead that rivers *do* run, therefore

it is simply false that whatever runs has feet. So if John cannot run without feet, he must be handicapped in some way. In this type of continuation, the OP is taken in by the fallacy even though he does not believe rivers have feet. He is taken in by the fallacy in transposed form.

But these continuations are not the really interesting one. Far more interesting is the following continuation.

The OP speaks. "All right. All right. Rivers really do run. It is really true that whatever runs has feet. It is really valid by logic to conclude that rivers have feet. Fine. But rivers *don't* have feet! The argument is logically valid, but it isn't *really* valid. You can't go by logic; you have to use your common sense!"

In this continuation, OP *still* doesn't think that rivers have feet. The fallacy is completely harmless! Instead, OP rejects *logic*.

And this is the point I have been aiming at. The psychological criterion supposes that the danger of a fallacy is that people will think its conclusion is true; if no one will think that rivers have feet, then the fallacy leading to that conclusion is harmless. But I believe that the greater danger is that the apparent proof of obvious falsehoods will lead people to conclude that proof and logic are useless. I therefore reject the psychological criterion.

Let me take a somewhat wider view.

If we look at Aristotle's *Sophistical Refutations*, in one respect, it anticipates his discussion of Non-Contradiction in book *Zeta* of the *Metaphysics*. Already Aristotle is making the point that verbal contradictions are not real counterexamples to that basic logical law.

In another respect, Aristotle is looking back to Plato's dialogue, the *Euthydemus*. In that dialogue, Euthydemus and his brother undertake to prove essentially arbitrary p and then to turn around and prove with equal facility that $\sim p$. The effect of their exhibitions is not to convince people that p , nor to convince people that $\sim p$. Rather, it is to convince people that proof as such is of no significance.

In the *Phaedo* (89d), Plato warns that such exhibitions may lead to "misology," the mislogical view that logic and reason are not to be trusted or followed. Nor is Plato's warning mere fanciful hysteria. In ancient China, the Taoist philosopher Chuang Tzu¹⁴ looked at the philosophical controversies of his day and found them so many verbal disputes.¹⁵ He concluded that argumentation was not the path to truth,¹⁶ but one should instead follow the Tao—essentially uneducated common sense unencumbered by the artificialities of logic. And indeed, his writings were largely responsible for the non-development of logic in the classical Chinese tradition.

Nor is the tension between fallacy and logic of merely antiquarian interest. Let me give a contemporary example. In inductive logic there is a well-known fallacy invented by Nelson Goodman and involving the word "grue". It argues from the fact that past emeralds have been green and concludes that future emeralds will likely \sim blue. Of course, the fallacy is harmless. No one actually

thinks that future emeralds will probably be blue. Yet, on the basis of this single harmless fallacy, half the philosophical world has apparently given up on the whole idea of inductive logic.¹⁷

Let me return briefly to the logical and dialectical conceptions of fallacy, the latter as it appeared in Hamblin.

The key idea of logic is that validity can be guaranteed by logical form. In practice, however, *logical* form is linguistic form—*minus* fallacy. The “logical” concept of fallacy pretends that we know the logical forms of arguments and merely need to put aside the fallacious ones. I see fallacy as that which prevents us from seeing the true logical forms. The determination of fallacy and of logical form are two sides of the same process.

Hamblin for his part notes that the standard definition of fallacy does not fit with standard examples. He saves the examples and gives up the definition. I insist on the definition and throw out the examples. In the end, Hamblin saves every example—*except* he concludes that equivocation, the only fallacy I save, must be rejected. It is too dialectically embroiled, he thinks, to be of interest to logic.¹⁸ My view is that it is logic itself and fallacy claims themselves which are dialectically embroiled.

¹ In other writing, unpublished, I admit that there are some counterexamples to my theory. These are all examples of mathematical fallacies, though. They aren't the usual informal-logic sort of examples.

Anyway, when this paper was read at the conference, Ron de Sousa chastised me for propounding a theory to which I myself knew counterexamples, so, since first reading this paper, I have been re-examining some of these and hope to account for them as fitting my theory after all.

² *Knowledge and Meaning in Philosophy*, Department of Philosophy, Cornell University, 1976.

³ F. S. C. Northrup and M. W. Gross, eds., Alfred North Whitehead: *An Anthology* (New York: Macmillan, 1961) pp. 840-842 (Sections I to III of chap. XV of *Adventures of Ideas*) and pp. 567-575 (Part I chap. I, sections I to III of *Process and Reality*).

⁴ “On Philosophy and its History.” *Philosophical Studies* 50, 1986, pp. 1-38.

⁵ York University, November, 1994.

⁶ I know Hamblin's book (see footnote 9 here), but have less familiarity with more recent work. But see in Hans V. Hansen and Robert C. Pinto's *Fallacies: Classical and Contemporary Readings* (University Park, PA: Penn State University Press, 1995) the two articles by Frans H. van Eemeren and Rob Grootendorst (“The Pragma-Dialectical Approach to Fallacies”, pp. 130-144 and “*Argumentum Ad Hominem*: A Pragma-Dialectical Case in Point”, pp. 223-228) and the one by Douglas N. Walton (“The Essential Ingredients of the Fallacy of Begging the Question”, pp. 229-239).

⁷ Putting aside *ad hominem* arguments which simply involve false premises—arguing from false premises is no fallacy—an *ad hominem* argument is one that concludes that no one should hear the arguments of a given opponent. But reaching an obnoxious conclusion is not yet a fallacy.

If I accuse an opponent of question-begging, I am saying that a premise of his is unwarranted. But then I have given no explanation of how he can argue from such a premise.

The more interesting question about question-begging is: how did Aristotle, who is generally right about fallacy, come to add this non-fallacy to his list? This I don't have time for here.

⁸ Strangely, this point seems opposite to Massey's classic argument that logic tells us next to nothing about logical badness (invalidity). But actually, Massey is also assuming that what knowledge about invalidity is not in logic is simply nowhere. See G. J. Massey's "The Fallacy Behind Fallacies" in Hansen and Pinto, pp. 159-171.

⁹ This criterion is suggested by Hamblin early in his book, and by Maurice A. Finocchiaro in a classic article "Fallacies and the evaluation of reasoning," *American Philosophical Quarterly* 18, 13-22. See perhaps p. 15.

Charles Hamblin, *Fallacies* (London: Methuen, 1970). See bottom p. 14 to top p. 15, e.g..

It is unclear whether Hamblin and Finocchiaro are endorsing the psychological criterion or using it in an *ad hominem* sense. An *ad hominem* use would be justified by the fact that Standard Treatment authors like Irving Copi and Max Black themselves explain fallacy in psychological terms. See Copi, *Introduction to Logic*, (New York: Macmillan Publishing, 5th edition, 1978), top p. 87, and Black, *Critical Thinking* (Englewood Cliffs, NJ: Prentice-Hall, 2nd edition, 1952) pp. 229-230.

¹⁰ In my thesis (on p. 156) I could find no convincing reason for affirming. I suggested perhaps people just sometimes use "if" to mean "if and only if" or perhaps they are confusing deductive with hypothetical-deductive reasoning. In my paper "Equivocation" in Hansen and Pinto, I found two more ways to fallaciously affirm, besides Aristotle's.

The Aristotelian solution which I offer above, I derived from Hamblin's discussion in *Fallacies*, pp. 84-85.

In the *Sophistical Refutations* itself (as in Hansen and Pinto), this solution is suggested by the fact that Aristotle says three times that the fallacy of the consequent is a special case of the fallacy of the accident, but the latter seems to be the problem of the one and the many. Further, Aristotle actually says (168b30): "for we claim that things that are the same as one and the same thing are also the same as one another, and [my italics] *this is the ground* of a refutation dependent on the consequent."

¹¹ Other examples:

$p / \therefore p \cdot q$. Addition!

$p \vee q / \therefore p$. Simplification!

$p \supset q / \therefore \sim p \supset \sim q$. Transportation!, or Double Negation!, or De Morgan's!

$p \supset q / \therefore \sim(p \supset \sim q)$. Double Negation!

$p \supset q / \therefore p \vee r$. Addition!

$\sim(p \cdot q) / \therefore \sim p \cdot \sim q$. De Morgan's!

Of course, depth psychological probing *might* reveal an actual fallacy behind some of these. Who knows!?

Here the referee objects that not only logic students using symbols, but ordinary people using ordinary language often affirm the consequent, according to psychological research. Partly in response, I mention in the previous footnote some ways to fallaciously affirm the consequent.

The fact that someone accepts an argument which affirms the consequent does not tell us what fallacy, if any, that person is committing. *Why* does he accept the argument?

For the relevant sort of research, see John R. Anderson, *Cognitive Psychology and Its Implications* (San Francisco: W. H. Freeman and Co., 1980) p. 302 ff.

¹² But if he were to, there would be no fallacy in that argument. A meta-argument confusing motive and evidence would however conclude that "that argument" was good. The meta-argument would be a real fallacy, equivocating on 'reason'. See my "Equivocation" (p. 288-9).

¹³ Hamblin (p. 12) states that this example is a medieval one.

Hamblin clearly uses the psychological criterion to attack this example, and I am particularly concerned with that criterion thus understood.

Possibly Copi holds a version of the criterion which would not attack this example. For he says (*op. cit.*, top p. 87) that a fallacy is not an individual argument but a *type* of argument. So an individual argument might be an instance of a fallacy and *other* instances of that same type would actually take people in.

¹⁴ Chuang Tzu: *The Basic Writings*, tr. B. Watson, Columbia University Press, 1964. Equality chapter. p. 31-45.

¹⁵ See story about monkeys. 6th page of chapter, p. 36.

¹⁶ On the 13th page: "Suppose you and I have an argument. If you have beaten me . . . then are you necessarily right?" p. 43.

¹⁷ Both Ron de Sousa, who commented on the paper at the conference, and the referee were troubled by my referring to the "grue" argument as a "fallacy." I am *not* saying that Nelson Goodman committed a fallacy. Of course not. He knows as well as anybody that the "grue" argument is obviously *not* a good inductive argument. His point in *Fact, Fiction and Forecast* (New York: Bobbs-Merrill, 2nd edition, 1965, ch. 3) is that the "grue" argument is obviously bad but nonetheless seems to fulfill standard ideas of what the criteria for "good inductive argument" are.

Thus Goodman presents an important *challenge* to our understanding of inductive logic. If we respond, inductive logic will be strengthened and improved. If we become discouraged by the challenge, inductive logic will shrivel—which was *not* what Goodman wished to bring about.

The sophist's examples in ancient Greece presented just such a challenge to *deductive* reasoners of that day. And the *Sophistical Refutations* was a part of the response.

¹⁸ This statement depends on my interpretation of Hamblin's very evasively stated discussion of equivocation. I believe he is arguing that there is no such fallacy and that that is why his theory of fallacy doesn't include it. One argument rests on the idea, first stated on page 223, that since there is "some dissolution of the concept of meaning into that of systematic use; [therefore] if 'meaning' goes, 'equivocation' . . . will have to go too." The other argument divides equivocation into a gross kind, which is (p. 292) "of little interest to the logician" and a subtle kind. The subtle kind cannot be subjected to "perfunctory" (p. 295) points of order, but a proper fallacy should be so subjectible (p. 284). So (p. 296) "the subtler variety should sometimes be regarded less as a fallacy than as an idiom in disuse."

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