ity are grave, but they should be honoured only in the case of real and serious arguments.

If this proposal has merit, then two tasks remain. First, we need to develop criteria that will enable us to identify, readily, the serious arguer. I don't believe that will be hard to do. Second, we must develop a logical strategy for handling the other sort of "argument": the poorly expressed one from the loose reasoner's offering. Let us, then, reserve the use of the term "argument" for the serious case, and classify those others as "expression of opinion." If we follow this path, then we will find ourselves forced to develop what I have called "the logic of opinion." But that is a development which, I have argued elsewhere and on other grounds, is desperately needed.[3] �

NOTES

1. The bite of this question signals an important difference between formal and informal analysis of arguments. Formal analysis reveals invalidity as the only flaw, and presumably one invalidity is no more and no less consequential than another.

2. I have dealt with this question in another paper, "The Shape We're In," (forthcoming).

3. Cf. my paper, "Remarks on the Logic of Opinion," (forthcoming).

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Ad Hominem and Ad Verecundiam

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In this paper I want to argue (a) that there is something puzzling about the ad hominem fallacy and the ad verecundiam fallacy, (b) that this puzzlement is reflected in the sorts of things that writers of introductory books have to say about them and (c) the explanation of this puzzlement is that what makes ad hominem and ad verecundiam arguments falla-

cious, where they are fallacious, is not what most people think it is.

Suppose that a Dr. Smith has said that there is an as yet undetected planet in the solar system and that a Mr. Jones has said there is not. Suppose further that a Mr. Edwards says that it is highly likely that there is an extra planet, for Smith who has said that there is, is a highly respected mathematician and astronomer while Jones, who has said that there is not, belongs to a religious sect that strongly believes that there are only seven planets. Now on the one hand, we would feel that there is a fallacy involved here, for statements about the expertise of Smith and the religious beliefs of Jones seem unrelated to the claim that there is another planet. What we expect are statements about peculiarities in the orbits of the planets we are already acquainted with. But on the other hand, it does seem reasonable to accept that it is likely that there is another planet if the leading authorities believe that there is and the only skeptics turn out to be religious cranks.

This tension is reflected in what many writers of introductory textbooks of logic have had to say about ad hominem and appeal to authority arguments. For example Copi[1] introduces them as fallacies but then modifies this claim in a number of ways. He distinguishes between what he calls circumstantial ad hominem arguments and abusive ad hominem arguments and says that the latter are not always invalid. He does not, however, tell us how we are to distinguish between those that are valid and those that are not. Even though ad verecundiam is introduced as a fallacy, Copi hastens to inform us on page 95 that there is only a fallacy if the person appealed to is not really an authority. For example, if a movie star tells us in a commercial that we should eat a certain breakfast because of its dietary ingredients.

The same ambivalence is found in Carney and Scheer's _Fundamentals of Logic_ (Macmillan, 1965). They begin their account of the ad hominem fallacy by saying, "(it) is committed when the conclusion of the argument states that a view is mistaken, and the reasons given for this conclusion amount to no more than a criticism of the person or persons maintaining the view" (p. 20). They continue by giving three examples of ad hominem arguments (p. 21) but seem to be of two minds as to whether they are good examples and conclude by saying, "It should not be overlooked that not all arguments criticizing a man are fallacious" (p. 22).

Not only do we find tension in what people have to say about ad hominem and ad verecundiam arguments we also find disagreement between what people have to say. For example, T. E. Damer in _Attacking Fallacious Reasoning_ (Wadsworth, 1980), says concerning the ad hominem, "Even though the abusive claims about one's opponent may be true, those facts are irrelevant to the worth of his or her point-of-view, for even the most despicable of persons may be able to construct sound arguments" (p. 79). While W. C. Salmon in _Logic_ (Prentice-Hall, Second edition, 1973) considers ad hominem arguments a valid subspecies of inductive arguments! The disagreement that exists concerning ad verecundiam arguments is

nicely summed up by C. L. Hamblin, in Fallacies (Methuen, 1970), when he says, "Historically speaking, arguments from authority have been mentioned in lists of valid argument-forms as often as in lists of fallacies" (p. 43).

Having shown then that there is something puzzling about ad hominem arguments and ad verecundiam arguments—that there is something about them that makes us want to say both that they are fallacious and that they are not, and having shown that this tension is expressed in the sorts of things that writers of introductory text books have had to say about them, let us see if we can discover the source of this puzzlement. That is, what it is about these argument forms that makes us want to say both that they are fallacious and that they are not.

In order to do this let us look not at dubious ad hominem and ad verecundiam arguments but at respectable ones—that is, at those which look to be the least fallacious. Suppose that something has gone wrong with a nuclear reactor and that the staff have been obliged to close it down. Dr. Blue, who is an eminent Cambridge nuclear physicist and noted expert on the design of nuclear reactors, says that the crippled reactor is in a dangerous state and it could explode, giving off large clouds of radioactive gas. Mr. Black, on the other hand, who has a B.A. in nuclear engineering from a small college in Kansas, and is a long-time loyal employee of the owning power company that happens in turn to be largely owned by people having Mafia connections, says that the reactor is in a perfectly stable condition and that there is nothing to worry about. Mr. Edwards says that we can accept that the reactor is in a dangerous state because Dr. Blue, the noted authority, has said so, and that we can ignore the counter-claims of Mr. Black because Mr. Black is not very well qualified and is in the pay of the company.

Again we feel the pull both ways. On the one hand we want to say that of course we have an excellent reason for saying that the reactor is in a dangerous state, and at the same time we want to say that we have no reason at all for saying that the reactor is in a dangerous state. For the only statements that could count as reasons are detailed statements about the present state of the reactor along with general statements belonging to that corpus of knowledge called "physics".

We can, I think, begin to see here the source of our vacillation. Compare what Edwards says about Blue as opposed to Black. He says that it's highly likely that the reactor is unsafe because Blue the eminent authority has said so. This argument strikes us as peculiar. The premise seems irrelevant to the conclusion. Now consider what he says about Black. He says that we can ignore his statement because he is in the pay of the company. This strikes us as not quite so peculiar because it's not directly about the reactor but about what Black said. That is to say, the argument about Blue strikes us as peculiar because the conclusion is about the reactor:

1. Blue says the reactor is in a dangerous state.
2. Blue is an eminent authority on reactors.
3. Therefore, the reactor is in a dangerous state.

The argument of Black strikes us as not so peculiar because its conclusion is about what Black said:

1. Black has said that the reactor is perfectly safe.
2. Black is in the pay of the firm that owns the reactor.
3. Therefore, we can ignore what Black has said about the reactor.

In other words, we feel that the first argument is peculiar because it moves from statements about statements to statements about things. And we feel that statements about words are irrelevant to statements about things. We are happier with the second argument because it moves from statements about statements to statements about statements. And we are prepared to accept that statements about statements can be relevant to other statements about statements.

This, I think, is one source of our feeling that ad hominem and ad verecundiam arguments are fallacious. We unreflectively feel that statements about words are totally irrelevant to statements about things. But why the ambivalence? Why do we also feel, almost at the same time, that some of those arguments thought to be fallacious are really not fallacious? The answer is that we are also aware, though only half aware, that statements about statements can really entail statements about things. So even though the statements about statements appear to be irrelevant they are not really so. The argument:

1. Whatever Blue says about reactors is true.
2. Blue said, "The reactor is likely to explode".
3. Therefore, the reactor is likely to explode.

is valid, for 1 and 2 entail 2a: ' "The reactor is likely to explode" is true'; and this in turn entails 3: "The reactor is likely to explode".

It now begins to appear that no ad hominem or ad verecundiam argument is fallacious because the appearance of fallacy was to be found in the move from statements about statements to statements about things and there is nothing intrinsically fallacious about that. But this is surely going too far. There is, however, another feature present in some ad hominem and ad verecundiam arguments, and any argument is fallacious to the extent that it contains this other feature.

If a person dislikes someone else it's likely that he will want to have nothing to do, not only with him, but also with the sorts of things that the other person likes. For example if Jones dislikes Smith and Smith sports a moustache and likes to wear tweed jackets, chances are that Jones will avoid tweed jackets and moustaches. Not only will people distance themselves from the sorts of things their enemies like they will also distance themselves from their thoughts and ideas. If Smith is in favour of capital punishment for murder and a champion of free enterprise, chances are that Jones will be opposed to capital punishment and to free enterprise.

The same is also true of groups. Fascists were inclined to wear black shirts and cut their hair short while Communists were inclined to wear red shirts, or at least red ties, and grow their hair long. And again, not only will members of one group want to disassociate themselves from the accoutrements and trappings of the group they dislike, they will also want to disassociate themselves from thoughts and ideas of the group they dislike.

It's here, I think, that we find the legitimate source of the ad hominem fallacy. A says to B, "Don't buy a Lada because that's the sort of car the Communists produce and drive". But he also says, "Don't accept that fluoridation of the drinking water reduces tooth decay because that is a belief the Communists hold". That is to say, A treats beliefs as though they were like clothes and instead of saying something like, "Don't wear X because that's what the Communists wear" he says, "Don't hold Y because that's what the Communists hold". But this is of course clearly fallacious. Beliefs should be held or dismissed not on the basis of whether we like the people who hold them or not but on the grounds of whether they are true or false. If there is overwhelming statistical evidence to show that fluoridation of the drinking water reduces tooth decay then we have grounds for accepting such a belief.

The same point can be made about the ad verecundiam fallacy. As well as there being people in this world whom others dislike there are also people whom they admire. Not only do they want to be close to these people but they also want to wear the sorts of clothes that they wear, eat the sorts of food that they eat and do the sorts of things that they do. As well as all this they also want to hold the beliefs that they hold. For example if A is a great admirer of George Bernard Shaw he might decide to accept the belief that meat is injurious to the health because he believes that Shaw held that meat was injurious to the health. And again such reasoning (in so far as there is any) is clearly fallacious. A could only legitimately, in this context, accept that meat is injurious to human health if he is prepared to accept that G. B. Shaw was an authority on dietary matters.

To conclude, many people have unwittingly felt what makes, or could make, ad hominem and ad verecundiam arguments fallacious is that they involve a move from statements about statements to statements about things. However, there is no room for fallacy here since statements about statements can entail statements about things. The source of the falla-

ciousness that may be involved in such arguments is to be found in the fact that people are inclined to consider thoughts and ideas as being like personal possessions. And since many people want to distance themselves from the personal possessions of those they dislike and surround themselves with possessions similar to the possessions of those that they admire, they also want to distance themselves from the beliefs (any belief) of those they dislike and accept the beliefs of those they admire. And of course if anyone were to ignore or accept a belief for this sort of reason he would be reasoning (to the extent that he could be said to be reasoning) fallaciously.

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FOOTNOTE
[1] I.M. Copi, Introduction to Logic (5th ed.), Macmillan, p. 90.

Part/Whole Fallacies

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Composition/Division are the best known of the part/whole fallacies but there is a growing list of others which deserve special attention. A few years ago Howard Kahane noted that most examples of composition/division found in texts were contrived. He went on to suspect that people did not in fact commit such fallacies. I took him to task in private communication and he conceded only to the point of including one of my examples, the salesman's fallacy, in the third edition of his book Logic and Philosophy. The purpose of this study is to make the case for there being a virtual epidemic of part/whole fallacies being perpetrated upon an unsuspecting public. In what follows I will catalog a variety of arguments which, like the salesman's fallacy, are special applications of the more general category: composition/division. In addition, I will argue for a third kind of part/whole fallacy which is neither a species of composition nor one of division.

The fallacy of composition occurs when properties which do belong to the parts of a whole are illicitly attributed to the whole. A classroom example occurs in the inference that since each person on an elevator weighs less than 500 pounds that the total weight of the elevator load is less than 500 pounds. (Here Kahane is correct—no one in their right mind would make this inference.) A more convincing example, at least to the unwary, is this: since I like each ingredient in a dish then I