The Liar and Dialetheism

• The Liar, the Strengthened Liar
• Dialetheism: Motivations and Problems

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The Liar

• (L1) L1 is false
  – If L1 is true, it is false
  – If L1 is false, it is true
  – L1 is true iff L1 is false

• Alternative formulations
  – This sentence is false
  – The next sentence is true; the last sentence is false

• Response: neither true nor false?
Principle of Bivalence

• For all $p$, either $p$ is true or $p$ is false
  – $p =$ sentence, statement, proposition
  – If sentence, then well-formed, declarative etc.

• Contrast Law of Excluded Middle: $A \lor \neg A$
  – BIV mentions ‘true’ and ‘false’
  – Object vs. meta-language
  – Equivalent given (T) $S$ is true iff $p$
  – Supervaluationism denies BIV, but not LEM
Deny Bivalence?

• L₁ not the only possible counterexample?
  – I am tall (bald, etc.)
  – The present King of France is bald
  – There will be a sea battle tomorrow

• Possible diagnosis: L₁ is ‘ungrounded’?
  – Truth not based in something distinct.
  – ‘Correspondence Intuition’: sentences are true iff they correspond with the facts.
  – Also explains why (T₁) T₁ is true, is defective
The Strengthened Liar

• (L1) L1 is false
• (L2) L2 is not true
  – If L2 is true, then it is not true
  – If L2 is not true, then it is true
• Why strengthened?
  – If ‘not true’ = ‘false’, then L1 ≈ L2.
  – But if ‘not true’ ≠ ‘false’, then L2 ≈ (L3) L3 is false or neither true nor false
  – If L2 is neither true nor false then it is not true...Paradox!
  – Neither not true nor not not true?
    • Not not T and not not not T→T and not T. Contradiction!
    • If L2 is neither not T nor not not T, then not T. Paradox!
Dialetheism

- There are some true contradictions
- It is rational to believe that there are true contradictions
- Dialethia: both true and false
  - E.g. A & ~A, this sentence is false, etc.

- Q: Is it well motivated? Is it acceptable?
Dialetheism: Motivation

• Liar provides an *argument* for dialethia
  – (Cf. Sorites an *argument* for epistemic view of vagueness.)
  – Better to reject a premiss or reasoning than accept the conclusion? Depends on how good arguments against the alternatives are...
Dialetheism: Motivation

• Solves other paradoxes?
  – E.g. set-theoretic paradoxes (Russell etc.), Sorites, Theseus’s ship...
  – Generality a theoretical virtue
  – But are other paradoxes essentially similar?
    • App. unacceptable conclusion derived by app. acceptable reasoning from app. acceptable premisses: sufficient for essential similarity?
    • Some paradoxes look to have other solutions
  – Case study: the Liar and Russell’s Paradox...
Liar and Russell’s Paradox

• Russell’s Paradox
  – Is the class of classes that are not members of themselves (R) a member of itself?
  – If it is, then it is not a member of itself
  – If it is not, then it is a member of itself
  – $R \in R \iff \neg (R \in R)$
  – CE: for every intelligible condition of class membership, there is a class
Not Essentially Similar?

• Different subject matter: logical vs. semantic

• No analogue of the Strengthened Liar
  – ‘There is no class R’ not problematic in the way ‘L1 is neither true nor false’ is.
Essentially Similar?

- Both involve self-reference (or circularity)
  - Liar: L1 tries to say something of itself
  - Russell: R defined in terms of itself
- Derived using principles seemingly constitutive of notion of class and truth
  - CE: for every intelligible condition of class membership, there is a class
  - T: S is true iff \( p \)
- Hierarchies
  - Russell’s Theory of Types
  - Tarski’s Hierarchical Theory of Truth
Essentially Similar?

• Both violate Vicious Circle Principle?
  – VCP: No totality can contain members fully specifiable only in terms of itself
  – Russell: R can only be fully specified in terms of the totality (class of non-self-membered sets) that it is a member of
  – Liar: sentences can be specified independent of a totality, but statements often not, e.g. everything you said was false
  – (L1*) The statement L1* is false, violates VCP because L1* can only be fully specified in terms of the totality of statements that it (alone) is a member of
  – But note: is the VCP well motivated?
Dialetheism: Motivation

• If paradoxes are essentially similar, then solutions should be essentially similar
• Dialetheism satisfies this constraint
  – Russell: $R \in R$ and $\neg (R \in R)$
  – Liar: $L_1$ is true and $L_1$ is false
  – Russell: Deny that $R$ exists
  – Liar: If you deny that $L_1$ is either true or false, then Strengthened Liar! Instead, according to Priest, solutions typically deny or restrict (T) $S$ is true iff $p$. 
Dialetheism: Motivation

- (T) S is true iff \( p \), is constitutive of our notion of truth
  - A priori, perhaps analytic
- Dialetheism: accepts all instances of (T)
- Others: (T) restricted to non-paradoxical instances of T
Dialetheism: Problems

- Requires revising ‘classical logic’, e.g.:
  - Denies Law of Non-Contradiction: ~ (A & ~A)
  - *Ex contradicitione quodlibet*: A, ~A ∴ B
  - Some instances of Disjunctive Syllogism (where A is a dialethia): A, ~A v B ∴ B

  - (1) A & ~A (assumption)
  - (2) A (1, &E)
  - (3) A v B (2, vI)
  - (4) ~A (1, &E)
  - (5) B (3, 4, DS)
  - (6) ~ (A & ~A) (1, 5 RAA)
Dialetheism: Problems

• Is revising classical logic a problem? (N.B. vagueness raises similar issues.)

• Revisions relatively minor, e.g.
  – Does not deny LEM (A v ~A)
  – Does not alter informal conception of validity: a valid argument could not have true premisses and false conclusion.
    • In classical logic, validates *ex contradictione quodlibet*: contradiction cannot be true, so argument with contradiction in premisses can never have true premisses and false conclusion
    • For Dialetheists, not every argument with a contradiction amongst premisses need be valid

• Is classical logic sacrosanct?
Dialetism: Problems

• ‘Classical logic and semantics are vastly superior to the alternatives in simplicity, power, past success, and integration with theories in other domains’ (T. Williamson, ‘Vagueness and Ignorance’, Aristotelian Society Supp. Vol. 1992)

• Some revisions seem more acceptable than others. Can we really give up LNC?!? But if not, why not...?
Dialetheism: Problems

• Are dialethia meaningless?
  – Meaningful sentences rule out some states of affairs, and are ruled out by others
  – Dialethia meaningless because they do not do this...
  – ...but question begging: dialethia do not rule out some states of affairs that they are ruled out by.
Dialetehism: Problems

• Negation and Rejection
  – Constitutive of notion of notion of negation that
    (N) something should be rejected iff its negation
    should be accepted
  – Dialetehism violates (N): should accept A and ~A
    (because true); but should reject A (because accept
    ~A)...
  – ...but question begging. Accepts N1, but not N2:
    • (N1) If something should be rejected, its negation should
      be accepted
    • (N2) Something should be rejected if its negation should
      be accepted
Dialetheism: Problems

• Negation
  – It is constitutive of our notion of negation that \( \sim A \) is true iff \( A \) is not true. If \( A \) & \( \sim A \), then \( A \) is true and \( A \) is not true. Contradiction!
  – But might be better to say \( \sim A \) is true iff \( A \) is false. If so, why suppose that truth and falsity are exclusive?
  – Besides question begging: why suppose that contradictions are bad?
Dialetheism

• Negation
  – Can introduce a predicate ‘untrue’ by stipulation that applies *just* to things that are not true (true and untrue are exclusive)
  – Strengthened Liar: (L3) L3 is untrue
    • If it is untrue, then it is true
    • If it is true, then it is untrue
  – A true contradiction?!? If so, true and untrue *both* exclusive (by stipulation) *and* non-exclusive (from Liar reasoning)?
Dialetheism

- Is it well motivated or as Sainsbury suggests ‘a last resort’?
- Hard to produce non-question begging arguments against dialetheism. But is this sufficient reason to accept it? (Recall epistemic theory of vagueness.)
- If you don’t like dialetheism, then you need to find some other solution to the Liar!
Further Reading

There is lots of good reading on these topics, including:

G. Priest and F. Berto, ‘Dialetheism’ in *Stanford Encyclopedia of Philosophy*
S. Read, *Thinking About Logic* (OUP, 1995)