

Syllogizing LBT: Applying Formal Logic to Logic-Based Therapy

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Abstract: Philosophical counselling has emerged as a contemporary movement that treats philosophical reasoning as a mode of therapeutic practice. Within this movement, Elliot D. Cohen's Logic-Based Therapy (LBT) is the most robust attempt to resolve emotional disturbance through the application of formal reasoning. However, LBT reduces all irrational thinking to a single *modus ponens* schema, thereby misclassifying the logical structure of counselees' actual inferences and locating the alleged irrationality in the propositional content of the premises rather than in the reasoning itself. This reduction overlooks the fact that beliefs, as propositional attitudes, are neither rational nor irrational; only the act of believing can be so assessed, and irrationality arises when an inference violates logical validity. In this brief paper, I argue that a classical syllogistic framework corrects this mistake. Drawing on Aristotle's *peristaseis* and Boethius's *De syllogismo categorico*, I outline a method for reconstructing the actual argument form underlying a counselee's reasoning. This restores logical analysis to LBT and reveals irrationality as deriving from invalid reasoning, not falsity in propositions.

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“But they do not include in their systems anything like all the possible forms of Syllogisms.” (Lewis Carroll, *The Game of Logic*, 1886, p. 35)

Introduction

Philosophical practice is a contemporary revival of the ancient view that philosophy is an art of living rather than a purely theoretical discipline. Hadot argues that ancient philosophy consisted of practical spiritual exercises aimed at shaping life rather than explaining it (Hadot 1995). Nussbaum likewise characterises the Hellenistic schools as treating philosophy as a form of therapy for human suffering rather than an abstract intellectual pursuit (Nussbaum 1994). The modern movement is usually traced to Achenbach’s establishment of the first philosophical practice in 1981 (Raabe 2003). Since then, philosophical counselling has developed significantly. Within this growing movement, Elliot D. Cohen’s Logic-Based Therapy (henceforth, LBT) is the most explicit attempt to resolve emotional disturbance through formal reasoning. However, LBT reduces all irrational thinking to a single *modus ponens* schema, thereby misclassifying the logical structure of counselees’ inferences and locating irrationality in the alleged content of the premises rather than in the reasoning itself. In what follows, I will argue that irrationality lies not in the content of the beliefs themselves but in the reasoning by which they are justified.

1. Logic-Based Therapy (LBT)

Elliot D. Cohen’s LBT is the most systematic attempt to diagnose emotional disturbance through formal reasoning. Its central claim is that distress arises because a counselee endorses an “irrational premise” which, when combined with an activating event, produces a harmful emotional conclusion (Cohen 2013). LBT formalises this in the *O-R* model: If *O* then *R*; *O*; therefore *R*. Here *O* is the intentional object of an emotion and *R* is its evaluative rating. Cohen explicitly treats this pattern as a universal *modus ponens* schema underlying all emotional reasoning. An example is: “If I fail, I am worthless. I failed. Therefore, I am worthless.”

2. Rationality and Irrationality

Rationality is typically understood as being tied to reason (Blackburn 2008). The term derives from the Latin adjective 'rationalis', meaning 'reasonable'. To be rational is to be *reason-able*, that is, able to reason well. A person is able to reason when they can provide reasons for their beliefs and assess those reasons appropriately. Reasoning can be sound or unsound, valid or invalid. An inference is *valid* when its conclusion follows logically from its premises, and *invalid* when it does not. It is *sound* when it is both valid and based on true premises, and *unsound* otherwise. A person is rational when they hold a belief on the basis of valid reasoning; they are irrational when they hold a belief on the basis of invalid reasoning.

This separates the rational assessment of believing from the truth assessment of the belief. One may believe something false yet do so for good reasons, and one may believe something true yet do so for bad reasons. Rationality, therefore, does not attach to the propositional content but to the act of believing. Rationality does not track truth, but validity. As Davidson puts it, irrationality is "a failure within the house of reason" (Davidson 2004, p.169).

3. Belief and Believing

Belief is standardly treated as a propositional attitude. To believe that p is to have a mental state that represents p as true (Schwitzgebel 2024). A belief, therefore, contains two elements: the attitude of believing and the proposition believed. This distinction matters because only the attitude is a proper target of rational appraisal. A proposition is simply true, false, or nonsensical. It does not possess rational or irrational properties. Believing, by contrast, is an activity. That activity can conform to or violate logical norms, which is why it alone can be rational or irrational. Take the proposition "I am worthless." It is clearly false, as worth is not objective. Yet falsity alone does not make the belief irrational. If a person reached this belief through a valid argument whose premises they reasonably accepted, believing it would be rational despite the falsity of the conclusion. If they reached it through an invalid inference, believing

it would be irrational even if the conclusion had been true. The therapeutic consequence is that one should not attempt to correct “irrational beliefs” but rather the reasoning that justifies them.

4. The Problem for LBT

The difficulty for Cohen is that he takes an irrational belief to be one with an “irrational” proposition as its basis. As we have seen, this misallocates the epistemic property of rationality. Any putative proposition is either true, false or nonsensical; it is not rational or irrational. Irrationality belongs to the propositional attitude of believing, and believing is irrational when the inference by which the proposition is justified is logically invalid. LBT overlooks the variety of logical errors that generate irrationality. By forcing every emotional disturbance into a single *modus ponens* schema, LBT fails to identify the actual logical structure of a counselee’s reasoning. The correction for LBT is to analyse the logical form of the tacit argument the counselee is actually using, rather than imposing one in advance. This shift restores logic to philosophical practice.

5. Aristotelian Foundation

Aristotle identifies five basic circumstances that frame any action or judgement: who, what, where, when, and why. In the *Nicomachean Ethics* these *peristasis* serve to specify the conditions under which an agent acts or assesses a situation (Sloan 2010). This framework was later formalised into the rhetorical *septum circumstantiae* by Cicero and transmitted through Quintilian. Boethius adopts the same schema in his logical and rhetorical commentaries, preserving its role as a tool for fixing the subject-matter of reasoning before logical analysis begins. The circumstances clarify the content of a belief. Emotional reasoning is often diffuse, shifting between impressions and generalisations. Before one can test the logical structure of a counselee’s thinking, the content must be fixed with precision. This is the role of the One Sentence Rule. Using a single word or expression for each the first four circumstances—*who*, *what*, *where*, and *when*—the counsellor restates the belief as a single categorical proposition. For example: “I, failed an interview at work today because I am worthless.” The vague thought becomes a determinate subject-

predicate proposition suitable for logical analysis. The fifth circumstance, the *why*, is isolated by Aristotle as the operative reason (Sloan 2010, p.241). This reason becomes the middle term when the counsellor reconstructs the tacit syllogism that generates the counselee's conclusion.

6. Boethius and the Syllogistic Method

Boethius's *De syllogismo categorico* and *De differentiis topicis* systematise the Aristotelian syllogistic, setting out the 256 possible moods and identifying the 19 that are valid² (Boethius 2008). This framework supplies the formal machinery that LBT lacks. The One Sentence Rule fixes the conclusion (S-P), the remaining circumstance, the *why*, provides the middle term. The counsellor reconstructs the tacit argument the counselee must rely on by forming a major premise connecting M with P, and a minor connecting M with S. The resulting syllogism is classified by mood and figure and assessed for validity. If invalid, believing is irrational because the inference does not support the conclusion. If valid, any universal premise is examined using the Square of Opposition: if the universal is false, replacing it with the true particular destroys validity, again revealing that no sound argument can support the conclusion. The method therefore diagnoses precise inferential defects rather than pathologising propositional content.

7. Syllogistic Method: Example

5Ws (circumstances):

Who: I
What: failed an interview
Where: workplace
When: yesterday
Why: worthless

One Sentence Rule:

'I failed an interview at work yesterday, because I am worthless.'

Formally: S is P.

² When existential import is unaccounted for, there are 24 valid forms (Williamson, 1988).

The 'why' gives the middle term (M): worthless. This is the reason the counsellee offers for their failure. The counsellor then reconstructs the tacit argument to show that this reason cannot support the conclusion:

- Major premise: Some people who are worthless are people who fail interviews.
- Minor premise: I am worthless.
- Conclusion: Therefore, I failed my interview.
- Major premise: Some M are P [I]
- Minor premise: All S are M [A]
- Conclusion: ∴ All S are P [A]

The resulting argument is invalid because the middle term is undistributed in both premises, committing the fallacy of undistributed middle (Hitchcock 2000). The reasoning is therefore irrational, since the inference cannot support the conclusion, even if the conclusion happens to be true.

8. The Square of Opposition

The square of opposition (Fig. 1) sets out the truth-relations among the four categorical forms A, E, I and O. A and O are contradictories, as are E and I. If a particular contradictory is true, its corresponding universal must be false. This makes the square a straightforward diagnostic tool for testing whether the universal premises needed to validate a counsellee's reasoning can stand.

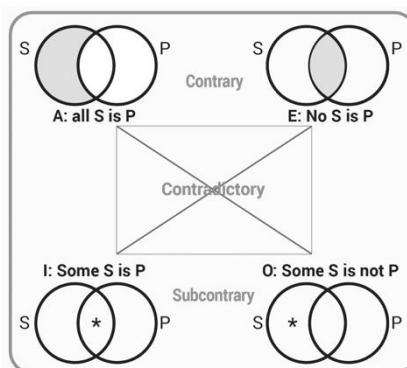


Fig.1

Once the counsellor has reconstructed the syllogism representing the counsellee's actual inference, the square indicates whether any

required premise is untenable. To validate the conclusion 'I am worthless' one would need the universal A-proposition 'All people who fail interviews are worthless'. It's contradictory O-form, 'some people who fail interviews are not worthless', is plainly true, so the universal is false. Replacing it with the true I-form preserves truth but destroys validity, showing that the premises do not support the conclusion. The square, therefore, complements the syllogistic method by revealing where emotional reasoning fails.

Conclusion

Philosophical counselling revives the classical conception of philosophy as a therapeutic discipline grounded in reason. LBT stands at the forefront of this tradition, yet it mislocates irrationality in the content of beliefs rather than in the processes by which those beliefs are justified. Distinguishing the propositional content of belief from the act of believing reveals that rationality attaches only to reasoning. By integrating Aristotelian circumstances, Boethian syllogistic, and Apuleius's square of opposition, therapeutic practice can identify logical errors in reasoning rather than pathologising content. LBT becomes logic-based once it restores syllogistic and recognises that irrationality lies not in what we think, but in how we think.

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