coming up in Milwaukee on April 23-25, 1981.
We heartily congratulate the Western Confer-
ence on the Teaching of Philosophy for or-
ganizing this program, and hope that many of
our readers will attend.

We also applaud the initiative that
Teaching Philosophy and its editor Arnold
Wilson have taken in offering a $200 prize
and publication in that journal as incentives
for writing papers on teaching informal logic
and practical reasoning for the APA "The New
Logic Course" program. Contributors to the
Informal Logic Newsletter who have sent us
course outlines may well want to write their
teaching ideas up and submit them. Remember
the December 15 deadline.

A new feature, "Chestnuts and Paradigms" is
launched with this issue. We hope scholars
among our readers will send us more goodies
for this larder in the future.

As the ILN moves toward a newsletter-cum-
journal, we hope that readers will remember
that our initial objective of serving as a
clearing house for ideas, notices, news,
announcements of interest to people teaching
informal logic courses remains central.
This is your mouthpiece, your notice-board.
Please continue to feel free to send us any
and all material you would like to share with
others. The sense of isolation, of working
alone in the dark, which so many of us felt
while we were teaching informal logic/criti-
cal reasoning courses a few years ago, has
to some extent lifted. The devotion of part
of an APA program to informal logic indicates
that things have begun to change; our subject
is becoming respectable. May this augur a
more self-confident and vigorous exchange of
ideas in these columns.

Ralph H. Johnson continues to serve as co-
editor while on sabbatical this year (1980-
81). West coast (North American) readers may
be interested to know that he is located in
Los Angeles, and can contact him directly at
2553 Tanoble Drive, Altadena, California
91001 (213-791-3519). ✳
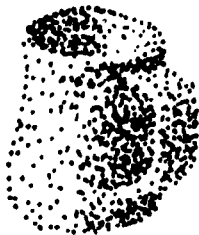
responses

The "inductive-deductive" debate continues
unabated in this issue. David Hitchcock's
article in ILN, ii.3 sparked a response from
Trudy Govier, in which she argues further
that deductive standards and inductive stan-
dards do not exhaust the standards of argu-
ment. Fred Johnson reacts also to Hitchcock,
but mainly to Sam Fohr's article in ILN,
ii.2; Johnson suggests we should talk about
inductive and deductive arguings, not argu-
ments. Fohr himself has a response to the
criticisms by Hitchcock and Govier of his
original piece in ILN, ii.2, as well as some
comments on Fred Johnson's suggestions;
Fohr remains convinced that the inductive
argument vs. deductive argument distinction
is sound and exhaustive, and that his way of
characterizing it is correct. Finally--so
far as this issue goes, at any rate--Perry
Weddle, who began the exchange with his
article in ILN, ii.1, responds to Hitchcock
(ILN, ii.3), Fohr (ILN, ii.2), and Govier
(ILN, ii.3); and Weddle hasn't much changed
his mind, either. Is that clear?

Assessing Argu-
ments: What Range
of Standards?

Trudy Govier
Trent University

David Hitchcock, following Brian Skyrms,
defends the inductive-deductive dichotomy by
taking it to be a dichotomy of standards,
rather than an exhaustive division of argu-
ments into two basic types.[1] He says that in
deductive logic, we have a theory of the
circumstances in which premises do or do not
make it logically impossible for a conclusion
to be false. And in inductive logic, we have
a theory of the circumstances "in which an
argument is inductively strong or inductively
weak--that is, in which it is more or less
probable that its conclusion is true, given
that its premise(s) are true." Within each
theory there are various types of logic: in
deductive logic we have the logic of truth-
functional sentence connectives, first-order
quantifiers, the logic of identity...; and
within inductive logic we have "the logic of

the confirmation and disconfirmation of hypotheses, the logic of analogical arguments, the logic of inferences from sample characteristics to population characteristics, the logic of controlled experiments to prove causal claims, the logic of conductive or balance–of–considerations or good reasons arguments, and so forth" (ILN, ii.3, p. 10).

On this account the exhaustive dichotomy between inductive and deductive arguments is to be replaced by a dichotomy of standards of good argument or, as Hitchcock puts it, "types of validity". Hitchcock admits--indeed he argues--that for many cases it will not be easy to decide just which standard is the appropriate one to apply, and this is why it is inappropriate to regard the inductive/deductive distinction as a distinction between types of argument. Perhaps it is easier to distinguish standards than to sort out arguments. However, there will presumably be some fundamental connection between the variety of arguments there are and the number of different standards which theoreticians see fit to articulate; a primary reason, I take it, for developing an area of logic around a "type of validity" would be that there are a number of arguments which are appropriately assessed by the standard thereby developed.

This caveat aside, I am inclined to agree with Hitchcock that it is more profitable to differentiate types of standard than types of argument. However, I disagree with his view that 'inductive/deductive' will exhaust the range of standards. On Hitchcock's view, premises can provide grounds for conclusions, and the strength of these grounds can be assessed in two and only two ways. We can ask whether the truth of the premises would make the falsity of the conclusion logically impossible, thus assessing the argument by the standards of deductive logic. Or we can ask whether the truth of the premises would make the falsity of the conclusion improbable, thereby assessing the argument by the standards of inductive logic.

The word 'probable' is a difficult one, used in many different contexts. Even within the theory of probability we have very different interpretations of what "probabilities" are about--logical probability, subjective probability, and the relative frequency theory. The indeterminate meaning of 'probable' and 'improbable' may make it seem reasonable to say that if premises provide grounds for a conclusion they either do so by making its falsehood impossible, or by making its falsehood improbable; and there is no third alternative. I think, however, that this is a falsely simple view of the matter. Probabilities are attached to empirical hypotheses which are less than certain. There are conclusions which are not exactly empirical--being, for instance, evaluative or conceptual--and which are yet defended by premises nonconclusively relevant to them. Arguments in which this sort of structure is found are quite different from those arguments typically dealt with in inductive logics, and "probable/improbable", despite their vagueness and flexibility, seem out of place in dealing with them. Some such arguments are conductive (the "good reasons" type); others analogical. Hitchcock wanted

to assess both by a "making probable" inductive standard. I think that this is inappropriate.

Consider:

A. Assisted euthanasia should not be legalized, because (1) the danger of abuse is too great, and (2) medical advances being possible, we never know for certain that a particular patient is incurably ill.

Argument A is a "good reasons" argument; (1) and (2) are put forward as reasons in support of the conclusion. Hitchcock said that such arguments would typically be assessed by inductive standards. Thus we are to ask whether (1) and (2) "make it probable" that assisted euthanasia should not be legalized. But the concept of probability seems most out of place here. Does the danger of abuse make it improbable that euthanasia should be legalized? It is a reason against the legalization--not a conclusive one, but a reason; however, whether euthanasia should be legalized is a question of policy to which "probability", much more at home in empirical contexts, is only applied by linguistic stretching. That there is a danger of abuse is not a bit of empirical evidence counting against a claim which we have not verified yet, but could verify later; rather, it is a factor which counts, or weighs, against our deciding to legalize assisted euthanasia. To speak of the conclusion as rendered probable by (1) and (2) is linguistically unnatural; one might stretch "probable" and "improbable" for this context and others like it, but by so doing, one would hide a real difference.

Look at another case:

B. It takes 30 years to raise a family of five, so how long does it take for a whole country to reach political maturity? (Claude Ryan on Quebec nationalism, quoted in the Calgary Herald, August 20, 1979.)

In this rhetorical question, we have the material for the following analogical argument:

(1) It takes 30 years to raise a family of five.
(2) Just as children must mature, a whole country must reach political maturity.
C(1) It takes a long time for a whole country to reach political maturity.
(Implied) C(2) Quebec has not yet reached political maturity.

I shall not venture to comment here on the merits of this argument; rather I shall address myself to the question as to whether the concept of probability will serve us well when we come to assess it. Ryan is asking us to assimilate the development of a nation to the development of children: to assess his argument we must ask ourselves how alike these are, and how unalike.[2] The concept "maturity" is normative in either application. Ryan's argument is not like the kind of analogical argument where we infer, on the basis of a closely developed analogy, the presence of some empirically discernible characteristic (e.g., hydrogen in the atmosphere of Mars) from other shared features.

There the notion of enhancing the probability of a conclusion would have its normal and proper location. Ryan asks us to think of nations as we would think of children and to use the concept "political maturity". Clearly his argument is not deductively conclusive; nor does it seem intended as such. And yet to think that there may be something in the comparison is not to think that the proba-bility of the statement, "Quebec has not yet reached political maturity," is increased by the comparison. It is hard to give any sense at all to the notion of such a statement's having a probability, measureable or other-wise.

My own argument here, and indeed--I sus-pect--many philosophical arguments are of the type I have been trying to describe. When assessed by standards of deductive validity, they fail tests imposed, for the reasons of-fered do not logically entail the conclusions. They offer support for a conclusion, and less than logically conclusive support. But yet it seems inappropriate to see these premises as enhancing probability. For the issues are issues of value, or of appropriateness of classification--issues in quite other ter-ritory from the realm of empirical hypothesis where the concept of probability has its natural place.

I suggest that "inductive" and "deductive" are indeed two types of standard for ap-praising arguments, but that there is no particular reason for thinking that these exhaust the range of standards. In fact, there is quite good reason in the study of actual cases for thinking that they do not.

NOTES

[1]"Deductive and Inductive: Types of Valid-ity, Not Types of Argument", by David Hitch-cock, Informal Logic Newsletter, ii.3, June, 1980.

[2]I have been influenced here by John Wis-dom's Virginia Lectures, entitled "Explana-tion and Proof". These lectures are, unfortunately, available only in manuscript; however a useful resumé of the material may be found in D. Yalden-Thomas, "The Virginia Lectures", in Renford Bambrough, Wisdom: Twelve Essays. ✳

Deductively- Inductively

Fred Johnson
Colorado State University

Fohr (ILN, ii.2) gives an account of deduc-tive arguments that is designed to be com-patible with the following claims: a) There are invalid deductive arguments, and b) No arguments are both deductive and inductive. He succeeds in his objective but I think there are compelling reasons for rejecting his account. He can find a place for the deductive-inductive distinction but the terms involved apply to arguings not argu-ments.

Fohr states that:

1. "Real arguments. . .are given by people to convince someone of something."
2. ". . .arguments do not exist in vacuo but are person-related."
3. ". . .an example on a page of a logic textbook is not strictly speaking an argument. . . . We should call this example a 'possible argument'."
4. "If a person intends that his premises necessitate his conclusion he is giving a deductive argument."

As they stand 1-4 are confusing. For example, 1 and 2 taken together suggest that you can give something that does not exist. The use of "possible" in 3 is confusing. Presumably, possible arguments are actual somethings, just as possible statements are actual some-things, viz., actual sentences. But what are the actual things that possible argument are? To avoid such puzzles let us rewrite 1-4 as follows:

1'. An argument is a try by an A to con-vince a B that C by offering as evidence E.
2'. The A and the B are crucial to the definition in 1'.
3'. The ordered pair $E;C$ with constituents mentioned in 1' is not an argument.
4'. A deductive argument is a try by an A to convince a B that C by using evidence E given that A construes E as necessitating C.

1'-4' are compatible with a) and b). An invalid deductive argument is a deductive argument in which the E does not necessitate the C. An argument cannot be both deductive and inductive since it is impossible for someone simultaneously to construe E as necessitating and not necessitating C.

The problem with 1'-4' is that this notion of an argument does not accommodate what "politicians, lawyers, housewives, historians, economists, psychologists, and others" (Govier, ILN, ii.3) know: someone's argument can be the same as someone else's; someone's argument at one time can be the same as this person's argument at another time. A try by A to convince is not the same as a try by B to convince any more than a try by A to levitate is the same as a try by B to levitate. (And A's earlier try is not the same as his later try.) Of course, people can try to do the same thing but the tries are not the same.

So let us modify 1'-4' in order to be able to say with justification that A's argument is the same as B's and also preserve a form of the deductive-inductive distinction.

1". A is arguing iff A is trying to convince B that C by offering as evidence C.
2". "Arguings" do not exist in vacuo but are person-related.
3". The ordered pair E;C with constituents mentioned in 1" is an argument (but it is not an "arguing").
4". A is arguing deductively iff A is trying to convince B that C by offering as evidence E and A construes E as necessitating C.

Since the same ordered pair E;C may be involved when A is arguing as when B is arguing, A's arguments may be the same as B's. Couple 4" with the claim that A is arguing inductively iff A is arguing and is construing E as providing only partial evidence for C and we have a form of the deductive-inductive distinction.

Our "approved terminology" includes: "arguings," "arguments," "arguing deductively" (or "deductive arguings"), but not "deductive arguments." It is tempting to instate the latter familiar term by agreeing that A's argument is deductive iff A is arguing deductively. This would be a pedagogical mistake. Talking about deductive arguments to our students would have the same effect as talking about happy houses and emphatic beliefs to people who are in the first stages of learning our language. My hunch is that people in the latter category would think we are talking about features of houses and beliefs rather than features of persons, and our students would think we are talking about features of arguments rather than features of persons.

It does not follow that there are not other methods of instating the "deductive argument" terminology. I will mention only one more, which is discussed by Hitchcock (ILN, ii.3). He takes seriously (to my surprise) a remark by Weddle (ILN, ii.1) that "what distinguishes deductive arguments from inductive arguments is the sections of logic books in which they happen to be found." We can extract the following definitions from Hitchcock's remarks:

E;C is a deductive argument iff the relation between the premises and the conclusion of E;C is best explored by using a truth-functional calculus, or a first order predicate calculus, or S5, or. . . .

E;C is an inductive argument iff the relation between the premises and the conclusion of E;C is best explored by considering the structures of analogical arguments, or the structures of arguments with causal conclusions and premises justified by controlled experiments, or. . . .

The definitions refer to a bundle of calculi and a bundle of structures? But what makes the two bundles two? In which bundle do fuzzy logics occur? Isn't it possible that there is a valid argument whose propositional calculus mate is invalid-in-the-propositional calculus, whose S5 mate is invalid-in-S5 and, in general, whose X mate is invalid-in-X, where X is any calculus found in the first bundle? Would such an argument be inductive? Would we ever be in a position to assert that the relation between the premises and the conclusion of an invalid argument would not be best explored by looking at the structures referred to in the definiens of the definition of "inductive argument"? (That is, would we ever be in a position to say that an invalid argument is deductive?) We do not even need to begin to try to answer these questions without recognizing that students in our informal logic courses should not labor over this definition of a deductive-inductive distinction. ✻

Deductive-Inductive: Reply to Criticisms

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U. of Pittsburgh at Bradford

I

In my initial article on this subject (ILN, ii.2) I argued for the view that the traditional distinction between deductive and inductive arguments was both viable and important. I distinguished between the two types of arguments by saying that deductive arguments were ones put forward with the intention that the premises necessitated the conclusion whereas inductive arguments were ones put forward with the intention that the premises rendered the conclusion probable. Different sorts of objections have been raised regarding these ideas, but I still feel that my views are correct and in what follows I will explain why.

II

David Hitchcock (ILN, ii.3) argued that we should follow Brian Skyrm's advice (Choice and Chance, 2nd ed., Dickenson, 1975) and scrap the traditional deductive-inductive argument distinction in favor of a distinction between deductive validity and inductive strength. "The main question to be asked in this connection about any argument is how strong the link is between the arguer's premisses and his conclusion, not whether the arguer's claim about their link is correct." (p. 10) According to this view we should ask about any argument: is it deductively valid, or at least inductively strong, or neither? The person's intentions are not important.

Hitchcock's principal criticism of my view is that my analysis of deductive and inductive arguments in terms of people's intentions is not exhaustive. For people often give arguments with no intention about how their premises support their conclusion.

> Suppose, for example, I say to my wife: 'You should help me paint the kitchen this evening. You promised you would.' My intention is to convince her to help me paint the kitchen, on the ground that she promised she would. But I make no claim, nor (let us suppose) do I have any intention, about the strength of the link between my premise and my conclusion. (p. 10)

He adds that he thinks many people have no intentions about the strength of their arguments when they put them forward.

While I think this sort of an objection can be pushed too far, I would be the last one to claim that in all cases people have such intentions—even if they are completely unaware of them. I say that this sort of an objection can be pushed too far because a person doesn't have to state an intention explicitly, or even be thinking of something, in order to have an intention. We do many things in an automatic fashion. But if questioned a person might say, "Of course I intended the premises to necessitate the conclusion." On the other hand, there is little doubt that there have been many cases where people, perhaps because they attempted to give arguments on the spur of the moment, had no intentions one way or the other. While Hitchcock seems to think that this proves that my analysis of arguments in terms of intentions is not exhaustive, I think there are other ways to view the matter.

I must remind the reader of a point I made in my first article: arguments are made by people to convince someone of something. Arguments do not exist in vacuo. The examples in logic textbooks are really possible arguments (unless they are real-life examples). When a person utters something which could be construed as an argument but has no intention about the relationship of the premises to the conclusion then that person has not really expressed a unique argument. Without the intention we cannot say that person has expressed a particular argument.

When a person utters what could be construed as an argument but has not expressed any intention about its strength, it is all the same whether that person has no intention or merely hasn't made the intention clear. In such cases we have a real problem in knowing how to judge the person's statement, for the statement is ambiguous. If we are not in a position to ask the person any questions we can either decide to judge the statement as one kind of argument, e.g., as deductive, or judge it first as a deductive argument and then as an inductive argument. If we are in a position to ask questions we should avail ourselves of the opportunity. I am thinking of questions like, "Are you saying that the conclusion of your argument must be the case if your premises are correct?" In the example Hitchcock used his wife might have replied, "What are you saying? That since I promised I'd help you paint this evening it follows that no matter what I am obligated to help you paint? Or if you're not saying this, then what are you saying?" She might have said this while in the midst of doing some important household task.

There is one other way of viewing Hitchcock's example which may or may not be apropos. It is that his example doesn't involve any argument at all. For we need not take the giving of a reason to be equivalent to the giving of an argument. (This was suggested to me by Prof. George Mavrodes of the University of Michigan.) It may be that in saying what he said to his wife Hitchcock had no intention about the relationship of his premises to his conclusion because he was not really giving an argument. Whether or not this sort of approach applies to Hitchcock's example, it is probably the correct approach in many instances of reason giving.

To sum up this section of my reply, I believe that my analysis of arguments in terms of the arguer's intentions is exhaustive. Where there are absolutely no intentions there is no definite argument expressed. And in many such cases we may be correct in saying that even though the person gave a reason there was really no attempt to give an argument.

III

In wishing to discard the deductive-inductive distinction Hitchcock is running up against the actual practice of philosophers doing logic. When faced with judging the worth of an argument philosophers will commonly decide how it is to be analyzed and only then examine it. In other words, antecedently to judging it they will decide how it is to be judged. If they decide it is an inductive argument they do not look to see if the premises necessitate the conclusion. On the other hand, if they decide it is a deductive argument they do not examine whether or not the premises render the conclusion probable. Are philosophers deluded in thinking that arguments fall into two categories? Have they been going about things in the wrong way for these many years? I don't believe so and I don't think Hitchcock does either. He seems to realize that philosophers practicing logic decide how an argument is to be judged before judging it. For after listing certain types of logic he says:

We ought to assess an argument on the basis of which of these specialized types of logic seems to provide the most appropriate framework—in other words, on the apparent logical form of the argument. In doing so, we may be guided by the claim or intention of the arguer about the strength of the link between premisses and conclusion. But such a claim or intention is at best of heuristic value, and may have to be discounted. (p. 10)

In saying this he is implicitly admitting a distinction between types of arguments—a distinction which is antecedent to any judgment of arguments. Naturally, I disagree with the last part of his statement. When people's intentions are indicated we should honor them, even when we can see that they sold themselves short or oversold themselves. If we do not honor a person's intentions then we are not truly dealing with that person's argument. Instead of judging that person's argument we will end up judging a different argument. Rather than ignoring a person's expressed intentions when we feel that person is misguided, we should say such things as, "You seem to think that your premisses are conclusive, but they really aren't." We might go on to say, if the example allowed, "If you would change your conclusion to a weaker statement, if you said 'It was likely that such and such,' you would have a strong argument."

When faced with a statement (in the absence of the person who made it) which could be construed as an argument but which carries no indication of intention, a philosopher practicing logic will usually try to peg it as having a certain form. Once this is done the statement will be judged accordingly. Thus a statement which seems to involve a generalization from individual instances will be judged as an inductive argument. And one which seems to have the form of a categorical syllogism (or of transposition, or modus ponens, or disjunctive syllogism, or the fallacy of denying the antecedent) will be judged as a deductive argument. There is nothing wrong with this practice as long as it is understood that (1) We may not be doing justice to the arguer, and (2) We may ourselves be turning an ambiguous statement into a definite argument.

IV

Trudy Govier (ILN, ii.3) finds many problems with the inductive-deductive distinction, especially with my way of drawing the distinction, but shares my "reluctance to scrap the distinction." There are basically two things which disturb her about my views and I will discuss them one at a time.

First of all, Govier feels that any explanation of the deductive-inductive distinction in terms of the arguer's intentions is problematic. In response to my original article she writes:

If we really take Fohr seriously on the overriding importance of intention, then we will have to accept the peculiar consequence that there are inductive arguments which are deductively valid and deductive arguments which are inductively strong. For instance, suppose someone argues:

1. Either Levesque will be defeated at the next election, or he will win and call another referendum.
2. Since Quebeckers are fond of Levesque, he will not be defeated at the next election.
3. Thus, there will in all likelihood be another referendum.

This argument is deductively valid, but the conclusion contains the tentative expression 'in all likelihood'. (p. 7)

Govier goes on to say that the person might have expressed the conclusion hesitantly because of an uncertainty about the first premise. I take it that the uncertainty was over whether Levesque would call for another referendum.

There is an old saying to the effect that an example is not an argument. It is one thing to illustrate a general comment with an example, but quite another to prove a general point with an example. This particular example is capable of many different elucidations. First of all, we may add to Govier's analysis that the person putting forward the argument might be unsure of the second premise as well as the first. That is, the person may believe that since Quebeckers are fond of Levesque in all likelihood he will not be defeated in the next election. Most people are aware of the fact that a politician's favor with the voters can change drastically in a short period of time, so it would be probable that the person putting forward the argument really had a weaker version of the second premise in mind. In fact, if we could find a person who actually put forward this argument we could probably get that person to admit to overstatement.

Why bother asking people about their arguments? Because we should be interested in their intentions. It is important to find out if they really said what they meant. They may have been thinking one thing and saying another. In this particular case the upshot was a hesitant conclusion following some forthright premisses. Once we get clear as to what was really going on in the arguer's mind we can see that the arguer was really thinking of an argument whose form is deductively valid, although one with the phrase "in all likelihood" in the conclusion. The form is:

p, or q and r
probably not p
therefore probably r

Before I would assess an argument such as the one in Govier's example I would question the arguer. I might ask, "Why do you say 'In all likelihood' instead of just stating straight out that...?" If I was not in a position to question the arguer then I would have to honor the arguer's intentions as indicated in judging the argument. I am willing to live with the consequence that according to my views I am forced to call this argument inductive even though it has a deductively valid form.

It may be said that if an argument I would call inductive could be analyzed as having a deductively valid form, or an argument I would call deductive could be analyzed as being of a strong inductive type, then my distinction between deductive and inductive arguments is not very important or significant. I have no control over the valuation another person may put on the deductive-inductive distinction as I have drawn it. However, it would seem to me that one thing which might lead a person to downgrade it is a preoccupation with neat textbook examples which nobody in their right mind would ever actually use in trying to convince someone of something. I am more concerned with the real arguments of real people. For this reason I am concerned with what people intend when they give arguments. The analysis of such arguments is a much more complex affair than is evident from most logic textbooks.

Govier's other objection to my view is that the two-fold deductive-inductive distinction doesn't really do justice to the wide variety of types of arguments. To put it another way, this two-fold classification is not very helpful in describing the nature of an argument. Furthermore, since "inductive logic deals exclusively with confirmation/disconfirmation of empirical hypotheses by empirical data on particulars" people may get the idea that "all arguments are either deductive or scientific-empirical-inductive. Such a belief we inherit from positivism, and it is this legacy which makes people think that there cannot be arguments in support of moral judgments" (p. 8). In order to understand Govier's concern one must keep in mind that she views ethical arguments as non-conclusive. According to her views they would therefore fall into the inductive category along with legal and other types of arguments, and possibly get lost in the shuffle.

I wish to say first of all that I share Govier's concern that ethical arguments not be overlooked. In my logic courses I have found that most students don't think there can be arguments in support of moral judgments. Thus when they spot a passage with the word "should" in it, they automatically assume that no argument is being presented. No doubt this is due to the blight of ethical relativism in our progressive age. The result is that many people think that ethical judgments are a matter of individual taste. Be this as it may, it does not seem to me that we should on this account reject the deductive-inductive distinction. Rather, what is necessary is to impress on students and others that there can be reasons for moral judgments, and that indeed there are perfectly good arguments with conclusions which begin with the words "You should" and "You shouldn't".

I find myself in disagreement with Govier's classification of all ethical arguments as non-conclusive and hence inductive. It seems to me that most ethical arguments are enthymemes, and, leaving aside for the moment the matter of the arguer's intentions, if these enthymemes are fleshed out using the principle of charity the result will be an argument with a deductively valid form. If someone said to his wife, "You should help me paint the kitchen this evening. You promised you would," and we took this to be an argu-

ment, then we should reconstruct it in the following way:

> When you have promised to do something then you should do it.
> You promised to help me paint the kitchen this evening and there are no extenuating circumstances.
> Therefore you should help me paint the kitchen this evening.

I would not want to claim that all ethical arguments will be found to have a deductively valid form, but only that many of the most commonplace types will be found to have such a form.

<div align="center">V</div>

I have already remarked on the complexity of many real life arguments. Nowhere is this more evident than in the case of arguments which Carl Wellman has chosen to call conductive (Challenge and Response, Southern Illinois U., 1971). In her critical review of Challenge and Response (ILN, ii.2), Trudy Govier discusses Wellman's conception of the conductive argument. She quotes the following passage from the book. The conductive argument:

> derives its conclusion from a variety of premises each of which has some independent relevance. Typically, although by no means always, several reasons are given in such arguments; and in those cases where a single reason is advanced, there are others which might have been given as well. Since what is characteristic of this sort of reasoning is the leading together of various considerations, it seems appropriate to label it 'conduction'. (p. 52)

Govier goes on to say:

> The conductive argument is one in which the premise, or premises, are each separately relevant to the conclusion, though none is sufficient to show its truth. (p. 12)

I do not see any need for adding a new category to the deductive-inductive classification, and I do not believe that the sort of argument Wellman calls conductive (and which is commonplace enough) has been analyzed correctly.

In showing how such arguments should be analyzed I would like to work with a real life example. It comes from a collection of articles and editorials assembled by Alan Harris and Gerald Gurney (Argument, Cambridge, 1968, p. 5). The example I have in mind is an editorial which appeared in the Daily Telegraph on January 28, 1964. The writer argues that England should not raise the minimum school leaving age from 14 to 16. He gives three reasons. (1) There is already a projected teacher shortage of 35,000 and raising the school leaving age would cause even a greater shortage. (2) "Already there are many 14-year olds...who derive no obvious pleasure or profit from remaining at school. These children jeopardize the education of those who would benefit by it." (3) It would further prolong the task of instructing the uninstructable which has broken the hearts of many teachers.

From the tone of the editorial (which is all there is to go on) I would judge that the writer thinks each of the three reasons is conclusive. What he is doing is presenting three independent deductive arguments, all of which are enthymemes. Using the principle of charity I would reconstruct them in the following way:

(1) If raising the minimum school leaving age would cause a severe shortage of teachers, then the minimum should not be raised. Raising the minimum school leaving age would cause a severe shortage of teachers. Therefore the minimum age should not be raised. (Perhaps an extenuation clause should be put in the consequent of the first premiss in this and the next two arguments.)

(2) If raising the minimum age would result in the presence in school for two more years of students who would jeopardize the education of those students who could benefit by these years of schooling then the minimum age should not be raised, etc.

(3) If raising the minimum age would result in the prolongation of the heartbreaking task of instructing the uninstructable then the minimum age should not be raised, etc.

All three of these arguments have the modus ponens form and are thus deductively valid.

The question will come: if the editorial writer thought that in each of the cases the premisses entailed the conclusion, why did he present three arguments? I will answer that question with another: Why did St. Thomas Aquinas give five separate arguments for the existence of God? Not because he thought any of them were weak, but probably because he felt that their combined weight would be more convincing. The same could be true of the editorial writer. There is one other possibility in the case of the editorial writer. He may have felt that various people would question the premisses he used in one or another of his arguments. So he played it safe by giving more than one argument.

I cannot leave the subject of conductive arguments without a reminder about a point I made at the end of Section II: The mere giving of a reason is not equivalent to giving an argument. Indeed, I have the feeling that many of the statements Wellman would call examples of conductive arguments are probably not arguments at all.

VI

In conclusion I would like to make the following points:

(1) The deductive-inductive distinction is viable and important. (I discussed this in detail in my initial article.)

(2) My way of drawing the distinction is exhaustive.

(3) While calling an argument deductive or inductive may not tell everything of importance about that argument,

it at least gives some useful information.

(4) There is no need to add any other category to the two I have been explaining and defending.

(5) Analyzing real-life arguments rather than textbook examples is a very complex matter, much more complex than one would think from reading most books on logic.

To expand on point (5), most real life arguments are enthymemes. The reason is that people seldom bother stating all their premisses. Typically, these arguments will be of the generalization-specific instance type. And the missing premise will usually be the generalization, which can be expressed in the form "All S are P" or the form "If something is an S then it is a P." Or if the argument is not of this type then it will probably be of the modus ponens or modus tollens form, with the "If p then q" premise missing. The danger of reconstructing enthymemes (as I attempted to do in the last section) is that one may come up with an argument which is different from what the arguer had in mind. Indeed, the arguer might be surprised to find out what sort of premiss would be needed to make the argument complete. The truth is that many people are unaware of their assumptions.

Besides the problem of reconstruction there is the problem of the arguer's intentions about the strength of the relationship between the premisses and conclusion. When those intentions are made obvious, we cannot ignore them, however much we might like to. For to ignore them is to ignore that person's particular argument. In those cases where the arguer has intentions but doesn't indicate them we are placed in the difficult position of guessing them in order to properly and fairly judge the argument. We may very easily make a mistake. When the arguer has no intentions then no definite argument has been made. In such cases the arguer will not have indicated any intentions and we are placed in the same position as in the previous type of case. Only here, any guessing we do will really be making a particular argument out of a statement which was not one originally. As a parting thought I would say that after examining various editorials and letters to the editor I have reached the conclusion that in many instances people would be hard pressed to explain "just what their argument is."

Appendix on Terminology

In the current issue of the Informal Logic Newsletter Fred Johnson takes me to task for using language in a confusing way and thereby vitiating my account of the deductive-inductive distinction. He quotes the following from my original article:

> ...an example on a page of a logic textbook is not strictly speaking an argument.... We should call this example a 'possible argument'.

He goes on to say, "Presumably, possible arguments are actual somethings, just as possible statements are actual somethings, viz., actual sentences. But what are the actual things that possible arguments are?" The answer to this question is very simple:

possible arguments. By "possible argument"
I meant a group propositions which could be
used by someone to convince someone of some-
thing. Presumably not just any group of
propositions could be so used.

Johnson also claims that on my account of
things, properly clarified, two people could
not make the same argument. I would cer-
tainly admit that any number of people could
make the same argument, but I do not believe
anything I wrote in my original article would
preclude this. I did say that arguments are
person-related. By this I meant only that
what makes a real argument out of a possible
argument is that someone sometime actually
used it to convince someone of something.
This doesn't preclude two people from giving
the same argument. All that is necessary is
that they express the same propositions with
the same intention as to the strength of the
connection between the premisses and conclu-
sion. There is one seemingly odd result of
this way of looking at things. If two people
expressed the same set of propositions with
different intentions then they would be
giving different arguments. However, I think
it would be admitted that if they had differ-
ent intentions then we would judge their
arguments by different criteria. And this
certainly accords with common sense.

Most philosophers who teach logic are ac-
customed to referring to specially made up
examples in logic books as arguments, so I
can understand why they might be somewhat
repulsed by my suggestion that we call them
possible arguments. Yet it seems quite
proper to say of certain textbook examples,
"They are not real arguments," the sense
being that no one would ever think of using
them in real life, i.e., they are merely
instructional examples. So I am not departing
from established usage to any great extent.
Furthermore, if we do not adopt my suggestion
about textbook examples we might as well for-
get about trying to distinguish between de-
ductive and inductive arguments. Some may
say that it would be better if we did just
that. But I believe we would be the poorer
for it. ✳

Good Grief! More on Deduction/Induction

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While at moments sharing the reluctance of
ILN contributors to scrap the modern distinc-
tion (à la Copi) between inductive and deduc-
tive arguments, I still find myself overcome
by my expressed misgivings, and others.[1]

David Hitchcock (ILN, ii.3, p. 9) thinks me
mistaken to maintain that with the premises
filled out and/or the conclusion appropriately
hedged, a good traditionally inductive argu-
ment becomes deductively tight--always in
such cases counter evidence may lurk uncited,
which could render the conclusion false.
Such an argument would become deductively
valid only if we were to stipulate that its
premises describe a closed system, or to add
an open-ended premise excluding counter
evidence.

"Closed system." If Hitchcock intends his
comment to be an objection then he needs to
argue why one cannot stipulate that the pre-
mises of a traditionally inductive argument
describe a closed system. He needs also, I
think, to argue that one would have to stip-
ulate such, and to argue that premises de-
scribe systems at all.

In my article (ILN, ii.1, pp. 3-4) I observe
that the most familiar reaches of technology,
where sufficient conditions are completely
understood, do constitute what amount to
closed systems. At least there, the relation-
ship between a conclusion and the premises
which predicted it is deductively tight.
Being (usually unknowing) participants in the
very Humean attitude that observer error is
infinitely more likely than suspension of the
laws of nature, astute, very reasonable people
there never even dream of true premises
yielding a false conclusion. Suspension of
the laws of nature is not an option. The
likes of, e.g., "We must've goofed, only we
can't see where," invariably supercede the
likes of, e.g., "Well, God must've inter-
vened," or, "Well, Snell's Law always worked
here before, but it didn't work last
Tuesday." The argument structure, that is,
invariably remains unquestionedly valid,
while the premise set is assumed false. Now
if we are to be observers of argument as
actually found, then here we have countless
examples which fit both the inductive and
deductive traditional categories. It is hard
there to see how one could stipulate that the
premises of such arguments describe closed
systems, since their premises seem already in
fact to describe such systems.

If they can be said to describe at all.
What allows systems sometimes to be open and
sometimes closed, I would venture, is the
practices and purposes of this or that activ-
ity. And if it is the participants who close
or don't close the system, then the premises
will be within the system, but will not de-
scribe it. Decimal arithmetic is closed when
it's a matter of doing decimal arithmetic--
keeping accounts, reciting the times tables
or measuring jumps. Amidst any such activ-
ity it would be inappropriate, told that 5
modules added to 8 always yields 13 modules,
to object that in other systems or possible
systems--ordinary horology, for instance--5
modules added to 8 yields other than 13 mod-
ules. Similarly, in logic class it makes
sense to treat the premises of a valid form--
complete enumeration, for example--as ex-
hausting all possibilities. There the form's
the thing; there we want to emphasize that
exhaustion. To mention practical difficul-
ties in closing the system would be inap-

propriate. Were a student to object, "Yeah, but you can't know you've counted 'em all," we would have to reply, "That's not the point; what I'm saying is: if all this stuff over here is true—never mind how you know it —then the conclusion has to be true." By the very useful emphasis on form, and because of the importance of the notion of validity, the system has been closed.

In other circumstances the premises of valid arguments, including complete enumerations, are anything but closed. There, not just validity matters, but soundness. With complete enumerations, for instance, practical difficulties in counting will make or break the argument. The "system" the premises try to exhaust may be very open indeed —as when a junta chief concludes that every officer is loyal, or as when a surgeon announces, "Therefore, we believe that we have removed the whole cancer." In form many traditionally inductive arguments are as closed as their deductive counterparts. And the practical difficulties attending claims about soundness remain as great for traditionally deductive arguments as for their inductive counterparts. In making an inductive-deductive distinction, therefore, one will find the notion of open and closed systems of doubtful help.

"Open-ended premises." Hitchcock objects to open-ended premises as follows: "But adding such premises changes a traditionally inductive argument into a traditionally deductive one." How this counters my point may be hard to see, for it precisely is my point. We need a reason why open-ended premises cannot legitimately be added to traditionally inductive arguments, but none is forthcoming. One possible reason, hinted at in Hitchcock's next paragraph, would be that no arguer can take into account every bit of potential counter evidence. Such a reason would be epistemological, about the warrant backing any open-ended premise. But my point, the original issue, was not epistemological, not about warrants backing premises, but logical, about the relation of premises to conclusion, and against that point such a reason would not tell. Responsible generalizers and forecasters almost invariably incorporate what amount to such open-ended premises. (See the "subarguments" paragraphs, my article, p. 4). And if we are to evaluate actual arguments, then we will find ourselves evaluating plenty containing open-ended premises.

This is not the place to discuss whether open-ended premises in so-called inductive arguments commit epistemological excess. (For all I know, Hume's sceptical ruminations on cause are spotless.) But if open-ended premises were to commit such excess, and if that excess were to exclude them from good so-called inductive arguments, then it would certainly exclude them from their deductive counterparts too. Premises such as, "All shiny new high-performance automobiles are major sources of pollution" (p. 173), "All pornographic films are menaces to civilization and decency" (p. 197), and, "Ambassadors are always dignified" (p. 352), (all from Irving Copi's section on deduction) rest on epistemological footings no different than those of the universal or "subargument" premises in careful forecasts and generaliza-

tions. That we would accept open-ended generalizations in one place while excluding them from another is unreasonable. Moreover, any so-called inductive argument can as easily be constructed hypothetically as can its deductive counterpart. Arguers incorporating open-ended premises in hypothetically phrased forecasts, generalizations, and the like can scarcely be accused of epistemological excess.

Given that our subject-matter is the reasoning by which one attempts to regulate the affairs of life, then what counts will be the reliability of conclusions. Whether arguers stray logically or whether epistemologically, the damage will have been equal. In correcting arguments it may sometimes be better to interpret the error as logical, and sometimes better to interpret it as epistemological (and sometimes better to do both). Suppose a person to have reasoned that such-and-such z is no good because the z's he's experienced are no good. To spotlight the error one might reconstruct the argument as invalid—e.g., "You argue like this: 'Some z's are no good, the few you know, and such-and-such here is a z, and so it's no good.' Now that's . . . ." Another way to spotlight the error would be to assume the logic impeccable, to unearth filling-out premises, which will fail epistemologically—e.g., "Your reasoning would be OK if you knew from your experience that any z was no good, but here you are, one tiny individual in Sacramento, surrounded by z's of probably a special kind, which you can't really observe carefully, and yet from that you want . . . ." Whether treating the error as logical or as epistemological makes the more sense would be a matter of forensic or pedagogical judgment. But in any case, one is free to proceed either way.

"Uncited counter evidence." Hitchcock also objects (ILN, ii.3, p. 9) that traditionally inductive arguments cannot become deductive simply by hedging their conclusions: "Since there may be uncited counter evidence, the predicted occurrence may in reality be highly improbable, even though the premises provide grounds for thinking it will occur." This is a challenging objection.

Consider the following, which should qualify with most traditionalists (I'd best not say all) as deductively valid:

> Set S consists of 360-member subset A, and 6-member subset B.
> Smith will select once at random from S. Therefore, Smith is likely to select a member of subset A.

If we want to evaluate this argument logically, then the issue will be the relationship between those premises and that conclusion. Suppose, now, that we learn further that Jones has peeked at the member to be selected, which is of subset B. To object to the original argument on grounds which apply to the amended argument would be an ignoratio elenchi. The uncited counter evidence counts only against the amended version. The original was deductively valid come what may. Now the same may be said of properly hedged arguments in terms of likelihood or probability, and of similar data-based assessments of the present or future. After all, if my "Smith" argument were a draft lottery

its validity would be unaffected (though it would assume a rich potential for premise falsity), and it would also qualify according to tradition as inductive. The argument in my article (ILN, ii.1, p. 3) stating the likelihood of rain is classically inductive, yet instantiates the deductive form, "When x, y is likely; and x; so y is likely." Uncited counter evidence may plague forecasters and generalizers, but it does not render their properly hedged arguments deductively invalid.

Hitchcock admits that in such arguments "the premises provide probable grounds for thinking [the predicted occurrence] will occur" (ILN, ii.3, p. 9), and yet such arguments do conclude precisely that the occurrence is probable. How then could they be invalid? Something is fishy. I suspect that Hitchcock imagines uncited counter evidence to falsify the conclusion because he thinks that the conclusion of such a forecast is, as he puts it, a "predicted state of affairs," a "predicted occurrence" (p. 9). Most hedged forecasts are no more than general probability statements applied to an impending case. Such applications do not exactly predict occurrences (although we may speak that way if we wish) but merely unfold the probabilities implicit in the data. So when an alleged "predicted occurrence" fails to happen because of uncited counter evidence, the argument's conclusion can seem false, even though its premises be true.

Let us imagine meteorology to be a very "open" system (as is, say, oncology). From data, plus an assessment of conditions today, meteorologists forecast "about a 70% chance of rain tomorrow." That 70% figure incorporates already the potential for uncited counter evidence, such as competing high-pressure ridges. The data is only true in the aggregate; overall, 7 of 10 cases with conditions like today's have yielded rain next day. For all these meteorologists know, in many of the cases reflected in the data rain may in reality have been highly unlikely. So when they apply the data as a probability to tomorrow's case, they do not exclude that other things may happen. The conclusion is not falsified by whatever happens tomorrow. Neither is the "likely" conclusion in my argument. Looking back on a record in which, at the 70% forecast level, it had rained on 140 of 200 occasions, these meteorologists could congratulate themselves on a perfect record. This point may be psychologically more convincing with quantity quite removed. Suppose that the forecasters had concluded neither "likely" nor "about 70%" but instead, "and so it would be a good idea tomorrow to take an umbrella." Regardless of what happened that day it was still a good idea to have taken an umbrella.

II

Intentions. Samuel Fohr (ILN, ii.2, p. 9) suggests that looking to arguer intentions separates inductive and deductive arguments:

If a person intends that his premises necessitate his conclusion he is giving a deductive argument. If he intends only that his premises render his conclusion probable he is giving an inductive argument.

To Trudy Govier's and Hitchcock's comments (ILN, ii.3) on Fohr's suggestion I would add only a little. Fohr is correct, surely, that real arguments must be judged as wholes, including the backdrop detail which formal treatments assume or omit. But only sometimes will this judging include the arguer's intentions about conclusion strength. It will when the subject is the arguer's argument—the arguer, actually—as when we puzzle over just how Copernicus meant his conclusion (Fohr, ILN, ii.2, p. 7) about the earth's configuration. More usually, however, the topic is not the arguer's argument but the argument, period. Much reasoning is collegial, hypothetical, experimental, taking place in conference, bar-, board-, war, locker, and operating rooms. The truth of the conclusion may be vitally important. We want to know not, "Does So-and-so think these premises clinch that conclusion?" but, "Do those premises clinch it?" Until the latter question has been answered, conferees may have no opinion about the firmness of the conclusion, no intentions whatsoever. The presenter of the argument (who may have been free associating, experimenting, or playing the devil's advocate) drops out as incidental.

This is particularly true of evaluating one's own thinking. My present intentions, if any, regarding the argument I now confront scarcely matter, since I will be trying to let the argument form my intentions. Again here, the strength of the conclusion is prior to, independent of, whatever the arguer may think of it.

III

Inductive and deductive standards. Although Fohr is correct (ILN, ii.2, p. 8) "that it is very important that a person putting forward an argument know what he is trying to do," the "what" doesn't include knowing whether the argument is inductive or deductive. We must teach our students always, as Hume would maintain, to proportion the strength of the conclusion to the strength of the evidence. One has no more business hedging the result of a mathematical demonstration than of not qualifying the result of a preliminary investigation. And whether a well-drawn "absolutely," or a "probably," or a "good idea to take your umbrella," follows from the premises, it follows from the premises. The relationship between premises and conclusion is the same. Inductive and deductive standards (Govier, p. 8; Hitchcock, p. 10—ILN, ii.3) are the same standard. Whether epistemological questions are appropriate depends not on what kind of argument it is—whether syllogism, generalization, or what—but on what those giving it and attending to it are trying to do.

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discussion note

Proofs and Begging the Question

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Logicians utilize two distinct conceptions of proof. On the one hand, there is a formal or syntactic concept: given a formal theory T consisting of formulas, well-formed formulas (wfs), axioms and inference rules, a proof$_1$ in T is a sequence of wfs such that for each wf in the sequence either it is an axiom of T or it is a direct consequence of some of the preceding wfs by virtue of one of the inference rules. On the other hand, a distinct concept, often used in natural language contexts, is that an argument constitutes a proof$_2$ of the truth of its conclusion if it is valid, has true premises, and is not question-begging.

While the former concept is not controversial, "proof$_2$" is sometimes thought to be problematic. James Tomberlin considers the following substitution instances of disjunctive syllogism: (A_1): $\sim$QvP, Q/P and (A_2): $\sim$PvR, $\sim$R/$\sim$P, where Q=New York is in the U.S.A., P=the mind-body identity theory is correct, R=Moscow is in the U.S.A.[1] Tomberlin asserts that neither argument begs a question since both are instances of disjunctive syllogism. The second premise of each argument is true. Furthermore, either the first premise of A_1 or the first premise of A_2 is true, since $((\sim QvP)v(\sim PvR))$ is a theorem of propositional logic. It follows that either A_1 or A_2 constitutes a proof$_2$ of its conclusion. Yet Tomberlin rightly notes that since the truth or falsity of the identity theory could not be decided by appeal to either argument, neither can be said to prove$_2$ its conclusion. He concludes that the analysis of "proof$_2$" in terms of validity, true premises and the absence of question-begging must be incorrect.

Tomberlin's rejection of the standard analysis of "proof$_2$" follows only if we accept the claim that neither A_1 nor A_2 begs the issue. He appears to have a formalist conception of begging the question, for his claim that A_1 and A_2 do not beg any questions rests on his claim that both are instances of disjunctive syllogism. But this overlooks the often voiced claim that question-begging is a non-formal fallacy. From the formal point of view an argument such as α/α is a perfectly acceptable proof$_1$ of its conclusion. However, even if α is true, from a non-formal, say, an epistemic, point of view, the premise could not be said to constitute a proof$_2$ of the conclusion, for to know the premise is true we must know that the conclusion is true, i.e., the argument begs the issue.

Let us say, then, that an argument begs the question if and only if in order to know that some member of its premise set is true we must know that its conclusion is true. On this conception of question-begging do A_1 and A_2 beg any questions? In either case we can know the second premise is true without knowing the conclusion is true. But, in considering the first premise, "knowing that (α or β) is true" is ambiguous. In some cases I may know that (α or β) is true and know which disjunct is true; in other cases I may know that (α or β) is true yet not know which disjunct is true, as with (S or $\sim$S) where S is any controversial proposition. If we consider A_1 in its actual epistemic context, we know that $\sim$Q is false. Hence, to know that ($\sim$Q or P) is true we must know that P is true. Since P is the conclusion to be established, A_1 begs the issue. If we consider A_2 in its actual epistemic context, then, since we know R is false, to know that ($\sim$P or R) is true we must know that $\sim$P is true. Since $\sim$P is the conclusion to be established, A_2 begs the issue. It follows that neither A_1 nor A_2 constitutes a "proof$_2$" of its conclusion, for both beg the question. As a result, Tomberlin's counterexample does not demonstrate the unacceptability of the standard analysis of "proof$_2$."

NOTE

[1]James E. Tomberlin, "On Proofs," International Logic Review, vol. VII, no. 2 (December, 1976), pp. 233-35. ✳