Ibn ʿAdī and al-Dashtakī on the Liar Paradox

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PDF

Introduction

The Final Word: al-Dawani and the Liar Paradox in the Islamic World

- How it began:
  - al-Dawānī (d. 1502)'s treatise, *The Final Word in Solving the Paradox of the Irrational Root*, looks neat! Let's translate it and reconstruct what it says.
- What it's become:
  - an overly ambitious attempt to reconstruct the entire known history of the paradox within the Islamic world, up to and including al-Dawānī.
- Why this happened:
  - al-Dawānī discusses several earlier proposals, offering partial quotes, so we chased those back to their sources.
  - turns out he isn't always faithful to his sources, and ignores (or is ignorant of) some important figures, and ignores (or is ignorant of) some curious uses of the Liar in theological contexts.

The Liar: 900–1502

Name	Death (CE)
Yahya Ibn ʿAdī	974
Abū Manṣūr al-Baghdādī	1037
Fakr al-Dīn al-Razi	1210
Sayf al-Dīn al-Āmidī	1233
Athīr al-Dīn al-Abharī	1265
Nasīr al-Dīn al-Ṭūsī	1274
Najm al-Dīn al-Quzwini al-Kātibī	1276
Saʿad Ibn Mansūr Ibn Kammūna	1284
Shams al-Dīn Muhammad al-Samarqandī	1322
Ibn al-Muṭahhar al-Ḥillī	1325

Name	Death (CE)
Saʿd al-Dīn al-Taftāzānī	1390
al-Sayyid al-Sharīf al-Jurjānī	1413
Ṣadr al-Dīn al-Dashtakī	1498
Jalāl al-Dīn al-Dawānī	1502

Basic Ideas	Proponents
The Liar is false because it contradicts itself.	al-Razi; al-Abharī; al-Kātibī; Ibn Kammūna
The Liar is not true because truth requires correspondence and correspondence requires distinct relata.	al-Ṭūsī; al-Ḥillī; Ibn Kammūna
The Liar is really two declaratives not one; or as if two; or requires two; or involves one playing two roles.	Ibn ʿAdī; al-Razi; al-Samarqandī; al-Taftazānī; al-Dashtakī; Ibn Kammūna
The Liar not a declarative fails to be an imitation grounded in truth-independent facts	al-Dawānī

Our two characters

Yaḥyá Ibn ʿAdī (893–947)

- Syriac Christian, working in Baghdad.
- Student of Abū Bishr Mattā; student or colleague of al-Fārābī.
- Prolific translator, commentator, and author of his own treatises.
- Known in his time especially for his work on logic.

Sadr al-Dīn al-Dashtakī (d. 1498)

- Philosopher living and working in Shiraz during the Safavid period.
- Contemporary of, and interlocutor with, al-Dawānī.
- *The Final Word* is the final word in *their* extended debate about the Liar—so he is a central figure for us.

Ibn ʿAdī on the Liar

Texts and Context

- Abū Bishr Mattā argued that logic is better than grammar because

  > logic investigates meaning (*maʿnā*) whereas grammar investigates utterance (*lafẓ*).

- In two closely related works, Ibn ʿAdī defends this view, in part by showing how we can use logic to solve the Liar:
  - *Explaining the Virtue of the Art of Logic* (edited text in progress)
  - A solutions manual to *Explaining*, The Virtues of Logic* (edited text in Ibn ʿAdī (1988, 201–205))

Explaining the Virtue of the Art of Logic

- Part I:

> Logicians divide the saying, 'The standing other than the sitting (*al-qāʾim ghayr al-qāʿid*),' in 16384 ways [=2^{14}], as we will explain, whereas the other practical arts are unable to do so.

- Part II:

> Another benefit of logic is to dissolve some common problems that were brought by the sophists.

- One of those four problems is the Liar.
- Solutions are left as an exercise to the reader.
- Luckily, a friend reached out, and asked for a solution manual. In *Virtues*, we get his solution to the Liar.

The Liar

Tell us about he who says, ’All my sayings (*qawl*) are false,’ if he has not spoken before, other than by declaring the falsity of them as a whole. Do you judge his saying to be false or true? For if you necessitate that it is true, then it must be false, and this necessarily entails that his saying is true and false together, and it is one saying.

- Pretty much the standard form the Liar takes throughout the tradition.
- Popular later variants are:
  - He who says, ‘All my sayings at this moment are false,’ and says nothing else in that moment.
  - He who says, ‘All my sayings in this house are false,’ and says nothing else in that house.

Ibn ʿAdī's Solution

For in entering into its totality, and declaring about the totality of which it is one, the saying is a declarative about itself too, and it becomes a declarative (*khabar*) and a declared-about (*mukhbar ʿanhu*). And each declarative that is posited as a declared-about, exits (*yakhruj*) in this condition from being a declarative. So, this saying, insofar as it is a declaring about itself, is not a declarative, and each saying that is not a declarative is neither true nor false, and if this saying is posited as [a declared-about] it is neither true nor false.

- The Liar is false, because it declares that its declared-about is false, but its declared-about is neither true nor false. Oh, right: also, it is identical to its declared-about.
- That sounds like a contradiction: how can one declarative be both neither true nor false, but also false?
- Because of what happens to a declarative (*khabar*) when it is made into a declared-about: in that condition, it "exits from being a declarative".

Ibn ʿAdī's Solution

- The Liar is false, because it declares that its declared-about is false, but its declared-about is neither true nor false. Oh, right: also, it is identical to its declared-about.
- That sounds like a contradiction: how can one declarative be both neither true nor false, but also false?
- Because of what happens to a declarative (*khabar*) when it is made into a declared-about: in that condition, it "exits from being a declarative".
- So, letting L stand for the Liar, and '✗' stand not for a truth value, but for "is not a declarative",

L-as-declared-about	**L-as-declarative**
✗	F

Exiting from being a declarative

As for [the claim that] if the declarative is posited as a declared-about, it exits in this condition from being a declarative, this is something that can be explained by induction. For if you say ‘“Zayd is standing” is a declarative’, and ‘“ʿAmru is running” is a declarative’, and ‘“Bread is beneficial” […],’ you are not declaring, in all these sayings, that Zayd is standing, or that ʿAmru is running, or that Bread is beneficial, and this applies to all other declaratives.

1. When I declare, ‘“Zayd is standing” is a declarative’, I do not declare ‘Zayd is standing’.
2. Likewise in other cases.
3. So, when a declarative is made the declared-about of another declarative, it exits from being a declarative.

Declaring makes the declarative

- Ibn ʿAdī here makes the standard Aristotelian assumption that what makes a saying a declarative—the glue that binds words into truth-apt representations—is the act of declaring.
- For example, in *al Qiyas* V 236, Avicenna discusses the status of propositions that are parts of conditionals:

> [When] a condition is [stated], each of two parts will no longer be a proposition (*qaddiya*).

- So, he goes on to say, they are neither true nor false, and so cannot be assented to or doubted.
- The Aristotelian reasons for thinking that propositions, when made parts of a conditional, lose their status as propositions, equally support Ibn ʿAdī's claim that declaratives, when quoted, lose their status as declaratives.

A Davidsonian thought about quotation

- When you quote a passage in order to say something about it, you do *two* things:
  - You *present* or *display* the passage, for your audience to consider.
  - You say something *about* the displayed passage.
- Perhaps Ibn ʿAdī's idea can be put this way:
  - As a declared-about, a declarative is *displayed*, and when a declarative is *displayed*, it is not declared.
- This suggests a distinction between the declarative as it is *in itself*, according to its nature as a declarative, and as it is *when displayed*, that is, *as a declared-about*.

A few pretty obvious objections

1. Induction from a non-representative sample: in quotations, the declared-abouts are displayed. But that's something special about quotations. If I say, 'That thing you said is true', I have declared something about what you said, but I have not displayed it. (Note that plausibly, the Liar *does* display its declared-about.)
2. Identity: some declared-abouts, like the Liar, are numerically identical to the declaratives that declare about them.
    - In such cases, there *is* an act of declaring, gluing the words together into a truth-apt representation.
    - Why is that glue dissolved when that very declarative is also declared-about?
3. Implausible consequences, ineffability and self-defeat:
    1. On this view, 'Some saying is a declarative' is false, but that is implausible.
    2. On this view, every feature, F, of a declarative, D, that depends on it being a declarative becomes ineffable: when you say, 'D is F', as declared-about, D exits from being a declarative, so does not have F.
    3. Ibn ʿAdī himself relies on claims about declaratives that depend on their being declaratives. By his own account, all those claims are

false.

Ibn ʿAdī's source for the Liar?

- If we have time! See the end of these slides.

Al-Dashtakī on the Liar

Texts

- We rely primarily on Dawānī's report of Dashtakī's view in *The Final Word*. For edited text, see Qarāmalekī (2007, 124–128).
- See also Dashtakī's *Risala*, and his glosses on Qūshjī's commentary on Ṭūsī's Tajrīd, both also edited in Qarāmalekī (2007).

Al-Dashtakī's proposed solution

> Falsity is considered in this specific saying twice, and being considered twice, this requires two declaratives for it to be correct to attribute truth and falsity to it. Since only one declarative is actualized, it is clear to you that it is not correct to attribute to this saying truth, and not [correct to attribute] falsity.

1. The Liar considers falsity twice.
2. A declarative that considers truth or falsity twice requires, for it to be correct to attribute it truth or falsity, the actualization of two declaratives.
3. The speaker only actualizes one declarative.
4. So, it is not correct to attribute truth or falsity to the Liar.
5. That is, the Liar is neither true nor false.

Truth, Falsity, and Existential Import

Know that each one of truth and falsity requires the actualization of the attributed-about (*al-mawṣūf*) that they are attributed to.

- That is, ‘A is true’ and ‘A is false’ are both *affirmative* attributions, so both require *for their truth* the existence of A.
- This is the standard Aristotelian view that affirmatives have existential import.
- The “standard package” adds:
  - Affirmatives with empty subjects are not true, and so false.

Truth, Falsity, and Existential Import

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- This is the standard Aristotelian view that affirmatives have existential import.
- The “standard package” adds:
  - Affirmatives with empty subjects are not true, and so false.
- So, interpreting the passage in light of this standard package…

Know that each one of truth and falsity requires **for the truth of their attribution** the actualization of the attributed-about (*al-mawṣūf*) that they are attributed to; **otherwise, that attribution is false**.

An alternative interpretation

Zarepour (2023, 12–13) says,

> Dashtakī's argument here seems to be based on a version of what is today called the Principle of Compositionality.

On this interpretation, if 'A' is empty, 'A is true', 'A is false', 'A is not true', and 'A is not false' are all semantically defective, and so meaningless (unless we add something fancy about the semantics of 'not').
For a long time, we read al-Dashtakī this way too. But now we think that this is a mistake. We take al-Dashtaki's reasoning about the Liar to depend only on the "standard package" described above.

Initial Application to the Liar

If this declarative is actualized, then the attribution of one of them is correct (*yusahh*), otherwise it is not. But if the attributed-about (*al-mawṣūf*) is missing, then it is neither correct to attribute to it truth nor falsity.

- If L is actualized, then one of ‘L is true’ and ‘L is false’ is correct.
- If L is missing, neither of ‘L is true’ nor ‘L is false’ is correct.
- (‘Correct’ (*yusahh*) in this context, just means ‘true’!)

A First Example

For example, if Zayd declared about something, then it is correct that his declarative is true or false, and if he has not declared about anything at all, then it is not correct that his declarative is true or that it is false, because the attributed-about (*al-mawṣūf*) is missing.

Z. The world is created.
ZT. Z is true.
ZF. Z is false.

Z	**ZT**	**ZF**
T	Correct	
F		Correct
✗	not Correct	not Correct

A First Example

Z	ZT	ZF
T	C	
F		C
✗	not C	not C

- As when we considered Ibn ʿAdī, '✗' does not indicate a truth value. There, it indicated that the saying in that condition was not a declarative. Here, it indicates that the declarative is not actualized.
- On our preferred interpretation, "correct" here means "true", and "false" is the metathetic negation of "true", so any declarative that is not correct is therefore false.

Z	ZT	ZF
T	T	F
F	F	T
✗	F	F

Considering Truth or Falsity Twice

This is if one considered truth and falsity once. However, if one considered them twice, then this requires two declaratives, as when you say "'Zayd's declarative is true' is true" or "'Zayd's declarative is false' is false," so it is not sufficient for it to be correct that we have one declarative, rather it requires two declaratives to be actualized, one of them a declaring about something, and the second a judgment on this declarative, namely that it is true or false.

Z.	The world is created
ZT.	Z is true
ZTT.	ZT is true: requires both Z and ZT.
ZTF.	ZT is false: requires both Z and ZT.

Z.	The world is created
ZF.	Z is false
ZFF.	ZF is false: requires both Z and ZF.
ZFT.	ZF is true: requires both Z and ZF

'requires' here is short for 'requires to be correct'.

If Zayd declares that the world is created, and then one judges this to be true, then it is correct at this moment to say, "'Zayd's speech is true' is false" or "is true."

Z	ZT	ZTT	ZTF
T	T	C	not C
F	F	not C	C

If it is declared about it, and it is not judged of this declarative that it is true, then it is not correct to say "'Zayd's speech is true' is false or true." This is because 'Zayd's speech is true,' at this moment, is missing, so how can it be correct to attribute truth and falsity to it?

Z	ZT	ZTT	ZTF
T	✗	not C	not C
F	✗	not C	not C

Likewise, if one does not declare and [does not] judge that my declarative is true, [then] it is not correct to attribute truth or falsity to it, because one's saying, "My declarative is true," is missing, that is, due to the lack of the declarative which is judged to be true, which is needed to actualize the attribution of the two truths or the two falsities.

Z	ZT	ZTT	ZTF
T	✗	not C	not C
F	✗	not C	not C
✗	✗	not C	not C

This leaves us with one more case to consider.

The last case to consider

Z	ZT	ZTT	ZTF
T	✗	not C	not C
F	✗	not C	not C
✗	✗	not C	not C
✗	?	?	?

- Suppose Z goes missing, but ZT does not.
- Al-Dashtakī does not discuss the status of ZTT and ZTF in this case.

The last case to consider

Z	ZT	ZTT	ZTF
T	✗	not C	not C
F	✗	not C	not C
✗	✗	not C	not C
✗	not C	?	?

- Suppose Z goes missing, but ZT does not.
- Al-Dashtakī does not discuss the status of ZTT and ZTF in this case.
- But we already know from earlier that he thinks that, in this situation, ZT is not correct.

The last case to consider

Z	ZT	ZTT	ZTF
T	✗	not C	not C
F	✗	not C	not C
✗	✗	not C	not C
✗	F	?	?

- Suppose Z goes missing, but ZT does not.
- Al-Dashtakī does not discuss the status of ZTT and ZTF in this case.
- But we already know from earlier that he thinks that, in this situation, ZT is not correct.
- Assuming the “traditional package”, this means that ZT is false.

The last case to consider

Z	ZT	ZTT	ZTF
T	✗	not C	not C
F	✗	not C	not C
✗	✗	not C	not C
✗	F	not C	?

- Suppose Z goes missing, but ZT does not.
- Al-Dashtakī does not discuss the status of ZTT and ZTF in this case.
- But we already know from earlier that he thinks that, in this situation, ZT is not correct.
- Assuming the “traditional package”, this means that ZT is false.
- So ZTT, which says ZT is true, is not correct.

The last case to consider

Z	ZT	ZTT	ZTF
T	✗	not C	not C
F	✗	not C	not C
✗	✗	not C	not C
✗	F	not C	C

- Suppose Z goes missing, but ZT does not.
- Al-Dashtakī does not discuss the status of ZTT and ZTF in this case.
- But we already know from earlier that he thinks that, in this situation, ZT is not correct.
- Assuming the “traditional package”, this means that ZT is false.
- So ZTT, which says ZT is true, is not correct.
- And ZTF, which says that ZT is false, is correct.
- So ZTF is *correct*, even though only one of the two declaratives is actualized.
- That seems like a problem for Dashtakī.

Application to the Liar

> And the case at hand is like that, for only one declarative is actualized, and its falsity is considered twice.

> As for [the claim] that its falsity is considered twice, this is because the judged-about in the mentioned declarative is his saying, “My speeches today” [...] So that to which the judgment of falsity reaches is, “My speeches today are false,” as if he said, “‘My speeches are false’ is false.”

- Roughly, the “as if” idea seems to be that the semantics of ‘All my speeches are false’ requires us to consider falsity twice, first, as the judged-about, and second, as what is judged of the judged-about.

The Payoff

And it becomes apparent that the falsity is considered in this specific saying twice, and being considered twice, this requires two declaratives for it to be correct to attribute truth and falsity to it. Since only one declarative is actualized, it is clear to you that it is not correct to attribute to this saying truth, and not [correct to attribute] falsity. And it weighs the same as your saying, "'Zayd's sentence is false,' is true", or "false", if Zayd has no declarative except one. Reflect on that!

Puzzles

How he wants us to think of the situation: L requires two declaratives, but only one of them is actualized, so it is not correct to say that L is true or that it is false. That is, imagining that L_1 and L_2 are the two required declaratives:

L_1	L_2	L_2 is true	L_2 is false
?	✗	not C	not C
✗	?	not C	not C

- But as we've seen, he is not entitled, by his own principles and forms of argument, to the last row.

Puzzles

L_1	L_2	L_2 is true	L_2 is false
?	✗	not C	not C
✗	F	not C	C

- But as we've seen, he is not entitled, by his own principles and forms of argument, to the last row.
- Can we rule out that last row, on independent grounds?
- If you need to say the same thing twice, and you only say it once, then maybe it is always the *second* saying that goes missing?
- Let's eliminate it.

Puzzles

L_1	L_2	L_2 is true	L_2 is false
?	✗	not C	not C

- That '?' is worrisome.
- We can't say L_1 goes missing. For then, either *no* declarative is actualized, which isn't al-Dashtakī's view; or L_2 is actualized but L_1 is not, but that's the row we just eliminated.
- So either L_1 is true, or it is false.
- Perhaps L_1 is false because it has an empty subject, L_0. But this recreates our eliminated row, shifted one column left.
- In fact, any assignment of truth value to L_1 is a problem. For what stops *us* from then correctly saying that L_1 has *that* truth value, collapsing the entire structure of al-Dashtakī's solution?

Conclusion

Ibn ʿAdī and al-Dashtakī: a comparison

- Both Ibn ʿAdī and al-Dashtakī agree that, in some circumstances, a declarative is neither true nor false.
- For Ibn ʿAdī, this is when it is actualized as a declared-about, and so exits from being a declarative.
- For Dashtakī, this is when it is not actualized, and so goes missing.
- If we use '✗' in a neutral way, to indicate that the declarative in question fails, for whatever reason, to be true or false, then we can represent their views in a simple table:

	L_1	L_2
al-Dashtakī	?	✗
Ibn ʿAdī	✗	F

Appendices and References

Ibn ʿAdī's source for the Liar?

- Endress (1977) suggests that Ibn ʿAdī's sources for the Liar were Aristotle's *Sophistical Refutations 25*, and Alexander's commentary on *SR*.
- Not *SR* 25:
  - *SR* 25 at best *suggests* the Liar (Spade 1973)
  - The suggestive example from *SR* 25—a man who "at the same time says what is both false and true"—is omitted from many of the Arabic translations, including Ibn ʿAdī's (Alwishah and Sanson 2009, 99)
- Not Alexander's commentary on *SR*:
  - because it is spurious, written by Michael of Ephesus in the 12th century CE.
- Could be Alexander's commentary on *Topics* II.7:
  - Not spurious, and he discusses the Liar!
  - Ibn ʿAdī says he consulted it when writing his own commentary on *Topics*!
  - But he also says that his copy was missing Alexander's commentary on books II, III, and IV (Endress 1977, 25).

The other three “common problems” from Ibn ʿAdī

1. Everyone who says he is a donkey is truthful.
2. Every man has many species.
3. Either rock is animal or animal is not animal.

Everyone who says he is donkey is truthful

Everyone who says he is a donkey says he is an animal.
Everyone who says he is an animal is truthful.
So, everyone who says he is donkey is truthful.

- We haven’t located Greek sources.
- Present in the earliest Oxford and Paris collections of sophisms, and throughout the later Latin tradition.
- Also present in later Arabic sources.

Every man has many species

Every man is an animal.
Animal has many species.
So every man has many species.

More or less a standard puzzle from antiquity.

Either rock is animal or animal is not animal

Body is either animal or not animal. Necessarily, if something is true of all, it must be affirmed of each. If body is animal, this entails that rock is animal, since rock is body and, by assumption, body is animal. And if body is not animal, this entails that animal is not animal, since animal is body.

A puzzle about Aristotle's *dictum de omni et nullo* (*Categories* 1b 10-15) that the later Islamic tradition associates with Isagoge.

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Speaker notes