

## Beardsley's Theory of Analogy

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### 1. Is the Argument from Analogy a Fallacy?

In the various editions of *Practical Logic* and *Thinking Straight* Monroe Beardsley pioneered informal logic, the assessment of reasoning techniques employed in actual human situations.<sup>1</sup> Although acknowledging the prominence of analogies in reasoning, he contended that analogy has some heuristic uses, but an argument based on one is inherently fallacious:

Analogies *illustrate*, and they lead to *hypotheses*, but thinking in terms of analogy becomes fallacious when the analogy is used as a *reason for* a principle. This fallacy is called the "argument from analogy." (PL 107)

Beardsley's view implies that no serious reasoner will use analogies between things in drawing conclusions, or be persuaded by another's introduction of them. Accordingly, an important source of human knowledge is proscribed: historical analogy, reasoning based on direct comparison of past situations with the present.

In practical reasoning, however, one must often reach a judgment about the crucial features of some particular situation in order to determine an appropriate course of action with respect to it. Analogizing its features to another whose favorable or unfavorable outcome is already known, far from being fallacious, is at least common sense and at most wisdom. For example, in a recent newspaper commentary headlined "A Stable World: Lessons of World War II", Henry Kissinger compares the current international situation with that leading to World War II, warning of the dire

consequences of an "abdication of statesmanship."<sup>2</sup> Kissinger cites historical analogy as the only basis for sound judgment in international diplomacy:

History is the only experience on which statesmen can draw. But it does not teach its lessons automatically. It demonstrates the consequences of comparable situations, but each generation has to determine what situations are in fact comparable.

Such analogical arguments, as Kissinger points out, are directed to *finding suitable premises* for wise and prudent action. Beardsley's intellectualist approach limits rational argumentation to asserting premises as evidence for the truth of a conclusion. Consequently he overlooks or misconceives the character of some forms of analogical argument prevalent in practical reasoning. It is misleading to speak of "the argument from analogy," as Beardsley does, as if all are of the same kind.<sup>3</sup>

Historical analogy, or "learning from experience," most nearly resembles arguments of inductive analogy: From observed facts about previous instances one draws an inference about what is likely to be true of a new instance sharing salient characteristics with them. Beardsley denies, however, that inductive analogy is "a *successful* kind of inductive argument" (TS2 66).

Beardsley's theory of analogical reasoning exemplifies overformalization in reducing diverse kinds of analogy arguments to a single form, then assessing them all fallacious because of the logical characteristics of that form. This results in a "denaturalized epistemology" of analogical arguments, one with inappro-

priate concepts of knowledge, unrelated to reasoning techniques successfully employed in a range of actual situations.

In order to track Beardsley's claim that an analogical argument is inherently fallacious, we must have in view his general theory of argument. Like many, he divides arguments into two exclusive kinds: deductive and inductive. A deductive argument makes the claim (correctly or incorrectly) that the truth of its conclusion follows *necessarily* from the truth of the premises, because the argument is formally valid. He calls all nondeductive arguments *inductive*: Such arguments make a lesser claim that "the evidence is sufficient to make the conclusion, at the very least, more likely to be true than false." (PL 197-203, TS2 28-29, TS4 23-27)

He insists that "any compelling argument must be one of these kinds, and moreover, it must conform to the standards of its kind." (PL 197). As Beardsley describes the argument from analogy, it is neither formally valid, nor does it fit his two models of inductive reasoning, explanatory hypothesis and inductive generalization. Not surprisingly, an analogical argument fulfills Beardsley's conception of a *fallacy*:

An argument is a good one only if it proceeds in accordance with some rule of inference and thus can be justified by appeal to that rule. If it purports to conform to a rule of inference, and thus acquires some plausibility, though in fact it violates that rule, then it is said to be fallacious, or to contain a *fallacy*. (TS4 26)

As we shall see, the analogical argument turns out not to have a justifying "rule of inference" of its very own, or more exactly, its "rule of inference" contradicts a principle Beardsley enunciates. In defining a fallacy relative to its peculiar "rule of inference" Beardsley betrays a formalistic view of what constitutes "good argument" as well as what constitutes a "fallacy". A broader conception of both need make no reference to the existence of a peculiar "rule of inference." For example, one could

define a fallacy as an argument that *seduces* one into thinking that the evidence provided by its premises suffices for the truth of its conclusion.

## 2. Beardsley's Formalization of Analogical Reasoning.

Beardsley first formulated the principle of analogical argument in this way: "If X and Y have a number of characteristics in common, it is likely that any further characteristics found in Y will *also* be found in X." (PL 108) Few if any analogical arguments make such a sweeping claim. He subsequently toned down the conclusion, schematizing the argument as follows:

X and Y both have certain characteristics a, b, c... And it is known that Y also has another characteristic q. *Therefore*: X has the characteristic q. (TS2 65)

His reason for calling the analogical argument fallacious remains constant, a thesis we may call the Principle of Infinite or Indefinite Variability, italicized by me below:

...if two things have a good deal in common...the likeness may justify a further investigation to see whether they actually *do* have more in common. But it does *not* justify our believing that they have more in common *without* the further investigation. *No matter how many characteristics a pair of things have in common, there may be any number of other ways in which they are different.* (PL 108, TS2 66)

With a little logic-chopping it is quite true that any two things, even identical twins, can readily be shown to have an indefinitely large number of different characteristics. But this logical point is irrelevant to whether there are significant similarities between the things analogized on which a reasonable judgment affirming an additional *similarity* may be based. Inductive reasoning is useful because observed similarities enable us to make predictions about the future, which eventually are

confirmed or disconfirmed.

In holding that analogical reasoning is fallacious because a conclusion may turn out in fact to be false, Beardsley applies a stricter standard to it than to ordinary inductive reasoning—one appropriate to deductive reasoning. A “good” deductive argument has both 1) a valid logical form and 2) true premises, so that the truth of the conclusion follows *necessarily* from the truth of the premises. In effect, he accuses the *analogical argument form* of being invalid, so that the truth of its premises does not *guarantee* the truth of its conclusion. But an analogical argument need not, and usually does not, make that deductive claim.

Beardsley’s formalization of the analogical argument tempts one to suppose the assumed resemblances *a*, *b*, *c* and the inferred resemblance *q* are independent variables. Yet Beardsley’s own definition of an analogy points out that they are all interconnected: An analogy is an “extended simile” in which two things are compared in terms of the structural relationships holding between their characteristics or part-whole relationships (*PL* 105-6). This interrelatedness among the resemblances mentioned in the premises tends to justify an inference about a further resemblance.<sup>4</sup>

Like inductive reasoning generally, an inductive analogy is not based merely on its stated premises but on all our knowledge about the world. The grounds for the argument include our independent knowledge about the things analogized and the characteristics attributed to them. Consequently the following argument, cited by Beardsley, would hardly be taken seriously:

John’s parents read Greek, and so do Jim’s;  
John likes horseradish; therefore, Jim must  
like horseradish. (*TS2* 66)

We are aware that a person’s eating tastes are quite independent of parental language skills, and would not credit any such argument. On the other hand, the following argument is supported by our knowledge of the genetic correlation be-

tween blue-eyed parents and their offspring:

John’s parents both have blue eyes, and so  
do Jim’s; John has blue eyes; therefore, Jim  
must have blue eyes. (*TS2* 66)

Beardsley’s comparison of these two arguments shows that they have the same logical form, but that form is of such a kind that the premises may be true without the conclusion also being true, that is, the argument is formally invalid. In the first, we would not be surprised by the falsity of the conclusion; in the second, we would be. If we insist on interpreting the argument from analogy as making a *deductive* claim, which requires a valid argument form as well as true premises, we would indeed have to call it fallacious.

But the issue is, should we view “the analogical argument” as making a deductive claim that the conclusion follows necessarily from the premises? Since analogical arguments are based on the characteristics of the referents of the two terms analogized, the semantic interpretation of the terms drives the argument rather than the logical form of the argument statements. The “must be” can reasonably be understood as the less insistent “most likely” of an inductive claim. An invalid deductive argument readily converts into a respectable inductive argument, as many introductory logic books say. If this is the case, an analogical argument, rather than being inherently fallacious, has more or less weight depending on what we know about its actual terms and their known or inferred resemblances.

Another misleading feature of Beardsley’s formalization of the argument from analogy is the specification of its premises as a comparison between a pair of things. In standard formulations of inductive analogy arguments, a number of previously observed instances,  $Y_1, \dots, Y_n$  are compared with a new instance  $X$ .<sup>5</sup> So stated, the truly inductive character of an argument is visible. The inductive canon applies to an argument reaching the singular conclu-

sion that a new like instance has an additional characteristic  $q$  as well as to one inferring a generalization that a class of things with defining characteristic  $a$  has the further characteristic  $q$ . The canon includes, for example, the rule that the greater the number of previously observed instances, the more likely the conclusion is to be true; that a known connection between the property  $q$  and characteristics  $a, b, c$  increases the probability of the conclusion.

Once the inductive canon is seen to be relevant to an argument from analogy, it is difficult to hold that it is by nature fallacious. Like other forms of inductive argument, its conclusion may turn out to be false, even though the inductive reasoning contains no inductive fallacy. For example, suppose you observe that my husband and I both have brown eyes. By sound inductive principles, you would reasonably conclude that our two sons also have brown eyes. In fact, the younger is blue-eyed. But the falsity of the conclusion does not show any fallacy in the inductive reasoning. It is much more likely that his eyes would be brown than blue.

The inductive canon contains a special rule for arguments of inductive analogy. They reach a singular conclusion (not a generalization) that an *individual*  $Y$ , (not a class of things with characteristic  $y$ ) shares a further characteristic  $q$  with the *individuals*  $X_1 \dots X_n$ . Now, the greater the resemblances between this individual  $Y$  and the other individuals  $X_1 \dots X_n$  described in the premises, the stronger the inductive argument. For the more characteristics known to be common to individuals  $Y$  and  $X_1 \dots X_n$ , the more likely the inference that individual  $Y$  will have the further characteristic  $q$  that individuals  $X_1 \dots X_n$  are already known to have.

For example, if you observe that Mrs. Smith, her two daughters and her mother are all blue-eyed and blond, you may well expect that Mrs. Smith's sister is also blue-eyed and blond. If told that Mrs. Smith's sister is her twin, the resemblance between

them is increased, and the likelihood of the conclusion that she is also a blue-eyed blond is more probable. If told that Mrs. Smith's sister has a different mother, however, then the degree of resemblance between sister and Mrs. Smith, her mother and two daughters is decreased. The likelihood of the conclusion that the sister is blue-eyed and blond correspondingly decreases.

Beardsley denies this: "You can't even say that the more known resemblances there are between  $X$  and  $Y$ , the more likely it is that  $X$  will have any further characteristic found in  $Y$ ." (PL 108). His skepticism is due to the Principle of Indefinite Variability of individuals on which he grounds the fallaciousness of analogy. This diffidence goes counter to common sense and the inductive canon even with respect to a pair of things.

In summary, Beardsley's rejection of the argument from analogy is grounded on an abstract formalization of the argument and an abstract logical principle. Since the argument scheme is formally invalid, it falls outside "good" deductive reasoning. Because of the abstract logical principle about the diversity of individuals he artificially limits induction from like instances to a conclusion about a class, throwing the argument from analogy outside inductive reasoning (TS 4 Ch. 2).<sup>6</sup> Since deduction and induction are, in Beardsley's view, the only two "good" forms of reasoning, an argument from analogy has no place among legitimate reasoning strategies (TS2 26-31). In order to be respectable, it must find rental accommodation with a generalization.

### 3. The "Hidden Generalization" Thesis.

Beardsley claims that a plausible argument from analogy is a confused version of some other argument form. He explains it is often convertible into a deductive argument, whose major premise is a true generalization. Both terms of the analogy are instances of the same generalization.

The analogical argument itself is logically dispensable, once the unstated generalization is recognized.

Suppose I say, 'John's parents both have blue eyes, and so do Jim's; John has blue eyes; therefore, Jim must have blue eyes.' Now, taken as it stands, this is an argument from analogy, and *evidently a very feeble one.* (TS2 66, my italics)

The reason for its being "feeble" is that the conclusion, 'Jim must have blue eyes,' is "wildly jumped to" from the premises about the eye color of John, his parents and Jim's parents. Beardsley defends this by pointing out that *it has the same form* as the other analogy argument citing parental and child characteristics known to be unrelated, that is, the parents reading Greek and the son liking horseradish. According to Beardsley's analysis both arguments from analogy are fallacious, because of their common form.

But if an argument from analogy is not a deductive argument, their common form is neither grounds for nor against the soundness of the argument. In the case of a nondeductive argument, the form only serves to identify the kind of argument. Whether an argument is sound depends on substantive matters, not merely on the form of the argument. A reasonable person takes account of the content of an argument, not just its form; she would judge the arguments differently because of the varying contents of their premises and conclusion.

Beardsley attributes the deceptive plausibility of an analogical argument to a "hidden generalization": "When we make that generalization explicit, we can throw away the rest of the analogy." (TS4 113).<sup>7</sup> The original fallacious analogical argument is reduced to a "good one", a deductive argument in which a previously tested generalization is applied to a new instance, as follows:

John's parents both have blue eyes, and John has blue eyes.  
All people whose parents both have blue eyes are people with blue eyes.

But Beardsley's account is mistaken: Here the generalization is not an implicit assumption of the reasoner, simply made explicit. If a reasoner has independent grounds for supposing the generalization true, there is no point in offering weaker premises about particular instances. The generalization cannot be merely "hidden." Only when a covering generalization is not known to be true does it make sense to offer statements about particular instances as premises in lieu of the generalization. When its singular conclusion is derivable from a "previously tested generalization," the argument from analogy rather than being reducible to a "good" deductive argument, is superfluous.

Beardsley's "hidden generalization" thesis underlies a recent text's presentation of "a new way to cast arguments by analogy in schematic form."<sup>8</sup> The argument is divided into two steps, the first an "inductive step", in which premises about one term of the analogy are evidence for an inductive generalization. In the second "deductive step", this generalization is applied deductively to the other term of the analogy as a new instance falling under the generalization.

According to this schematization, the "hidden generalization," instead of being "previously tested" (as Beardsley holds), is itself proved in the course of the argument, then is used to prove the conclusion together with the premise about the other term of the analogy. Beardsley did not so misread the argument claim: He correctly fixed the distinctive feature of the argument by analogy as *the direct comparison of the structural resemblances between two wholes.*

Both views err in introducing a generalization as an essential component of the analogical argument. The argument from analogy is useful *in the absence of* a "previously tested generalization" justifying the conclusion. The success of a series of arguments by analogy about particular instances could suggest some generalization

about a class of things with some characteristic they share. Beardsley's example, 'All people whose parents have blue eyes are people with blue eyes,' achieves the status of "previously tested generalization" partly because of verified predictions about the offspring of blue-eyed persons, as well as Mendelian genetic theory of recessive and dominant heritable characteristics. Few successful arguments from analogy are clumsy attempts to say what a good deductive argument containing a previously tested generalization does better.

Beardsley, I suspect, was influenced by contemporary philosophy of science in the theory of explanation. In order to justify belief in the truth of a singular conclusion, he supposes there must be a true inductive generalization (known or unknown) integrating singular premise statements about particular instances with the singular statement asserted in the conclusion. He appears to be appealing to a Hempelian "covering-law" model of explanation for singular conclusions, in judging an inductive analogy argument in need of a true "hidden generalization." In his own view a true singular statement (not proved deductively) is inductively justified only as the best explanation for a diverse set of facts (*PL* Ch. 2, #10). Only a generalization is to be inferred from premises about like instances.

This theoretical bias generates a cramped view of a proven useful form of reasoning. In practical life, we often make singular predictions without the help of "covering laws" or generalizations. Let me give a homely example familiar to us academics. At some point in a course a student will ask an instructor her prospects of passing, (or receiving A or B, and so forth). The instructor has a plentiful supply of generalizations for this purpose. But the problem is that one and the same student instantiates a number of different generalizations leading to conflicting conclusions: She is diligent, but her previous

work has shown little aptitude in the subject; she is highly motivated, but is emotionally unstable; the future assignments are not difficult but she is undertaking longer work hours, and so on.

An individual (as Beardsley reminds us in his Principle of Indefinite Variability) may show diverse characteristics *whose interplay in special circumstances* must be assessed because they point different ways. This is not achieved simply by adding generalizations, for the applicable generalizations would warrant different judgments, inconsistent with one another. The experienced instructor will often make an analogy between the student before her and past students whose academic success and failure the instructor has observed. The analogy is the basis for a holistic judgment about the present student's potentialities in her situation. Analogical reasoning is effective for dealing with variable combinations of traits found in individual cases, which exhibit "family resemblances," rather than some constant characteristic. The comparison to other individuals cannot be readily replaced by some very complex generalization, for the aim is to reach a conclusion fitting this particular individual in these special circumstances.

The judgments of Art concerning individuals, who sometimes show an anomalous set of traits, or whose characteristics may vary from a norm, will often make good use of inductive analogy, in conjunction with applicable generalizations. Medical diagnosis and treatment often involves such analogical reasoning. A patient presents conflicting symptoms, or symptoms suggesting different diagnoses. Or her medical condition includes several problems; for one, a type of therapy is indicated, for another, that same therapy is counterindicated. In distinguishing significant from less important factors, a physician's accumulation of experiences with analogous cases is often a patient's best security for accurate diagnosis and beneficial treatment.

### 3. The Phenomenology of Noninductive Analogy.

Many arguments present an analogy between two types of thing, sometimes from different categories: the ancient analogy between the “body politic” and the human organism, and Judith Jarvis Thomson’s contemporary analogy between a woman being pregnant and being plugged into an ailing musician as his kidney dialysis machine are well known.

Beardsley’s thesis that the argument from analogy is a fallacy is less paradoxical with such analogies, for the difference in type of things analogized means that it is naive to infer a factual conclusion about one type merely from its analogy with the other. His view that the argument from analogy is a fallacy parallels his assertion that a metaphor is always literally false (*PL* 101). The former is, of course, *formally invalid*, but only the most unsophisticated reasoner would credit an argument based on analogy as formally valid, just as one who thought a metaphor literally true would miss its point.

S. F. Barker calls this kind of analogy “noninductive,” for reasoning based on it does not issue in a conclusion verifiable in principle by subsequent experience.<sup>9</sup> Its role is phenomenological, as Beardsley suggested in his first treatment of analogy in a chapter on figurative language (*PL* Ch. 2), where he observed that such analogies “put an object in a new light.” (*TS4* 112).

Beardsley approved the nonargumentative uses of such analogy, noting its capacity to explain abstractions in terms of concretely perceptible things, as the dependence of the individual upon the common good appears in the analogy between body parts and divisions of the state. He eloquently sketches the phenomenology of their use in science, illustrating or clarifying a general principle, and even suggesting a testable hypothesis:

It helps us to understand the nature and function of the blood stream to think of it as ‘the

internal environment,’ the bit of ocean...that the early creatures carried with them when they first undertook to live on land...When Nils Bohr constructed his model of the atom as a miniature solar system, with the electrons revolving around the nucleus, this picture led scientists to think of many ideas they could test experimentally. (*TS2* 64)

Noninductive analogy as “the favorite in debate and polemic” plays a role different both from such heuristic uses and inductive analogy. It is usually directed to locating or relocating a thing in our world-view.<sup>10</sup> Beardsley’s common formal characterization of all kinds of analogy arguments leads him to misconceive the phenomenological goal, as we can see in his analysis of an argument making an analogy between pornography and an *infectious disease*. (*TS4* 112-15)

Here the writer is not merely presenting an analogy between pornography and disease: that each is harmful, that neither has positive value, that one can be ‘infected’ by either, that both ‘infections’ can be spread, etc. He is presenting an analogy to support a conclusion about pornography....In the present case the property *p* is perhaps somewhat unusual: It is the property of *being something that ought to be eliminated*.

Beardsley’s formalist approach makes him interpret the argument as a straightforward argument reaching a conclusion whose validity depends on the plausibility of the hidden generalization: “Whatever does harm but no good should be eliminated.” With this assumption made explicit, the argument becomes a deductive argument in which the analogy of pornography with an infectious disease makes “no logical contribution to supporting the conclusion.”

Pornography does harm but no good.  
Whatever does harm but no good should be eliminated.  
Pornography should be eliminated.

In trying to capture the argument’s “logic,” Beardsley has overlooked that the analogy serves a phenomenological function, directed to making us see pornography

in a way that will affect our moral attitude toward it: not as an innocent and harmless private pleasure, but as an insidious threat to self, spreading to others. The “somewhat unusual property” disguises this practical phenomenological aim in the predicate of the argument’s conclusion, in Beardsley’s awkward reduction. The “hidden generalization” is a vapid ineffective truism, that does not replace the provocative analogy of the original argument either logically or phenomenologically.

Beardsley’s condemnation of analogy arguments incites him to offer three helpful strategies for revealing its fallaciousness:

- 1) Weaken the analogy by questioning the assumed resemblances and pointing out differences between the two types of things.
- 2) Expose the invalidity of the “hidden generalization” of the reduced argument that justifies the inference.
- 3) Extend the analogy “to the point where it boomerangs,” leading to an absurd conclusion (PL 110-112).

But these methods often fail to blunt the phenomenological point of the analogy. For example, Thomson’s analogy provides a powerful defense of abortion because it portrays pregnancy as an involuntary offensive intrusion in a woman’s life, a violation of her own dignity that makes abortion look justified in a moral scheme stressing individual rights and voluntary personal relationships.<sup>11</sup> It is easy to attack Thomson’s analogy as Beardsley instructs, by pointing out that the natural function of a woman’s womb is to nourish the fetus, and that it does so without impairing a woman’s life or dignity, while no human body is designed to perform kidney dialysis for another adult human.

Beardsley attributes the *strength* of an analogy to the degree of isomorphism between the things analogized, as a map represents an area’s geographic features (PL 106). If so, Beardsley’s three strategies would always work. But the power of an

analogy often lies in its depressing some features of a thing, while simultaneously highlighting others, to make it fit smoothly into a specific world-view, eliminating trouble-making bits. Thus the fetus, in the Thomson analogy, is no longer an innocent dependent being biologically linked to the woman, but an unwelcome exploitative alien. It is sometimes a whole world view, rather than a “hidden generalization,” that empowers the analogy.

A counteranalogy is sometimes more effective in dealing with the phenomenological use of analogy. In a recent legal case involving the fate of frozen embryos belonging to a couple engaged in divorce proceedings, competing analogies with joint property and human lives dominated the reasoning: A doctor supporting the implantation of the embryos in the biological mother exploits the analogy with the “tiny human”: “Putting tiny human beings in a very cold space, deprived of liberty, deprived even of time, they are suspended as it were in a concentration camp. It is not as hospitable a place as the secret temple of a woman’s womb.”<sup>12</sup>

#### 4. Reprise: Is There a Fallacy of Denaturalized Epistemology?

Despite his negative estimate of the argument, Beardsley took analogical reasoning seriously, more seriously than a host of textbook writers in this acme of informal logic. He advanced our understanding both of its powers and limitations. He appreciates the fruitfulness of analogies in scientific thinking, because they suggest working hypotheses capable of empirical proof. He denigrates appeals to analogy in polemical writing, where verification is not in order, advising the reasoner to attack the weakness of the premises or ridicule the conclusion by reducing it to an absurdity.

He is silent, however, on the presence of analogies in reflective legal and philosophical reasoning where they are in-



troduced within an extended course of argument, as in Thomson's paper. This gap reveals the deficiency of Beardsley's theory of argument: It looks to logic and empirical science for the two models of "good" deductive and inductive argument respectively.

Logic and empirical science deal with subject matter abstractable from its setting in the concrete circumstances of human life. When the subject of the discourse is not so "clean," one often deploys a number of different thinking strategies to bear on the matter at hand, in a way that resists formalization. Arguments using analogy comprise one such strategy. In foregoing sections I point out how analogical reasoning functions successfully in a number of situations—discovering historical precedents for prudent action, predicting individual outcomes, evoking morally significant features of a thing, classifying unusual or novel phenomena.

Beardsley's theory of argument leads him to concentrate on the form of an argument in search of some valid principle of inference which negotiates the step from premises to conclusion. Since arguments using analogy are diverse, Beardsley's uniform analysis and common abstract formulation, by confounding them, makes his condemnation of the argument type credible. Since its "principle of inference" violates the abstract Principle of Indefinite

Variability, he rejects it from the canon of "good argument." Consequently, when a "critical thinker" meets an argument by analogy, he charitably looks for the "hidden generalization," or rigorously follows the rules to expose the fallacy.

Like many of us, Beardsley's aim was to make principles of inference discovered by philosophers accessible to nonlogicians, so they can do "critical thinking." "Critical thinking" can always produce the "rule of inference" that legitimates each step of a piece of reasoning, after one has schematized it to reveal the form, deductive or inductive. Only such arguments are "convincing," in opposition to the hodge-podge of reasoning strategies characterizing the "rhetorical point of view," which has the power but not the right to "persuade." (TS4 1-6)

Is this "critical thinking" model of good reasoning applicable to all thinking we rightly admire? Does it express an elitist conception of "good argument" which favors abstract reasoning, overlooking reasoning that does not move in a linear lockstep or fit the twin Procrustean beds of deductive and inductive argument? When we persuade our students that only "critical thinking" is good reasoning, and immunize them with a list of fallacies to ward off arguments that merely "persuade," are we committing the fallacy of "denaturalized epistemology"?

### Notes

<sup>1</sup> In this paper I discuss Monroe C. Beardsley's treatment of analogies in *Practical Logic*, 1950, New York: Prentice Hall; *Thinking Straight*, 2nd edition, 1956 and 4th edition, 1975, Englewood Cliffs: Prentice Hall. I refer to the first as PL; the other two as TS2 and TS4.

<sup>2</sup> "...our generation faces a problem similar to that which engaged statesmen 70 years ago—how to construct a stable international order. Most of the postwar period has been characterized by a relatively stable European

equilibrium. Now that two-power world is disintegrating—more in the East than in the West." Article printed in *The Baltimore Sun*, Monday, August 28, 1989, 7A.

<sup>3</sup> For example, I distinguish arguments of inductive analogy, noninductive analogy, using an analogy to support a moral judgment or defend a classification, in *Everyday Reasoning*. Englewood Cliffs: Prentice-Hall, 1981.

<sup>4</sup> By "tends to justify" I mean the premises about

observed similarities always or mostly confer some plausibility to the supposition of an additional similarity. Much depends on whether the further resemblance is independently known to be causally or structurally related to the observed similarities.

- <sup>5</sup> Note a contemporary formulation in Irving M. Copi, *Introduction to Logic*, 2nd edition, New York: The MacMillan Company, 1956 (also in later editions).
- <sup>6</sup> Beardsley makes inductive generalization and explanatory hypothesis into mutually exclusive types of inductive reasoning: But a generalization, as well as a singular judgment, may be regarded as an explanatory hypothesis for a set of data; and each may function predictively as a conclusion from like instances.
- <sup>7</sup> S. F. Barker points out Beardsley-type interpretations of analogy arguments as implying a generalization make it commit a *non sequitur* or circular reasoning in *Elements of Logic*, 5th edition, New York: McGraw-Hill, 1989, n. 46,

p. 282.

- <sup>8</sup> David Kelley, *The Art of Reasoning with Symbolic Logic*, New York: W. W. Norton & Company, 1990, ch. 16.
- <sup>9</sup> S. F. Barker, *Elements*, pp. 225-228.
- <sup>10</sup> Howard Kahane stresses the importance of "background beliefs" and "world-views" in more recent editions of *Logic and Contemporary Rhetoric*, Belmont: Wadsworth Publishing Company.
- <sup>11</sup> J. J. Thomson, "A Defense of Abortion", *Philosophy and Public Affairs* 1 (1971).
- <sup>12</sup> Dr. Jerome LeJeune, quoted in various news reports of *The Baltimore Sun*, August 1989.

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