A CRITICAL STUDY OF INFORMAL FALLACIES

by

Donald L. Provence

A Thesis Submitted to the Faculty of the
DEPARTMENT OF PHILOSOPHY
In Partial Fulfillment of the Requirements
For the Degree of
MASTER OF ARTS
In the Graduate College
UNIVERSITY OF ARIZONA

1960
STATEMENT BY AUTHOR

This thesis has been submitted in partial fulfillment of requirements for an advanced degree at the University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgement of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in their judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED: Ronald L. Provence

APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:

Charles F. Wallraf
C. F. Wallraf
Professor of Philosophy

Apr. 25, 1960 Date
The class of logicians vilified in this paper is probably a null class. That is to say, it is doubtful that any logician is guilty of all the charges made against them here. However, I believe that every deficiency I have suggested is exhibited by at least one major logician. I have dealt with only nineteen fallacies. Fearnside and Holther in their recent book, *Fallacy, the Counterfeit of Argument*, have discussed fifty-one, including the formal fallacies. I have not been dealing primarily with their listings although those which coincide with the traditional informal fallacies will be found here. They have avoided some of my criticisms in their presentation. I believe we are in the main looking at the fallacies from different perspectives. I am attempting to point out that universal rules or formulas delineating what have come to be called the informal fallacies are impossible. They are trying in many cases to do just exactly this. I maintain that the most that can be done in this area is to point out danger zones in our reasoning. We cannot avoid all dangers in life without making it narrow and trivial, but we should be aware of the places disaster is most likely to strike. Many people work on high places without falling.

An exhaustive list of informal fallacies might be possible in an ideal static society that did not change its form of life. Even in this situation the fallacies would have to be more carefully restricted than any discussion of them I have read. Since we do not live in an ideal machine-like society I insist that systematic rule-like description of informal fal-
lacies is impossible. They are more like a check list of places to look if the automobile does not run properly.
INTRODUCTION

In the following three paragraphs I shall attempt to state briefly the conceptual structure which I believe to be the basis of the discussion of the informal fallacies found in standard logic texts. The classification finally given in the second paragraph is my own attempt to unify the existing classifications. I am in full agreement with the third paragraph. The nature of logic discussed in the first paragraph is a much more complex concept. I think I have fairly well summarized the attitude towards this question which is found in most textbooks discussing the fallacies.

Logic does not begin until some means of deciding the question of truth or falsity has been settled. Logic concerns itself with the relations between elements of discourse. Their truth or falsity must be decided some other way. Validity is defined on the basis of truth and falsity, but logic does not enable us to start from scratch and establish that this proposition is true while that one is not. The only question of relevance which logic can help us with is whether that proposition or group of propositions is relevant to the truth or falsity of this proposition which is in question. These relationships are called arguments. Where there is no argument, logic does not apply.

If we are to have an informal logical fallacy, we must have an argument. This requirement is based upon the nature of logic. Much of logic is concerned with the form of the argument, i.e. its structure. Those fallacies which have been called informal are characterized by the
necessity of examining the content of the argument in order to detect them. Their content reveals either that the evidence in the premises is irrelevant to the conclusion; that the language of the premises is ambiguous so that the conclusion which seems to follow, because of verbal confusion, does not really follow; or that something which is not true is tacitly assumed by the argument. Accordingly the informal fallacies can be divided into three groups, i.e. irrelevance, misuse of language, and presumption.

There is one more necessary condition for a fallacy. It must be convincing. If no one believes the conclusion we may have an interesting verbal paradox or a good joke, but we do not have a fallacy.

Here at the outset of my criticism I want to make clear some of the difficulties of this particular subject matter. No universal form of any informal fallacy can be set up that will enable us to criticize them, or any one of them, in toto. It is part of their essence to depend upon content. Consequently only concrete examples can be criticized. I shall not criticize examples I have invented, but rather the examples logicians have chosen to exemplify the fallacies. There may be better examples. When and if they appear they will have to be criticized in much the same manner. I will from time to time suggest situations which seem to fit the definitions of various fallacies even though we would hesitate to call them fallacious. I am not of the opinion that exceptions prove the rule.
FALLACIES OF IRRELEVANCE

I have chosen one fallacy of irrelevance for special attention. I believe that many of the points that will arise in the following discussion of the appeal to the crowd fallacy will have bearing on all of the other fallacies. Because of my resolve to use examples chosen by the authors of logic texts there will be several lengthy quotations in the immediately following discussion. I have also chosen from their books excerpts which attempt to define the argumentum ad populum. This method of approach may result in some confusion for the reader since the authors vary somewhat in their general classification of this fallacy. It is sometimes referred to as a fallacy of irrelevant conclusion and other times as irrelevant evidence. I will criticize the examples within the classification of the author who has supplied each one. As to my own classification, I prefer to leave the appeal to the crowd under the general heading of irrelevance, since I think both descriptions point to a possible aspect of the fallacy.

Appeal to the Crowd (Argumentum ad Populum):

In the fallacy of Irrelevant Evidence facts are presented as evidence or grounds for \( X \), which are actually irrelevant to \( X \). . . . Some special types of this general fallacy have been singled out and given names. These include the Argumentum ad Populum, . . . . The term is used to designate arguments which take the form of an appeal to popular feelings, popular sentiments, popular prejudices. An argument should take the form of an appeal to the relevant facts. When it doesn't, and when the irrelevancies to which an appeal is made are merely popular feelings, the result is an Argumentum ad Populum.¹

Mark Antony's funeral oration over the body of Caesar is an excellent example of an *Ad Populum*. For that reason I am citing it at length. It repays a fairly careful examination. Brutus, it will be remembered, had assassinated Caesar because he feared that he (Caesar) had designs upon the Roman Republic. The facts which Mark Antony cites do not prove that Caesar was not guilty of such designs. They do, however, cause the Roman populace to agree that Caesar was a kind man and Brutus an ungrateful friend. They are genuinely irrelevant to the real point, namely, Was Caesar guilty of revolutionary ambitions? And, by implication, Was Brutus justified in bringing about his death?

Four other logic texts also cite this example as an excellent instance of an appeal to the crowd. Because of this widespread agreement that this example repays careful examination, and because of the general scarcity of other examples of this fallacy in logic texts, I am going to quote the oration as found in Castell's *A College Logic*, deleting only his interspersed remarks.

Friends, Romans, countrymen, lend me your ears:
I come to bury Caesar, not to praise him.

... The Noble Brutus
Hath told you Caesar was ambitious.
Here, under leave of Brutus and the rest—
For Brutus is an honorable man—
Come I to speak in Caesar's funeral.
He was my friend, faithful and just to me.
But Brutus says he was ambitious;
And Brutus is an honorable man.
I speak not to disprove what Brutus spoke
But here I am to speak what I do know.
You all did love him once, not without cause.
What cause withholds you then, to mourn for him?
My heart is in the coffin there with Caesar,
And I must pause till it come back to me.

---

2 bid., p. 24.

O masters, if I were disposed to stir
Your hearts and minds to mutiny and rage,
I should do Brutus wrong, and Cassius wrong,
Who you all know, are honorable men.
But here's a parchment with the seal of Caesar;
I found it in his closet; 'tis his will:
Let but the commons hear this testament——
Which, pardon me, I do not mean to read——
And they would go and kiss dead Caesar's wounds,
And dip their napkins in his sacred blood,
Yea, beg a hair of him for memory,
And, dying, mention it within their wills,
Bequeathing it as a rich legacy;
Unto their issue.

Have patience, gentle friends, I must not read it;
It is not meet you know how Caesar loved you.
You are not wood, you are not stones, but men;
And being men, hearing the will of Caesar,
It will inflame you, it will make you mad:
'Tis good you know not that you are his heirs;
For if you should, O, what would come of it!

You will compel me then to read the will?
Then make a ring about the corpse of Caesar,
And let me show you him who made the will.
Shall I descend? And will you give me leave?

They do. He does. And resumes:

If you have tears; prepare to shed them now.
You all do know this mantle: I remember
The first time ever Caesar put it on;
'Twas on a summer's evening, in his tent,
That day he overcame the Nervii:
Look, in this space ran Cassius' dagger through:
See what a rent the envious Casca made:
Through this the well-beloved Brutus stabbed;
And as he plucked his cursed steel away,
Mark how the blood of Caesar followed it,
As rushing out of doors, to be resolved
If Brutus so unkindly knocked, or no;
For Brutus, as you know, was Caesar's angel:
Judge, O you Gods, how dearly Caesar loved him!
This was the most unkindest cut of all.
For when the noble Caesar saw him stab,
Ingratitude more strong than traitor's arms
Quite vanquished him: then burst his mighty heart;
And, in his mantle muffling up his face,
Even at the base of Pompey's statue,
Which all the while ran blood, great Caesar fell.
O, what a fall was there, my countrymen!
Then I and you and all of us fell down,
While bloody treason flourished over us.

O, now you weep and, I perceive, you feel
The dint of pity: these are gracious drops.
Kind souls, what, weep you when you but behold
Our Caesar's vesture wounded? Look you here,
Here is himself, marred, as you see, with traitors.
Good friends, sweet friends, let me not stir you up
To such a flood of mutiny.
They that have done this deed are honorable:
What private griefs they have, alas, I know not,
That made them do it: they are wise and honorable
And will, no doubt, with reasons answer you.
I come not, friends, to steal away your hearts.
I am no orator, as Brutus is:
But as you know me all, a plain blunt man,
That love my friend; and that they know full well
That gave me public leave to speak of him:
For I have neither wit, nor words nor worth,
Action, nor utterance, nor power of speech,
To stir men's blood: I only speak right on;
I tell you that which you yourselves do know,
Show you sweet Caesar's wounds, poor, poor, dumb mouths,
And bid them speak for me.

Why friends, you go to do you know not what.
Wherein hath Caesar thus deserved your loves?
Alas, you know not: I must tell you then:
You have forgot the will I told you of.

Here is the will, and under Caesar's seal.
To every Roman citizen he gives,
To every several man, seventy-five drachmas.
Moreover, he hath left you all his walks,
His private arbors and new-planted orchards,
On this side Tiber; he hath left them you,
And to your heirs forever, common pleasures,
To walk abroad and recreate yourselves.
Here was a Caesar! When comes such another?

Holmes, in his logic text, says of this fallacy, "the 'Friends, Romans, Countrymen' speech of Marc Antony, so clever that it runs almost the entire gamut of prejudices, ending with one of the strongest, the money appeal. What is a bribe but an example of extraordinarily poor logic?"

---

This is a very good example of the use of emotive language, but is an argument fallacious because it uses emotive terms? I suggest that we view this one as an argument that is valid though based upon emotion. In Castell's lengthy analysis we find that Brutus and his companions have killed Caesar. Brutus argues that if Caesar had been too ambitious then he should have been killed; he was too ambitious; therefore, he should have been killed. According to Castell, Antony's rebuttal should consist in showing that Caesar was not desirous of too much power and therefore Brutus' *modus ponens* does not hold. This certainly would have been one way to refute Brutus, but it is not the only acceptable way, and I think it is obvious from a "fairly careful examination" of his speech that it is not the way Antony took. He simply denied Brutus' hypothetical proposition. He maintained that even if Caesar had been too ambitious, as Brutus claimed, he still should not have been treacherously slain by his supposed friends. His argument runs something like this: Caesar was my friend and yours also. His whole life has illustrated his worth; eg. as he conquered our enemies, as he walked among you so that his mantle is familiar to you all, in his personal friendship with me and many others including Brutus who you all know was Caesar's angel; and now even in his death he has once again demonstrated his concern for your well-being and even that of your descendants. (Implied premise) Such a man is not worthy of death, especially at the hands of those he considered his friends. Caesar was such a man, and therefore Caesar's death was unjustified apart from any other consideration. Brutus says he was ambitious; I maintain that it is irrelevant to his death even if it is true.

This account of the argument is still too simple. Having been shown
that Caesar should not have been killed, the people are left to conclude for themselves that if the hypothetical proposition Brutus based his argument on is true, then it follows by *modus tollens* that Caesar was not too ambitious. This leads to further consequences. If Caesar was not too ambitious, Brutus has killed his very dear friend for no good reason. This is treachery. Since Caesar's death can easily be considered a weakening of the state, Brutus is not only treacherous, but also a traitor against the state. Traitors against the state cannot be allowed to live, therefore Brutus must be killed. Brutus is caught in the web of his own argument. It was he who proposed the main premise which now supports an argument endangering his life. We should also note that Antony has used an appeal to pity and an appeal against the man in the course of his speech and both have been relevant. The appeal to pity is part of the complex structure that forms the moral judgment of the implied premise; such a man as this did not deserve death. The *ad hominem* calls in question the honorableness of these men by suggesting that they had private motives aside from the welfare of the state, and by calling in question the moral character of men who would kill under the guise of friendship. This suggestion was probably true in the case of everyone except Brutus, and if it was true it was certainly relevant evidence in any attempt to elucidate the circumstances surrounding Caesar's death. Also it requires a very strong case on the part of Brutus to vindicate his overruling of the duties of friendship. In answer to Holmes' criticism I would like to point out that if Caesar's will is genuine it cannot possibly be considered a bribe. It was given before any action was requested, and it cannot be taken away if action is refused.
This is a very good example to work with since it includes the setting of the argument. What then is the result of our analysis? I believe there are several. (1) Logical relevance is not the issue. Antony's argument can be set in unimpeachable form. (2) An appeal to the beliefs and emotions of the people is not necessarily bad. Our feelings may be more adequate than cold abstract reasoning in situations involving other people. In fact a logic that abstracts from the feelings of a situation will almost surely distort the relevant "facts". (3) This example points out an element which I believe is always found when the accusation of "informal fallacy" is present. This element is a conflict of values. What should be considered as relevant evidence when Caesar's death is being investigated? The answer will vary with the situation or in this case with the reader's sympathies. We cannot deny our feelings. If we side with Brutus his evidence seems relevant, and Antony is an emotion-monger. On the other hand if we side with Antony, Brutus is at the very least a well-meaning but deluded man who has been used by treacherous individuals to attain their own ends. He has allowed the picture of fear they have presented him to cloud the truth his friendship should have made evident. (4) We can see the need for warning posts along the path of reason. The emotion of the crowd has made them unable to see that if Brutus' argument contains irrelevant evidence as Antony has claimed, then Brutus' premises should be carefully evaluated before another argument is built on them. Emotion may often see clearly, but it tends to have tunnel vision. Consequently other factors that should be considered are easily missed.

"The Fallacy of the Irrelevant Conclusion (Ignoratio Elenchi). This common fallacy occurs whenever we advance as an argument something that has nothing to do with the point at issue." "Argumentum ad Populum. This variety of irrelevant conclusion is committed by anyone who addresses
a mass audience and endeavors to sway the judgment of those present by appeal to matters close to their prejudices and emotions but separate from the point at issue. An orator or editor who argues against desegregation of public schools on the ground that such measures threaten racial purity must answer to the charge of this fallacy.\(^6\)

As a second example for consideration I should like to present this suggested argument in more graphic perspective. The mayor of a small southern town is addressing a town meeting consisting only of white southerners: He says, "Folks, you all know me, and I know most all of you. And you know too that folks are tryin to push us into lettin niggers go to school with our children. But I know you folks don't want your children to marry niggers any more than I want my Betsy down there to marry one, so we just aren't goin to be pushed." I am sure that all of the authors of the logic texts I have read which cover this fallacy would accept this as an example.

This second example of an appeal to the crowd contains probably the most thoroughly castigated of American prejudices in its most blatant form. Nevertheless I question its being a fallacy of irrelevant conclusion. Do the premises really have nothing to do with the conclusion? In the background of this meeting there are several spectral premises lurking. (1) The northerners are trying to make us marry the Negroes. (2) Children grow up and marry the children they go to school with. (3) Negroes are low grade people. These lurking premises would be accepted by most of the people in the meeting if they were explicitly stated. They may be false, but they are nevertheless the background of the argument. A valid argument may have false premises. Furthermore the truth or falsity of these last two premises would not be an easy matter to decide. At any rate this background of beliefs

---

would enable almost any competent student of Logic to construct a valid formal argument in which our worthy mayor could place his remarks.

The argument from the threat to racial purity which Brennan suggested would necessitate a set of premises implying that racial purity is desirable. I have used an argument that does not involve defining race because I think it is more nearly what the southerners actually argue and it does not require as much space for explication. The other argument need not be questioned on the basis of logical relevance any more than the one I have used. The disagreement will swirl around definitions and truth of premises. Perhaps the most important thing for us to see here is that relevance arises out of situations, not out of logic texts. There is such a thing as logical relevance, but it seldom concerns us when we are considering informal fallacies. The relevance involved here is wrapped up in the values of the people concerned.

"When the premises of an argument contain an appeal to popular attitudes or feelings in order to support the truth of some unrelated conclusion, that argument is said to commit the fallacy of 'appeal to the crowd.'" Advertising, for example—a pretty girl standing beside a shiny new car, a major league ball player shaving with a certain kind of razor, or a box of cornflakes picturing the smiling face of a cowboy favorite and his horse—may be interpreted as a form of argument in which the conclusion is a statement, explicit or implied, of the superior quality of a given product, and the premises are graphic but irrelevant appeals to different kinds of crowds."7 "We may define the _argumentum ad populum_ fallacy . . .

---

as the attempt to win popular assent to a conclusion (unsupported by valid argument) by arousing the passions and enthusiasms of the multitude. This is a favorite device with the propagandist, the demagogue, and—the advertiser. I submit as a third example advertising of various sorts.

The third and last example is not really an argument at all, and in all fairness to the intelligence of the advertisers should not be considered as an argument. However, since logicians seem to insist that our whole lives are governed by our acceptance or rejection of good or bad arguments, I am going to construct a valid argument from advertising. The Lone Ranger rides again. He doesn’t kiss girls. He doesn’t get married. He never lies. He never misses. He has the fastest horse. He is strong, brave and a true friend. He always does the good. (This was the Lone Ranger of yesteryear. He probably kisses girls and kills bad men today.) Now mother and daddy are usually right, but the Lone Ranger is always right. The Lone Ranger says that I should eat Super Doodles with Raisins (and they are sugar coated). Therefore, I should eat Super Doodles. This is a valid argument. Also Super Doodles actually taste better than any other cereal as long as I am enamored by the Lone Ranger. This argument on a child’s level retains much of its cogency at the adult level insofar as we identify with the heros and heroines of our T.V. and movie fantasy world.

For the most part the complexity of advertising lies outside of the world of logic. Its components should not be considered arguments yet they have a profound effect upon our lives. The sponsor wants us to buy his product, and he is not stupid enough to think that we buy things as the

---

result of rational argumentation. Many a man today is rationally convinced that he should not smoke cigarettes at all, but this will not keep him away from our sponsor's product. Now if the logician wishes to say that it should, and that in fact all our actions should be governed by rational argument, he is certainly free to do so; but he should not suppose that our sponsor thinks this or thinks that people do act this way. Now if the sponsor is not arguing for the truth of a conclusion we do not have a logical fallacy, but what is he doing? I suggest two things. He is first of all aware of our identification with the star of our show, and is attempting to inculcate the habit of using his product through our identifying ourselves with the star's tastes and habits, just as we vicariously experience the star's adventures. Second, he is using the star as a universal friend who as a friend can recommend things he likes to us. It is not necessary to suppose that in this capacity this individual has more influence on us than our weekday acquaintances, but they are not available to our sponsor. If we like the show, we tend to like the star. Therefore, the star is able to influence our choices in much the same way that our other friends influence us, and his area of influence is very much greater. Here I think we should notice that if one of our friends says to us, "Why don't you try the Monte Carlo restaurant some time? Alice and I always enjoy it;", and after trying it we find that we are not at all pleased; we do not go back and accuse our friend of lying. We assume that he was telling the truth since he is our friend, and that either they changed cooks or our tastes are different.

Most advertisements are not arguments, but this does not keep them from achieving their purpose. When Kaisar foil is compared with super foil
by dropping an elephant first on the announcer and then on each of the samples with the result that when the strong man has been removed from under the super foil the elephant goes through both samples, and the announcer declares super foil 200% shinier; it is absurd to call it an argument. Nevertheless it is an excellent commercial, and we may very well buy Kaisar foil on the basis of liking their sense of humor.

If the logician replies at this point that this is just exactly what is wrong with the world, we will know something about his values. If he succeeds in imposing his values on the rest of the world, advertisers will change their techniques, but until he succeeds they will probably work on the basis of how the world is; not how it should be. On this analysis the question of what is and what is not fallacious depends upon the individual's ideals concerning what human behavior should be. In this case it will do no good to state what one considers to be fallacious; rather a basis of values is required. I may buy Kaisar foil on the basis of enjoyment, if this is a mistake the logician should show me why it is; not tell me that it is. Perhaps his answer is that he won't play with me if I won't play his game.

I suspect that by now my reader is ready to accuse me of gross sophistry. The upper strata of the university population would be robbed of a very large portion of its conversational materials if the sort of things I have just exempted from the realm of informal logical fallacies were allowed to continue on their way uncriticized. Surely there is a mistake somewhere. I for one would not like to see them go uncriticized, but I insist that we must look to something other than logic to validate our criticism. Adequate criticism does not consist in pinning the bad name,
There is no necessary logical irrelevance in these examples. When we say something is irrelevant in these contexts we usually mean that the premises which would establish relevance are not true. I would like very much to state unequivocally at this point precisely those tests which a proposition must meet to be true, but I simply do not know how. My lack of knowledge does not make it impossible for me to see that it is not logic but values that are at stake here. Some of these values are moral and aesthetic as well as true or false, and as far as I can see the informal fallacies of irrelevance cannot be properly evaluated until these values have been balanced and elucidated. It is folly to suppose that all men know how to determine each of these values in any given instance even for themselves. It is greater folly to suppose that if we could only communicate better we would find that all men really have the same values and determine them the same ways. And it is yet greater folly to suppose that logic can help us with this knotty problem. Logic only begins when this prior problem has been brought to some conclusion. In fact, it may be strongly argued that logic itself is only one rather narrow manifestation of an attempt to solve this prior problem of values; i.e., logic is the rules that delineates what we consider in propositions to be relevant to the truth of other propositions.

I shall not attempt as complete an analysis of the remaining fallacies. Rather, I shall attempt to point out some of the lines which an adequate appraisal might follow.

The argumentum ad ignorantiam is a very difficult fallacy to see in new perspectives. There seems to be two traditional views of this fallacy. On one view it consists in arguing that a conclusion is true, or that it is
false because it has not been proven otherwise. On another it consists in using the ignorance of the hearer against him by using subject-matter or terminology which is unfamiliar to him. I find it difficult to take the first type seriously when it is abstracted from its situation. Nor do I believe anyone else takes it seriously when stated in abstract terms, as in the proposition: \( X \) has not been proven to be false, therefore \( X \) is true. In relation to an actual situation it may be more plausible, as when I say: It has not been shown to be true that there is an elephant in this room; therefore it is false that there is an elephant in this room. Also, the argument seems to have different uses in different situations. The minister says: "Godless philosophers have attempted for centuries to prove that there is no God without success." This statement obviously carries with it the implied conclusion; therefore there is a God. The wise philosophers will not be taken in by this device; it is an obvious \textit{ad ignorantiam}. But what is its use in the sermon? Is it an attempt to prove to the philosophers that there is a God, or is it being used to support a conclusion already believed? Would the minister use this argument when speaking to a philosophy club? I doubt it. It is used in a congenial atmosphere. Does it have any weight in its original situation? Yes, I think it does. Should it? That is a more difficult question. The argument about the elephant was conclusive because we would not have rejected the hypothetical proposition, if there is an elephant in this room then it can be proven by a brief examination. The argument concerning the existence of God will have at least as much weight as the hypothetical proposition, if there were not a God then the attempts of philosophers to prove it would be successful. If we reply that the existence of God is not something that can be proved or disproved,
the minister will probably be happy to withdraw his argument and point out that he always has said that belief in God is a matter of faith not reason. I want to consider one other possible example. Our penal code says that a man is innocent until proven guilty. Why does it rest itself upon an obvious fallacy? I think the answer is that the use of the argument has slightly shifted again. This is not an attempt to prove the innocence of criminals, but rather an attempt to safeguard the innocent. Again we find that there is a hypothetical proposition possible in this situation that we would not reject. Namely, if a man cannot be proven guilty then he should not be punished. Now, what should we say after this discussion? I suspect that you are tempted to say, "Nevertheless it is a fallacy even if you can dream up sophistical exceptions." You might add that the arguments that are acceptable really depend upon the elementary argument form of modus ponens. I maintain that they do not really depend upon this or any other form. They depend upon the situation. If the situation concerns an elephant in this room I do not have to run through a modus ponens to determine whether the argument is valid or not. It is just as valid in its ad ignorantium form. If the situation is the minister's sermon, the argument is performing its function of reinforcing faith whether it can be reduced to elementary argument forms or not. Also it is important to notice here that the minister and his congregation will not give up their belief in God if we convince them that this is a fallacious argument. They will simply fall back on some other support if this one is removed. Nevertheless it is a support until it is removed.

As to the second type of ad ignorantium, I have defined it in such a way that it is necessarily fallacious. If I had been more general, and
attempted to leave out emotive words such as "against"; it would have been obvious that this argument also depends upon situations for its validity or invalidity. There is not a fallacy involved every time someone speaks to an audience using unfamiliar subject-matter or unfamiliar terminology. Professors do it every day, and students pay good money for the privilege of placing themselves in this situation. We only object when the speaker uses his position of responsible leadership to deceive, but this cannot be determined from an examination of the argument abstracted from its situation.

The _argumentum ad baculum_ has always been a very effective persuasive device. We learn to respect the rule of force very soon after our arrival in the world. The child learns through repeated lessons that he should believe and do what his parents say. There are of course many factors besides force at work here, but force certainly plays a leading role. I am of course including under force the ability to withhold desired objects and goals. This complex environment which each child is placed in has tremendous influence upon his beliefs and upon his methods of acquiring new beliefs. One lesson we all are taught very thoroughly is that there are times when it is irrelevant who is right. Justice does not always prevail. When we are faced in later life with situations where a great deal of power is opposed to our normal course of life we would only show that we are inept students if we did not in numerous instances change our pattern of living. Where do truth and righteousness fit into this rather bleak picture? To a great extent wherever they can get a foothold. Should they control our actions? We would like to think so, but I can think of numerous instances where they cannot take immediate overt control. Should Jaspers have opposed Hitler more strenuously instead of sitting in his study writing books? If he had
he would simply be dead, and we would be poorer. This should make clear the sort of decisions I have in mind. The question now arises, does this sort of moral paradox have anything to do with what has traditionally been called the argumentum ad baculum? As usually stated this fallacy consists of taking force as evidence for truth. Obviously we can conform outwardly without believing in the form of society we are conforming to. Since the moral paradox involves action this is not much help, but it does seem to alleviate the truth problem to some extent. I wonder if it really does help the truth problem, or does it only seem to do so? Can one really believe one way and act another for any great length of time? Doesn't guilt become nearly impossible to bear over even a few isolated actions of this sort? It is of course possible for Jaspers to do the only thing left for him to do without his action being inconsistent with his belief, but could he have placed Jews in the ovens day after day? Can a man fight day after day in a war on the side he believes to be evil? I think the answer to these questions is - no, not without going insane. A man may go insane; escape from the coercive force; or convince himself that he is wrong, and that those who control the force are right. This last action would constitute a fallacy of ad baculum. I wonder when we call something like this a fallacy, whether we are saying he should not have allowed force to constitute evidence for what he believes to be true, or that horrible situations like this should not be allowed to exist. In the case of the newspaper editor influenced by his advertisers, or a politician influenced by a power group we feel somewhat justified in passing moral judgment on the man. I think we do this because we are convinced that there must be some other way which would be morally preferable. In extreme cases this is not always
obvious. Once again we should note that values are at stake. The logician
is in this case a moralist on the side of truth and justice, but truth is
not the only thing that compels assent. Perhaps it should be, but to a
great extent, I suspect, that will have to be decided by the individual man
faced with an appeal to force.

According to Copi, "The argumentum ad misericordiam is the fallacy
committed when pity is appealed to for the sake of getting a conclusion
accepted." If this means, as it seems to me, that pity is irrelevant
evidence for any conclusion, I think it is pathetic and absurd. There are
obviously situations such as the much used courtroom example where we feel
that it is irrelevant for the pretty blonde accused of murdering her husband
to plead not guilty on the basis of the fact that she is pretty, crying, and
a widow. Nevertheless pity may be extremely relevant for the acceptance or
rejection of some conclusions. A welfare worker may find it indispensable
evidence. I have noted above an appeal to pity in Mark Antony's speech that
I consider relevant. What we consider relevant and irrelevant depends much
more on the total life-situation than on the rather barren fact that pity is
involved.

The argumentum ad hominem (abusive and circumstantial) also requires
an extreme narrowness of mind to maintain its constant fallaciousness. Here
again we should note that there are some uses of a man's circumstances that
we would call irrelevant. Everything Nietzsche said is not false on the
basis of his eventual psychosis, nor is Khrushchev a universal liar because

---

9 Kaufmann, Walter, Critique of Religion and Philosophy (Harper
he is a communist. Nevertheless we would be foolish if we did not take
Nietsche's psychosis into account in an attempt to understand his philosophy.
Name calling is very much the same. First we want to know if the unpleasant
adjective fits the man. Then we must decide whether it is relevant in this
situation. There is no justification for the view that a man's character
has nothing to do with the truth and falsity of his statements.

We constantly use the circumstantial variety of this fallacy in
philosophy and call it internal criticism. It may be refuted if the person
attacked simply withdraws the contradictory premise or belief in his system,
but very often this would destroy the edifice. Whenever this is true this
is a devastating argument in that it makes a shambles out of the evidence
for the conclusion. True enough it does not prove that the conclusion is
false, but it certainly eliminates the reasons on which it was based. The
argument utilizing the man's own beliefs against him may be weak or easily
disposed of, but it is certainly not in principle fallacious. As to the
abusive variety, if it is in principle fallacious, it is difficult to under­
stand why an employer wants to know so much about the men he hires. Why
does a graduate school require references? If the abusive statement that a
politician has accepted bribes from labor unions is true, it certainly is
relevant to anything he has to say about labor unions, and it is idiocy to
suppose that it is not. Every good teacher knows that it is well nigh im­
possible to answer a student's question without some knowledge of his back­
ground of beliefs. These beliefs are a part of his character, and his
class is relevant to what he says. All that I have said here obviously
reflects my own values, and they may possibly be wrong, but logic cannot
show them to be.
I have no comments on false cause except for the obvious fact that until we know what a cause is it will be difficult to analyze false ones.

I am going to conclude this section on fallacies of irrelevance with a few remarks on authority. If we call this fallacy the appeal to authority and in so doing rule out all use of authority, education will stop. If we call it misuse of authority we have a fallacy but its limits may be difficult to ascertain. There are three central difficulties. (1) Who is a qualified authority? (2) How do I know that this statement actually derives from this individual whom I accept as a qualified authority? (3) What is the correct interpretation of the statement? (3b) If we do not agree on the interpretation how do we decide who is correct? These problems are all problems of application. They make the use of authority difficult but not fallacious. When the questions are answered to everyone's satisfaction we will be able to outline the fallacy of the misuse of authority.
MISUSE OF LANGUAGE

There are several general considerations I am going to mention that have bearing on this type of fallacy. First, there is still the possibility of conflicting values, but in this case it does not seem to present a very serious danger. By misuse of language we mean saying something in such a way that it gains assent which it would not gain if it were stated more clearly. This is a value judgment, but it is one that has widespread agreement. Also we are much more willing to consider language a circumstance of convention than we are such things as morals. This enables us to give up modes of expression in order to gain uniformity and thus communication. We are not as likely to be intractable about means of expression. Most of us want to communicate, and we consider things that hinder communication negative values.

Second, I think we should note that vagueness, which is usually included under the heading of ambiguity, is not always an evil. It is not even always an evil in primarily cognitive enterprises as opposed to those which are primarily emotive. I suggest that vagueness may be a positive value in certain stages of what we call exact sciences. If definitions in the early development of a science are too strict it may stop the development at a premature stage. Very often the expansion of an analogy has proven useful, even if it is eventually discarded. Poetry is often quite cognitive in its meanings. Yet, the depth of meaning we value in poetry is often due to the wealth of possible interpretations that can be given to it. This in turn is often due to accidental or deliberate vagueness of words and
phrases. This fact probably more than any other is the cause of the extreme difficulty encountered in translating poetry out of one language into another.

Third, there are misuses of language which are not really part of arguments which we none the less dislike. Some of our so-called fallacies deal mainly with this sort of thing. I must say that they are not logical fallacies, but nevertheless they oppose our agreed value of communication.

Composition and division are often considered fallacies of ambiguity or misuse of language. I am going to reserve them for separate consideration since they seem to me to be quite involved. This leaves us with the fallacies of four terms, equivocation, amphiboly, accent, and figure of speech. I will call figure of speech word-magic.

A few writers stressing internal relations have maintained that all the terms of a syllogism slightly change their meaning in each premise and in the conclusion. If this is true, we simply must ignore it or give up our form of logic altogether. Perhaps everything we say does violence to the actual facts, but if it does, violence simply must be done. We cannot get along without language and reasoning of some sort, and both of these useful tools depend upon some sort of universality and repeatability. It seems that the use of the syllogism requires univocal meanings for its terms. If we cannot agree upon univocal meanings we will have to give up syllogisms.

The fallacy of equivocation is an expansion of the fallacy of four terms. In a sense these fallacies are formal rather than informal. It is true that they require an examination of content to detect them, but it is equally true that they are expressions of a general rule which delineates
the language-game we call logic. Our logic simply does not function when terms change their meanings and we detect it. If we do not detect it we say it is all right until it is detected. Then we say it was wrong.

Amphiboly seems to be mainly a curiosity of speech. It is almost impossible to imagine a genuine argument that is convincing because of this fallacy. I suspect that the only way one could be constructed is to arrive at a conclusion that the listeners already believe. In this case it is not the argument that convinces since no conviction is required. This seems more likely to be a case of "itching ears" waiting to be scratched. We do object to amphiboly and its partner in crime, the fallacy of accent, when they are used in contexts where information is desired. King Croesus had every right to be angry with the oracle at Delphi, and so do we have the right when we are intentionally deceived by periodicals supposedly giving us the news but using one sort of faulty accent or another to sell copy. At the border line there are advertisements selling cars for $2,998.50 instead of $3,000. Most of us are not deceived by these techniques, and yet an automobile for $2,998.50 very often seems considerably cheaper than the actual $1,50 involved would warrant in spite of our great mathematical acumen. Still, these are not logical fallacies in any explicit sense. They may be said to involve implicit arguments, but I doubt if any logician would approve of their form if they were made explicit. This isn't just a case of suppressed premises. In this case the whole argument is suppressed.

Aristotle's fallacy of figure, of speech involved the substitution of actual entities for words. Especially assuming that metaphors like mother nature establish the actual feminine gender of nature. Probably this sort of thing seldom occurs on the adult level, in consciousness at
least, but we do have the interesting case of Martin Heidegger who has said, "The Greek language and it alone, is \textit{logos}. . . . through the audible Greek word we are directly in the presence of the thing itself, not first in the presence of a mere word sign."\footnote{Heidegger, Martin, \textit{What is Philosophy} (Twayne Publishers, 1958), p. 45.}
FALLACIES OF PRESUMPTION

Some of the fallacies I am considering under the head of presumption could very well be considered misuse of language. I have placed them here because they exhibit the very difficult problem of taking things for granted that should be examined. I suspect that the history of philosophy might be characterized as the attempted remedy of presumption. This immediately suggests a possible difficulty we may run into here. Philosophy questions everything. If everything is questionable, isn't everything we can say possibly presumptuous? In Whitehead's words:

The philosophic attitude is a resolute attempt to enlarge the understanding of the scope of application of every notion which enters into our current thought. The philosophic attempt takes every word, and every phrase, in the verbal expression of thought, and asks, What does it mean? It refuses to be satisfied by the conventional presupposition that every sensible person knows the answer. As soon as you rest satisfied with primitive ideas, and with primitive propositions, you have ceased to be a philosopher.

Of course you have got to start somewhere for the purposes of discourse. But the philosopher, as he argues from his premises, has already marked down every word and phrase in them as topics for future enquiry. No philosopher is satisfied with the concurrence of sensible people, whether they be his colleagues, or even his own previous self. He is always assaulting the boundaries of finitude.

Bearing these remarks in mind we must be careful how stringent a requirement we place upon the infallacious. There are three fallacies of presumption that have very close relationships. They are disguised conclusion, question-begging definition, and arguing in a circle. Perhaps the

---

worst offender here is the disguised conclusion. Allow me to quote from Schipper and Schuh:

A rather naïve way of begging the questions is by the simple device of reaffirming a statement as the premise of an argument. The conclusion may be rephrased when used as a premise, or it may merely be reasserted with more vigor. But in either case the question at issue has been begged, since any statement whatsoever can be "proved" by setting up a tautologous argument, in which the premise and conclusion are identical. 13

What are we to say? Aren't all deductive arguments that are valid tautologous? Is there something in the conclusion that was not in the premise? Evidently it is not the tautology that is being objected to here, but the kind of tautology. It is evidently fallacious to say p implies p—therefore p, or all circles are round therefore this circle is round. Surely something is wrong. What is the problem? Perhaps we should ask our definers for an example. "It might be asserted that smoking is not good for a person. Then, when asked why this is the case, the reply might be: 'Well, it simply isn't good for you', or 'Because smoking is harmful to a person's health.'" 14 Evidently if p then p therefore p is fallacious. No, I think what we want to say is that it is trivial. It is irrelevant. And perhaps a logic that allows such implications is trivial and irrelevant also.

The question-begging definition seems to be fallacious only on extra-logical grounds also. You must not define your terms so that disconfirmation is impossible. Why? Because you must not. No, we can't say that; that is disguised conclusion. Why then? Because if you do disconfirmation is impossible. No, that won't do. Why? Because it conflicts with our values

14 Ibid., p. 56.
concerning relevant proof. Now we understand, but these values are not part of the rules of logic. In fact logic allows and insists that all deductive arguments can be and are tautologous. Are language-games that use this sort of reasoning useless? No, I would hate to raise a child without their use. We object to them as adults because they do not give us any new information, and in these two forms above they do not even express the information very differently.

Circularity has been a bug-bear of philosophers for a long time. Hume's famous refutation of induction bears witness to its power, but is it a fallacy? Well, it is a fallacy if it proposes to prove something not contained in the premises, but then so are all other deductive arguments. Also we should note that the detection of circularity does not make an argument false; it merely indicates that its evidence is self-contained. Now the question seems to be, are arguments whose evidence is self-contained worthless? I suggest that it depends upon the argument, and also upon how tight the circle is. A rather broad circle may in its course provide us with many interesting insights. It may provide us with an entirely different view of the world. Its circularity may only be an indication of its consistency. Its basic presuppositions cannot be proven in this way, but presuppositions are not proven in any other way either. A tight circle on the other hand falls under condemnation because of its triviality and irrelevance. By these terms we express our desire for explanation rather than reiteration. The tight circle is explanation enough for the child learning our ways of life and speech, but it does not satisfy the adult philosopher.

One other fallacy of presumption should be mentioned before I conclude with composition and division. It is the fallacy of complex question.
This muddying of the waters of language is not only used very successfully, but in fact is supported by our court procedure in which the witness must answer yes or no without qualification to certain questions. Our modes of gaining information make us exceedingly susceptible to its use. Whenever we read or listen to the expression of ideas without questioning what is said we can easily be swept along by this fallacy. Our whole system of education encourages this type of listening. When we listen this way we are easy prey for the complex question, "Why is democracy the best form of government in the world today?" or, "How does communism enslave millions of people?" Again we should note that logic is not sufficient to point out the difficulty, and it depends upon the situation as to whether we object to this use of language or not. I have pointed out situations where I personally object. Again we must have values before we have informal fallacies. The fallacy is a conflict with our values more often than not. I object to the concealing of premises which I might not accept if they were more explicitly stated whenever the speaker is supposed to be giving me information that transcends his likes and dislikes.
COMPOSITION AND DIVISION

These last two fallacies present an interesting problem of classification. They are usually considered to be fallacies of ambiguity or misuse of language. They could just as easily be considered instances of irrelevance since there is no necessary connection between their premises and their conclusion. I would prefer to call them fallacies of presumption in my three classifications, but I would like to note that a classification I have not used, material fallacies, also fits them very well. In fact they seem usually to be fallacies of presumption about the material involved. They might also be considered over-simplifications. It would also be an over-simplification to say that whenever the requirements for composition and division are satisfied we have a fallacy. As my little girl says, "Sometimes I do; sometimes I don't."

I have chosen Schipper and Schuh's definition of composition because it is concise and yet complete. I have already noted the possibility of classifications varying from theirs.

Names of collections or wholes are often used equivocally, in that such names, and their modifying adjectives, may refer to each of the members or parts of a class, or to the class as a whole. When an inference is made from properties of the parts of a whole, considered individually, to properties of the whole, considered organically or collectively, it is said that the fallacy of composition has been committed. For what is true of each of the parts may not hold true at all for the whole.\(^{15}\)

There are two rather distinct problems involved here and I am going to quote a paragraph from Copi which I think points them up quite well:

\(^{15}\)Ibid., p. 50.
These two varieties of composition, although parallel, are really distinct, because of the difference between a mere collection of elements and a whole constructed out of those elements. Thus a mere collection or class of bricks is neither a house nor a wall. A whole like a machine, a house, or a wall has its parts organized or arranged in certain definite ways. And since organized wholes and mere classes or collections are distinct, so are the two versions of the composition fallacy, one proceeding to wholes from their parts, the other to classes from their members or elements.16

It is very difficult to find anything that even might be convincing to illustrate this fallacy. One example comes up very frequently in various forms. I shall state it briefly. Our coach has managed to convince fifty top notch football players to come to our school this year. Every position has at least two excellent candidates. Therefore we will have an excellent team this year. Castell gives the following argument as the stock example of composition:

A tariff on sugar would benefit the refiners; a tariff on wheat would benefit the farmers; a tariff on cotton would benefit the cotton growers; a tariff on anything would benefit the producers of that commodity. Therefore, since we are all, directly or indirectly, producers of commodities, a tariff on everything would benefit everybody.17

And Copi says, "I have heard it seriously argued that since each scene of a certain play was a model of artistic perfection, the play as a whole was artistically perfect."18 These are the most convincing arguments I have found used as examples.

The first thing I want to do is to point out that these arguments should not be considered as deductive arguments but as inductive. If we look at it this way we will immediately see that any attempt to obtain a de-

ductively certain conclusion in this manner will be illegitimate. I am sure that debaters and political speakers often do attempt to do this, and whenever they do I suppose the fallacy of composition is as good a name for the misuse of inductive arguments as any. But we need not view every argument that proceeds from part to whole as fallacious. Let us consider our first example from the point of view that it is presenting significant evidence for its conclusion.

We are now in another world of logic. It is certainly impossible to have an excellent team with manifestly inferior players. The coach does not seem to think that it is fallacious to consider the material he has to work with as an extremely important factor in the building of an excellent team. We might also pose other objections to the objections we hear against this argument. What we mean by a top notch player is among other things that he is capable of fitting into an organic type of activity with goals that transcend the individual's purposes. This argument is very often supported by reference to all-star teams which are said to be inferior to some of the regular teams in the league. This is gross inattention to facts. All-star teams have very little time to practice together. The coach may be inferior to the coaches of some of the regular teams. All-star teams are necessarily selective. If the seven best players in the league happen to be on one of the regular teams they will not all be selected for the all-star team for various reasons. Also we should consider what we will say if a team that supposedly has excellent players is a poor team. I think we are likely to say that we were mistaken. For one reason or another the players are not all top notch. Or we may point to numerous injuries. Perhaps the coach is not able to utilize the quality he has to work with. Or maybe
some other team has even better players, so that by comparison our team does not look too good. This is exactly the sort of procedure we would go through if any other inductive argument did not turn out as we supposed that it would. In general the main thing that we might object to in the argument is that it does not make certain qualifications which are probably implied. Probably it would have been better to say that if the other factors that go into making good teams are approximately constant throughout the league, we will have an excellent team this year. We should not be too harsh when qualifications such as this are not made in ordinary discourse. The discussion of football teams need not be turned into an exact science.

The only reason I have put the second example in is to illustrate how words whose ramifications are not known may mislead. I do not think anyone who knows how tariffs function in an economic system would be fooled by this gross over-simplification. However, a political leader who wanted not tariffs on everything, but a particular tariff might use a variation of this argument very successfully on a group of people who only had a vague notion of what tariffs do. This is commonly referred to as a "snow job."

Students learn quite early in their education what a valuable tool this can be for tests and term papers. The unfortunate thing here is that logic cannot be of much help to us. The general form of the argument is very useful with different content. This is of course the second type of ad ignorantium I mentioned earlier. Because we know about tariffs we see that this argument in this situation is fallacious.

I believe our third example illustrates once more that the terrible fallacy of composition looks very different when viewed as an inductive argument. It is not deductively certain that the play as a whole is
artistically perfect, but I suggest that if the artist was actually capable of making each scene as a whole artistically perfect this is fairly good evidence to suppose him capable of viewing the play as a whole and making it artistically perfect also. It is possible that for one reason or another he failed, but each scene is certainly confirmation to some extent of the conclusion. I grant that it appears that Copi's acquaintance was not using the argument in this way. Even so we must still face another problem. There are cases where one of the qualities of the parts determines one of the qualities of the whole. It is the fact that bricks are hard that makes a brick wall hard. Now it could be that what we mean (at least what the gentleman in question here meant) by the whole play being artistically perfect was that all the scenes were artistically perfect. Or even more subtly, that a scene is artistically perfect only if it fits properly into the play as a whole. In this case we would have a valid deductive argument. Once again the disagreement may well turn on values.

Copi has pointed out two distinct types of the fallacy of composition. All of our examples have dealt with the organized whole. In view of this I think we should see what happens when we talk about a collection. Since I find the distinction between organized wholes and disorganized collections difficult to make clear, I am going to use Copi's suggestion of a pile of bricks as a disorganized collection. Undoubtedly there are certain things we would not say here, e.g. since every brick weighs three pounds the pile of bricks must weigh three pounds. But on the other hand there are a great many things we could and would say here, and it would be quite inconvenient if we could not say them. If every brick that has been deposited in that pile is red then the pile is red. If every brick is hard then the
If the density of five bricks we examined ranged from 1.8 to 2.0 then the density of the pile of bricks is approximately from 1.8 to 2.0. Now remember we are considering these as inductive generalizations. It is possible that the pile of bricks will not be red just as it is possible that the sun may not rise tomorrow, but we will be surprised in either case. Also if I am a contractor and intend to construct one of those organized wholes called houses out of this pile of bricks, I will be extremely displeased if either the color, hardness, or density makes some radical change when placed in the pile or the house. But you say I am drawing on information outside of my premises. Oh yes, but we often do that. You should not suppose though that it is the great number of brick houses I am drawing upon. If an entirely new building material was developed tomorrow that had never been used, I would be very sceptical as a contractor if its color, hardness, and density all changed, when it was piled on the job, from the sample I had seen at the factory. I am not used to working with that sort of building materials.

Insofar as this is a criticism of the informal fallacies as found in regular logic texts, this would conclude my discussion of the fallacy of composition. However there is a rather large shadow which falls across the path of the preceding discussion. This is the shadow of emergence. Obviously I cannot hope to deal with the concept of emergence adequately in this paper. However there are certain relations to the fallacy of composition that it seems necessary to mention.

The fallacy of composition seems to some people to be aimed directly at those philosophers who deny the concept of emergence in the world. Interestingly enough, most of the authors of logic texts would probably find
themselves on the fallacy side if this were actually the case. This is probably the main reason that emergence did not enter into the preceding paragraphs by name. It is rather difficult to know precisely what I believe in when I say, "I believe in emergence." I think that I mean some fact about the world. Namely that there is novelty which is not totally dependent upon the antecedent events. This is usually expressed by saying that there are things which happen in the world which are in principle unpredictable. This is often backed up by an example of the combination of hydrogen and oxygen to produce water. Hydrogen is very inflammable. Oxygen supports combustion. And water is one of our primary fire fighting tools. How could anyone predict that the combination of these two gases would produce this wet liquid? Well, how do we? As a matter of fact we can predict just exactly this. Once this fact is considered we must introduce a qualification. What I meant was, this event is unpredictable before it happened the first time. But if I mean that I don't mean much. It had happened the first time before there was a man to see it, and generally speaking only men or beings somewhat like men predict. Therefore it has always been predictable as long as that meant anything significant. I have not yet expressed myself quite clearly. Perhaps I mean by emergence that I would never have guessed that hydrogen and oxygen would produce water. That is very likely true enough, but we try to eliminate pure guessing as much as possible when we attempt to predict. We did not find out about the components of water by a guessing game.

All of my attempts to state clearly what is meant by emergence seem to end in confusion. Not all philosophers are clear in their presentation of problems, but among those who are, Professor Broad stands high. Fortunately
he has stated the concept of emergence for us with his usual clarity:

**Emergent Theories.** Put in abstract terms the emergent theory asserts that there are certain wholes, composed (say) of constituents A, B, and C in a relation R to each other; that all wholes composed of constituents of the same kind as A, B, and C in relations of the same kind as R have certain characteristic properties; that A, B, and C are capable of occurring in other kinds of complex where the relation is not of the same kind as R; and that the characteristic properties of the whole R(A, B, C) cannot, even in theory, be deduced from the most complete knowledge of the properties of A, B, and C in isolation or in other wholes which are not of the form R(A, B, C).

This is certainly clear enough, but I suspect that an analysis of it may still end us in confusion. Emergence seems to turn on what is or is not deducible in theory. I suspect that deduction in Broad's sense of the term means the type of argument which can be expressed by a tautologous statement. Therefore to deduce the properties of R(A, B, C) from a complete knowledge of A, B, and C will by definition require that those properties which we wish to obtain be contained in our complete knowledge. Broad grants in the immediately following pages that the word "properties" can be used in a manner that would make this possible. He wants to exclude this use. Now if we allow him to do this the case for emergence is closed. But unfortunately no distinction worth making has been made. We have discovered that unless our knowledge of A, B, and C includes within it their ability to form the relation R(A, B, C), we cannot deduce this relation from that knowledge. Of course we already knew that.

Certainly Broad is too careful a philosopher to hinge a concept upon an arbitrary definition. What is his basis for rejecting the use of "properties" that would allow the desired deduction? This turns out to be the

---

state of our knowledge.

Nothing that we know about Hydrogen by itself or in its combinations with anything but Oxygen would give us the least reason to expect that it would combine with Oxygen at all. And most of the chemical and physical properties of water have no known connexion, either quantitative or qualitative, with those of Oxygen and Hydrogen. Here we have a clear instance of a case where, so far as we can tell, the properties of a whole composed of two constituents could not have been predicted from a knowledge of the properties of these constituents taken separately, or from this combined with a knowledge of the properties of other wholes which contain these constituents.20

Arguments based upon the state of our knowledge fall under the heading of argumentum ad ignorantiam. We found in our discussion there that we usually will accept this type of argument if we would accept a certain hypothetical proposition. In this case that proposition would be, if these things could be known about Hydrogen and Oxygen we would know them. In view of the constantly changing state of our scientific knowledge, I would not wish to accept this proposition as true. Consequently I am sceptical about Broad's argument.

Actually the main difficulty has not even been mentioned. Broad tries valiantly to show that the laws of dynamics illustrate cases where what he calls emergence is not involved, whereas chemical combinations illustrate emergent qualities. If this distinction could be maintained there might be a scientific use for the word emergence. As a matter of fact the distinction will not hold. We are just as dependent upon observing the relation \( R(X,Y,Z) \) before "deducing" it from \( X, Y, \) and \( Z \) in dynamics as we are in the case of \( R(A,B,C) \) in chemistry. The main difference so far as I can see is that the laws of dynamics seem to have a wider scope of application. This of course depends upon the particular level of abstraction.

---

20 Ibid., p. 63. (Underlining mine).
possible. No relation is ever exactly repeated.

This all seems strange to me. I was sure I knew what I meant by emergence, but it seems very hard to say. I think the key was in the verb of one of my early sentences. I believe in emergence. I suggest that this is like believing in some religion. That is to say, my belief in emergence helps me to structure (understand) the world around me. This is one way of saying that I believe there is freedom in the world, and like the arguments for and against freedom it is very difficult even to state, much less resolve. Probably what I want to say goes something like this - I believe that there are events in the world that could not be predicted by anyone, no matter how much information he had, nor how intelligent he was. A scientifically inclined God could not predict it. If this is what I mean then it is very much like a religious belief.

If I hold this belief, the fallacy of composition seems at first to be more significant. It appears as if it were designed to support my contention. Does it actually do so? I certainly do not believe that every event is an emergent event. There are some things that I can predict with a great deal of confidence, e.g. that I am going to raise my right arm. I also feel rather confident about hydrogen and oxygen combining into water under the right conditions. I might even predict certain things about water on the basis of my knowledge of its components. I will of course be wary about predicting things which have never happened in the past. How am I different from the non-believer? Well, I am different in my attitude towards myself and other people. That is, I consider it possible for them to transcend their usual character patterns in some novel fashion, and I do not consider this apparent transcendence to be the result of my
inadequate knowledge of them. Consequently in certain situations I might say, "I know it appears as if he will certainly goof but he might surprise us." The non-believer may agree, but he will secretly think, "He wouldn't surprise me if I could get him in the right kind of laboratory conditions for a while." In spite of this rather profound difference we could still agree that in certain situations A, B, and C are inadequate evidence for the conclusion D, while in another situation A is adequate evidence for the truth of D. This will depend on our criterion of adequate evidence in each case.

One thing seems glaringly obvious to me at the end of this rather lengthy discussion. There is no evidence which will enable us to say emergence is a fact of the world, or that there is no such thing as emergence in the world. This being the case, we should not accuse people of fallacious reasoning on the basis of our belief in emergence. There are obviously pitfalls in reasoning from parts to wholes, but if we could never do it validly we would tremendously weaken the potentiality of reasoning.

The fallacy of division is the converse of the fallacy of composition. There is only one type of example that I have found of division that I think has any plausibility. It says that since the independent administration of Shoone has been proven corrupt, Emil Jones, the city dog catcher who is an independent, must be corrupt. If feeling is high enough against the independents this argument may have plausibility for its listeners, since they have already condemned all independents. Most of us feel that this is an inadequate way to form judgments, but again I must point out that this is a value of ours. If the people here in question share our value we may point out to them that they are inconsistent, but consistency
is a value too. They may not care if they are inconsistent. If being cor-
rupt means belonging to an administration that is corrupt then Emil is
corrupt. We must ask, "How do we use this concept?" The other examples of
division are too absurd to mention. Remember a fallacy must be convincing.
I have suggested several things about informal fallacies in the course of this paper which I will now try to summarize.

(1) Few if any of these fallacies should be called logical fallacies.

(2) An adequate formulation of the types of discourse represented by these fallacies which we consider objectionable would require an explicit formulation of values.

(3) Logic cannot help us in our search for values.

(4) The distinction between emotive and cognitive language is unrealistic and distorts many contexts.

(5) The examples of informal fallacies found in most logic texts are very often not fallacious simply because they would not convince anyone.

(6) The few that are convincing are usually seen to be fallacious only by those whose values conflict with the persons who accept the argument.

(7) Occasionally an argument convinces us because its form seems good and we do not understand the material involved well enough to see that it is a gross over-simplification.

(8) The form of the fallacy of composition is precisely what we call reasoning from induction. Consequently it is erroneous to use it in any way we could not use induction, yet it is an indispensable form of reasoning.

(9) We should not assume that logical argument is, or should be, the only way to induce action or produce decisions.

(10) In considering what we will or will not call fallacious reasoning, we
should pay much more attention to the situation involved than to either the form of the argument or the "elements" of the argument.
BIBLIOGRAPHY