LOGICAL DEFINITIONS OF LYING AND OTHER DISHONEST ATTITUDES

utterance 噩 untruth lie

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Questions central to the philosophical discussion of lying to others and other—deception (interpersonal deceiving) may be divided into two kinds. Questions of the first kind are definitional or conceptual. They include the questions of how lying is to be defined, how deceiving is to be defined, and whether lying is always a form of deceiving. Questions of the second kind are normative — more particularly, moral. They include the questions of whether lying and deceiving are either defeasibly or non—defeasibly morally wrong, whether lying is morally worse than deceiving, and whether, if lying and deception are defeasibly morally wrong, they are merely morally optional on certain occasions, or are sometimes morally obligatory. In this entry, we only consider questions of the first kind.

- **1. Traditional Definition of Lying**
  - 1.1 Statement Condition
  - 1.2 Untruthfulness Condition
  - 1.3 Addressee Condition
  - 1.4 Intention to Deceive the Addressee Condition
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- **2. Deceptionism vs. Non—Deceptionism About Lying**
  - 2.1 Simple Deceptionism
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  - 3.1 Objections to the Traditional Definition of Deception

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https://plato.stanford.edu/entries/lying-definition/
“Questions central to the philosophical discussion of lying to others and other-deception may be divided into two kinds. Questions of the first kind are definitional or conceptual. They include the questions of how lying is to be defined, how deceiving is to be defined, and whether lying is always a form of deceiving. Questions of the second kind are normative — more particularly, moral.”
Definition of Lying

- According to Wikipedia, there are 33 different types of lies (Retrieved, January 2017).
- There is no universally accepted definition of lying (even the OED definition is problematic). “To make a false statement with the intention to deceive.” (OED 1989)
- Mahon argues that the most common definition of lies requires 4 necessary conditions.
Four Necessary Conditions for Lying

Statement Condition

- Lying requires that a person makes a statement.
- It is impossible to lie by omitting to make a statement.
- Feigning a yawn, wearing a hair-piece, making a phony smile, wearing an engagement ring when one is not engaged, ... is not lying.
Four Necessary Conditions for Lying

Untruthful Condition

- Lying requires that a person makes an untruthful statement—making a statement that he *believes* to be false.

- It is *not* required that the statement made by the person is actually false. (cf. OED definition)

- “A person is to be judged as lying or not lying according to the intention of his own mind, not according to the truth or falsity of the matter itself.” (Saint Augustine, 1952)
Four Necessary Conditions for Lying

Addresseee Condition

- Lying requires that a person addresses another person.
- It includes lying to a general audience, lying by publishing an untruthful report, or lying by sending an untruthful email.
- A person is not lying if he makes an untruthful statement in an empty room or makes an untruthful statement to non-persons.
Four Necessary Conditions for Lying

Intention to Deceive Addressee Condition

- Lying requires that a person makes an untruthful statement with the *intention* that an addressee believes the statement to be true.

- Telling jokes, writing fiction, acting in a play, etc. action without accompanying the intention that addressees believe these untruthful statements to be true, is not lying.
Traditional Definition of Lying
(Isenberg 1973; Primoratz 1984)

- \((L1)\) To lie := to make a believed-false statement to another person with the intention that the other person believes that the statement is true
- It contains 4 necessary conditions.
- This is the most widely accepted definition of lying (Mahon 2008).
Intentions involved in Lying

- Lying involves two distinct intentions to deceive.

  (i) intention that the hearer believes a believed-false statement (intention to deceive about truth)

  (ii) intention that the hearer believes that the speaker believes the statement (intention to deceive about truthfulness)

- (L1) fails to represent (ii).
Man and Woman

When a man says “you are the most beautiful woman in the world” to his girlfriend, he does not intend that she believes this statement to be true but intends that she believes that he believes this statement to be true.
Alternative Definitions

- (L2) To lie:= to make a statement $\sigma$, where $\sigma$ is believed to be false, to another person, with the intention that the other person believes that $\sigma$ is believed to be true (Williams 2002)

- (L3) To lie:= to make a believed-false statement (to another person) either with the intention that that statement is believed to be true (by the other person), or with the intention that it is believed (by the other person) that that statement is believed to be true (by the person making the statement), or with both intentions (Mahon 2008)
Logical Definition of Lying

- To represent the statement/addressee condition, an operator representing communication between agents is needed.
- To represent the untruthfulness condition, an operator representing belief of an agent is needed.
- To represent the intention to deceive addressee condition, an operator representing intention of an agent is needed.
Logic for Belief, Intention and Communication

- A propositional modal logic **BIC** has 3 modalities:
  - $B_a \sigma$ : an agent $a$ believes a sentence $\sigma$
  - $I_a \sigma$ : an agent $a$ intends a sentence $\sigma$
  - $C_{ab} \sigma$ : an agent $a$ communicates a sentence $\sigma$ to (another) agent $b$

- The semantics of **BIC** is given by the Kripke semantics for normal modal operators.
Axiomatic system of BIC

1. All propositional tautologies

2. The axioms for B (the system KD45)
   
   \((K_B)\) \(B_a \phi \land B_a (\phi \supset \psi) \supset B_a \psi\)
   
   \((D_B)\) \(\neg B_a \bot\)
   
   \((4_B)\) \(B_a \phi \supset B_a B_a \phi\)
   
   \((5_B)\) \(\neg B_a \phi \supset B_a \neg B_a \phi\)

3. The axioms for I and C (the system KD)
   
   \((K_I)\) \(I_a \phi \land I_a (\phi \supset \psi) \supset I_a \psi\)
   
   \((D_I)\) \(\neg I_a \bot\)
   
   \((K_C)\) \(C_{ab} \phi \land C_{ab} (\phi \supset \psi) \supset C_{ab} \psi\)
   
   \((D_C)\) \(\neg C_{ab} \bot\)
4. The bridge axioms among $B$, $I$ and $C$:

- (4$_{IB}$) $I_a \phi \supset B_a I_a \phi$
- (5$_{IB}$) $\neg I_a \phi \supset B_a \neg I_a \phi$
- (4$_{CB}$) $C_{ab} \phi \supset B_a C_{ab} \phi$
- (5$_{CB}$) $\neg C_{ab} \phi \supset B_a \neg C_{ab} \phi$
- (4$_{CI}$) $C_{ab} \phi \supset I_a C_{ab} \phi$
- (5$_{CI}$) $\neg C_{ab} \phi \supset I_a \neg C_{ab} \phi$

5. Rules of inference:

- (MP) If $\vdash \phi$ and $\vdash \phi \supset \psi$ then $\vdash \psi$
- (N$_B$) If $\vdash \phi$ then $\vdash B_a \phi$
- (N$_I$) If $\vdash \phi$ then $\vdash I_a \phi$
- (N$_C$) If $\vdash \phi$ then $\vdash C_{ab} \phi$

where $\vdash \phi$ iff a sentence $\phi$ is a theorem of BIC.
Remarks

- $B_a \phi$ (resp. $I_a \phi$) holds iff $\phi$ is true in all states of affairs compatible with $a$’s current beliefs (resp. intention).

- The rule $(N_I)$ from $\vdash \phi$ infer $\vdash I_a \phi$ says that every theorem holds at all states of affairs that $a$ might intend to bring about.

- Likewise, $(N_C)$ from $\vdash \phi$ infer $\vdash C_{ab} \phi$ says that every theorem is unconditionally communicated from $a$ to $b$.

- Each agent believes that other agents follow the same logic.
Representing (L1) in BIC

- (L1) To lie := to make a believed-false statement to another person with the intention that the other person believes that the statement is true.

- It is represented in BIC as:
  \[ L_{1ab}(\sigma) := C_{ab} \sigma \land B_a \lnot \sigma \land I_a B_b \sigma \]
  \((\sigma): \text{sentence}, (a): \text{speaker}, (b): \text{hearer})

- It represents the statement/addressee condition \((C_{ab} \sigma)\), untruthfulness condition \((B_a \lnot \sigma)\), and the intention to deceive addressee condition \((I_a B_b \sigma)\).
Representing (L2) in BIC

- (L2) To lie := to make a statement $\sigma$ (by $a$), where $\sigma$ is believed to be false (by $a$), to another person ($b$), with the intention that the other person ($b$) believes that $\sigma$ is believed to be true (by $a$).

- It is represented in BIC as

$$L_{2_{ab}}(\sigma) := C_{ab} \sigma \land B_a \neg \sigma \land I_a B_b B_a \sigma$$

($\sigma$: sentence, $a$: speaker, $b$: hearer)

- The intention to deceive about truthfulness is represented by $I_{a} B_b B_a \sigma$. 
Representing \((L3)\) in BIC

- \((L3)\) To lie:= to make a believed-\-false statement (to another person) either with the intention that that statement is believed to be true (by the other person), or with the intention that it is believed (by the other person) that that statement is believed to be true (by the person making the statement), or with both intentions

- \(L_{3ab}(\sigma) := L_{1ab}(\sigma) \lor L_{2ab}(\sigma)\)

  \[\equiv C_{ab}(\sigma) \land B_a \neg \sigma \land (I_a B_b \sigma \lor I_a B_b B_a \sigma)\]
Formal Properties

- Sincere communication is defined as
  \[ \text{SINC}_{ab}(\sigma) := C_{ab} \sigma \land B_a \sigma \quad \text{or} \]
  \[ \text{I-SINC}_{ab}(\sigma) := \text{SINC}_{ab}(\sigma) \land \text{I}_a B_b \sigma \]
  
  (\sigma: \text{sentence, } a: \text{speaker, } b: \text{hearer})

- Lying is not sincere: Let \( \text{LIE}_{ab}(\sigma) \) be either \( \text{L1}_{ab}(\sigma) \) or \( \text{L2}_{ab}(\sigma) \).
  \[ \vdash \text{LIE}_{ab}(\sigma) \land (\text{I-}) \text{SINC}_{ab}(\sigma) \supset \bot \]

- A single lie makes the whole communication a lie:
  \[ \vdash \text{L1}_{ab}(\lambda) \land \text{I-SINC}_{ab}(\sigma) \supset \text{L1}_{ab}(\lambda \land \sigma) \]
- One cannot lie on valid or contradictory sentences:

  (inability-T): $\models \text{LIE}_{ab}(T) \supset \bot$

  (inability-⊥): $\models \text{LIE}_{ab}(\bot) \supset \bot$

- Lies on two sentences imply a lie on their conjunction:

  (combination): $\models \text{LIE}_{ab}(\lambda) \land \text{LIE}_{ab}(\sigma) \supset \text{LIE}_{ab}(\lambda \land \sigma)$

- Lies on contrary sentences are meaningless:

  (inability-¬): $\models \text{LIE}_{ab}(\sigma) \land \text{LIE}_{ab}(\neg \sigma) \supset \bot$

  $\models \text{LIE}_{ab}(\sigma) \land \text{LIE}_{ab}(\neg B_a \sigma) \supset \bot$

- A liar notices his/her dishonest act:

  (introspection): $\models \text{LIE}_{ab}(\sigma) \supset B_a \text{LIE}_{ab}(\sigma)$
Lying to oneself

- A rationally balanced agent satisfies the formula:

\[ \text{RB}_a(\sigma) := \text{B}_a \sigma \supset \neg \text{I}_a \neg \text{B}_a \sigma \]

i.e., if one believes a fact, he/she does not intend to make oneself disbelieve the fact.

- Intentional sincere communication to oneself is rationally balanced, but lying to oneself is not.

\[ \text{L}_1 \text{aa}(\sigma) \land \text{RB}_a(\neg \sigma) \supset \bot \]
\[ \text{L}_2 \text{aa}(\sigma) \land \text{RB}_a(\neg \text{B}_a \sigma) \supset \bot \]
Other Categories of Dishonesties

- **Bullshit** is a statement that “is grounded neither in a belief that it is true nor, as a lie must be, in a belief that it is not true”.
  

- “The production of bullshit is stimulated whenever a person's obligations or opportunities to speak about some topic exceed his knowledge of the facts that are relevant to that topic” (ibid).
Bullshit

- Bullshit (BS) is represented in BIC as
  \[ BS_{ab}(\sigma) := C_{ab} \sigma \land \lnot B_a \sigma \land \lnot B_a \lnot \sigma \]
  \( (\sigma: \text{sentence}, \ a: \text{speaker}, \ b: \text{hearer}) \)

- BS satisfies the statement condition and the addressee condition, while it does not satisfy the untruthfulness condition and the intention to deceive condition.

- There is a freedom for a speaker to communicate \( \sigma \) or \( \lnot \sigma \).
Sometimes BS accompanies intention.

e.g. A salesperson paid on commission basis may BS on the quality of products he is selling. He intends to make customers believe that the product has a high quality.

Such intentional BS is defined as

$$I-BS_{ab}(\sigma) := BS_{ab}(\sigma) \land I_a B_b \sigma$$

In I-BS, $a$ always communicates $\sigma$ that is intended to be believed by $b$. 
Withholding Information

- “to withhold information is to fail to offer information that would help someone acquire true beliefs and/or correct false beliefs”. (T. L. Carson: “Lying and Deception: theory and practice”, 2010)

- WI is considered immoral “if there is a clear expectation, promise, and/or professional obligation that such information will be provided” (ibid).

- It is often called “lie of omission”.
Withholding Information

- Withholding information (WI) is represented in BIC as

\[ WI_{ab}(\sigma) := \neg C_{ab} \sigma \land B_a \sigma \land I_a \neg B_b \sigma \]

(\(\sigma\): sentence, \(a\): speaker, \(b\): hearer)

- WI does not satisfy the statement condition, the addressee condition, the untruthfulness condition.

- Since WI accompanies no statement, it does not satisfy the intention to deceive addressee condition.
Half-Truth

- Half-truth is a partially true statement intended to deceive or mislead. (Collins English Dictionary)

- A speaker makes a *believed-true* statement with the intention that a hearer *misuses* it to reach a wrong conclusion which is desired by the speaker. e.g. “I’ve never caused a car accident” (in fact he never drives a car).

- It is also called “indirect lies” or “lying while saying the truth”.
Half-Truth

- Half-truth (HT) is represented in BIC as
  \[ HT_{ab}(\sigma, \delta) := C_{ab} \sigma \land B_a \sigma \land I_a B_b \sigma \]
  \[ \land \neg B_a B_b \delta \land B_a B_b (\sigma \supset \delta) \]
  \[ \land B_a \neg \delta \land \neg C_{ab} \neg \delta \land I_a B_b \delta \]
  \( (\sigma, \delta : \text{sentences}, \ a: \text{speaker}, \ b: \text{hearer}) \)

- \( a \) communicates a believed-true sentence \( \sigma \) with the intention of making \( b \) believe it;

- \( a \) disbelieves that \( b \) believes \( \delta \) while \( a \) believes that \( \sigma \) makes \( b \) believe \( \delta \);  

- \( a \) believes the falsity of \( \delta \) but does not communicate \( \neg \delta \) with the intention of making \( b \) believe \( \delta \).
## Comparison of Different Categories of Dishonesties

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Deception is an act whereby one person causes another person to have a false belief.

Whether or not a speaker lies (BS, WI, or HT) depends only on the belief and intention of the speaker, and is independent of the effect of the action.

Deception involves a success/achievement of the act, so it is different from lies, BS, WI, and HT.
Attempted Deception

WI that fails to deceive

Lies that fail to deceive

Deception by Lying

HT that fails to deceive

Deception by HT

I-BS that fails to deceive

Deception by I-BS

Deception by WI

Thank you