

PHI 103 - Categorical Logic
Lecture 3

Categorical Logic
Translating Ordinary Sentences

Categorical Logic

Translating Ordinary Sentences into Categorical Form

REMEMBER - there are only four *standard form* Categorical Propositions:

(UA - **A**) **All** *S* are *P*.

All _____ are _____.

(UN - **E**) **No** *S* are *P*.

No _____ are _____.

(PA - **I**) **Some** *S* are *P*.

Some _____ are _____.

(PN - **O**) **Some** *S* are **not** *P*.

Some _____ are not _____.

Categorical Logic

Translating Ordinary Sentences into Categorical Form

1. Identify the *terms* of the statement: *subject* and *predicate*
2. Translate non-standard verbs to **'are'**
3. Use parameters for singular subject terms: **'people who'**, **'things that'**, **'times that'**,
4. Translate *adverbs*:
 - **Places** - 'where', 'wherever', 'anywhere', etc., *to* **'places that'**
 - **Times** - 'when', 'whenever', 'always', etc., *to* **'times when'**
5. Translate *pronouns*:
 1. **Persons** - 'who', 'anyone', 'whoever', etc., *to* **'people who'**
 2. **Things** - 'what', 'whatever', 'anything', etc., *to* **'things that'**

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6. *Hypothetical statements* (“If ... then.”)

- use the Universal Affirmative: **All S are P**, *except*
- when the *consequent* is negated use the Universal Negative: **No S are P**.

7. **Exclusive terms**: ‘none’, ‘only’, ‘none except’, etc., modify the *predicate* term.

8. **“The Only”**: always modifies the *subject* term.

Categorical Logic

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Some governments are disorganized.

subject

predicate

disorganized *what?*

disorganized *things*.

Some *things that are* governments are *things that are* disorganized.

Some S are P.

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The protestors at the convention were arrested.

subject

predicate

missing noun

people who were arrested

All *people who* protested at the convention were *people who were* arrested.

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All people who protested at the convention *were* people who were arrested.

↑
non-standard verb

All people who protested at the convention *are* people who were arrested.

All S are P.

Categorical Logic

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Unicorns don't exist.

subject

predicate

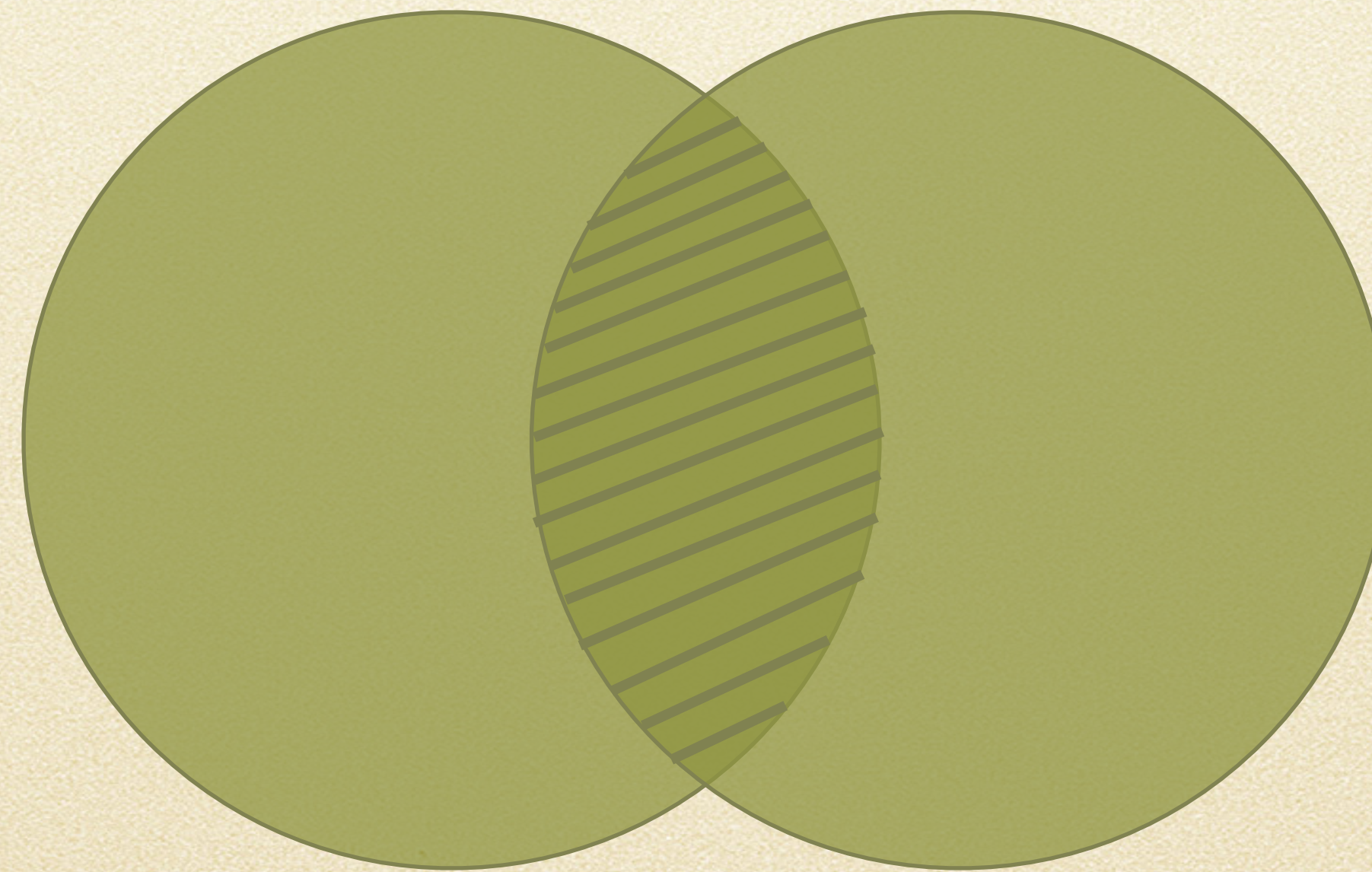
Things that are **unicorns** *are not* *things that* **exist**.

Categorical Logic

Translating Ordinary Sentences into Categorical Form

No things that are unicorns are things that exist.

unicorns



things that exist

No S are P.

Categorical Logic

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Many Logic students fail their first exam.

subject

predicate

non-standard quantifier non-standard verb

Some

people who are Logic students

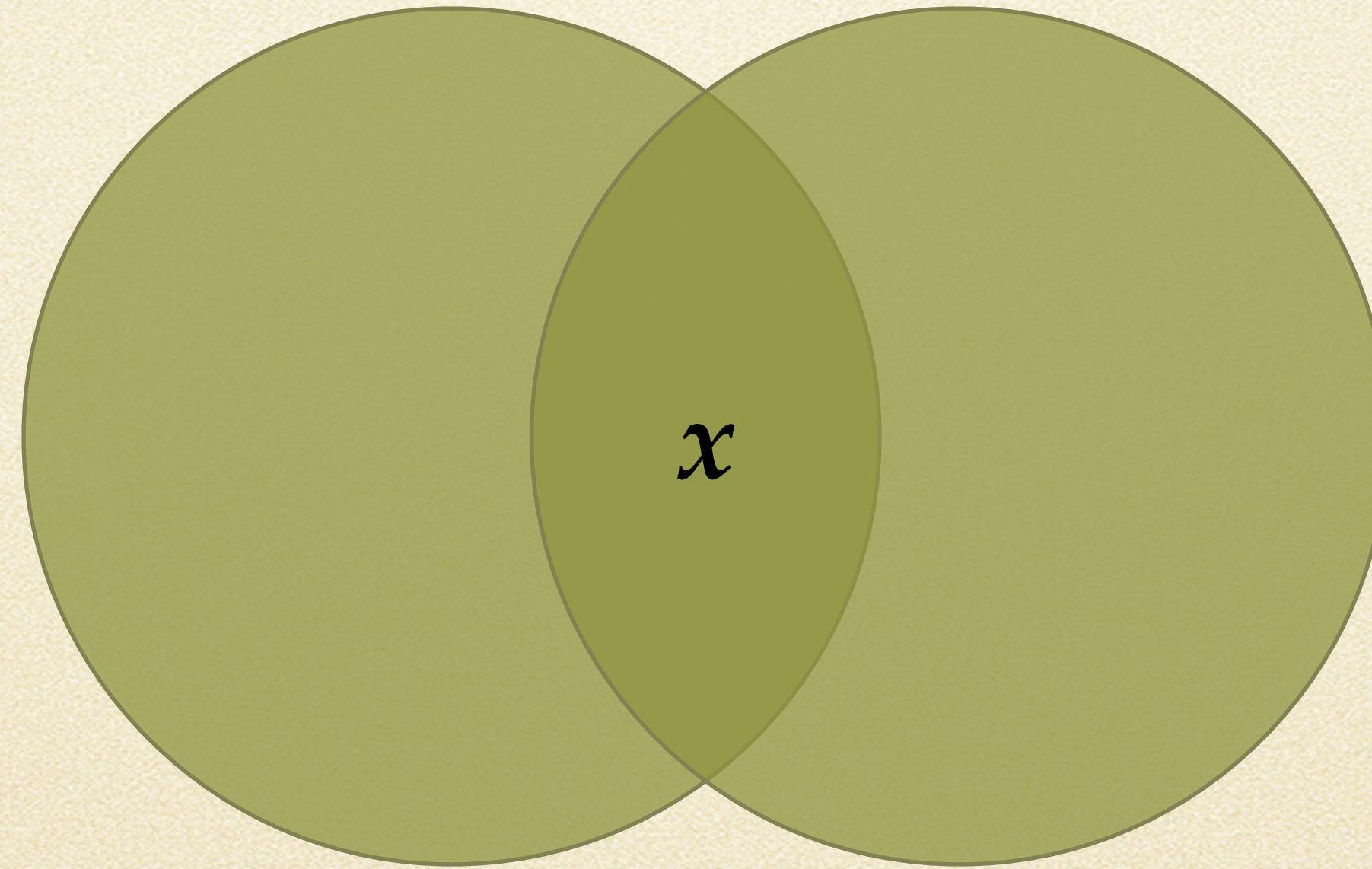
are

people who fail their first exam.

Categorical Logic

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Logic students



people who fail their first exam

Some people who are Logic students *are* *people who* fail their first exam.

Some S are P.

Categorical Logic

Translating Ordinary Sentences into Categorical Form

All that glitters is not gold.

subject

predicate

things that glitter

things that are gold.

non-standard verb

are

things that glitter are things that are gold.

All S are not P?

Not all S are P?

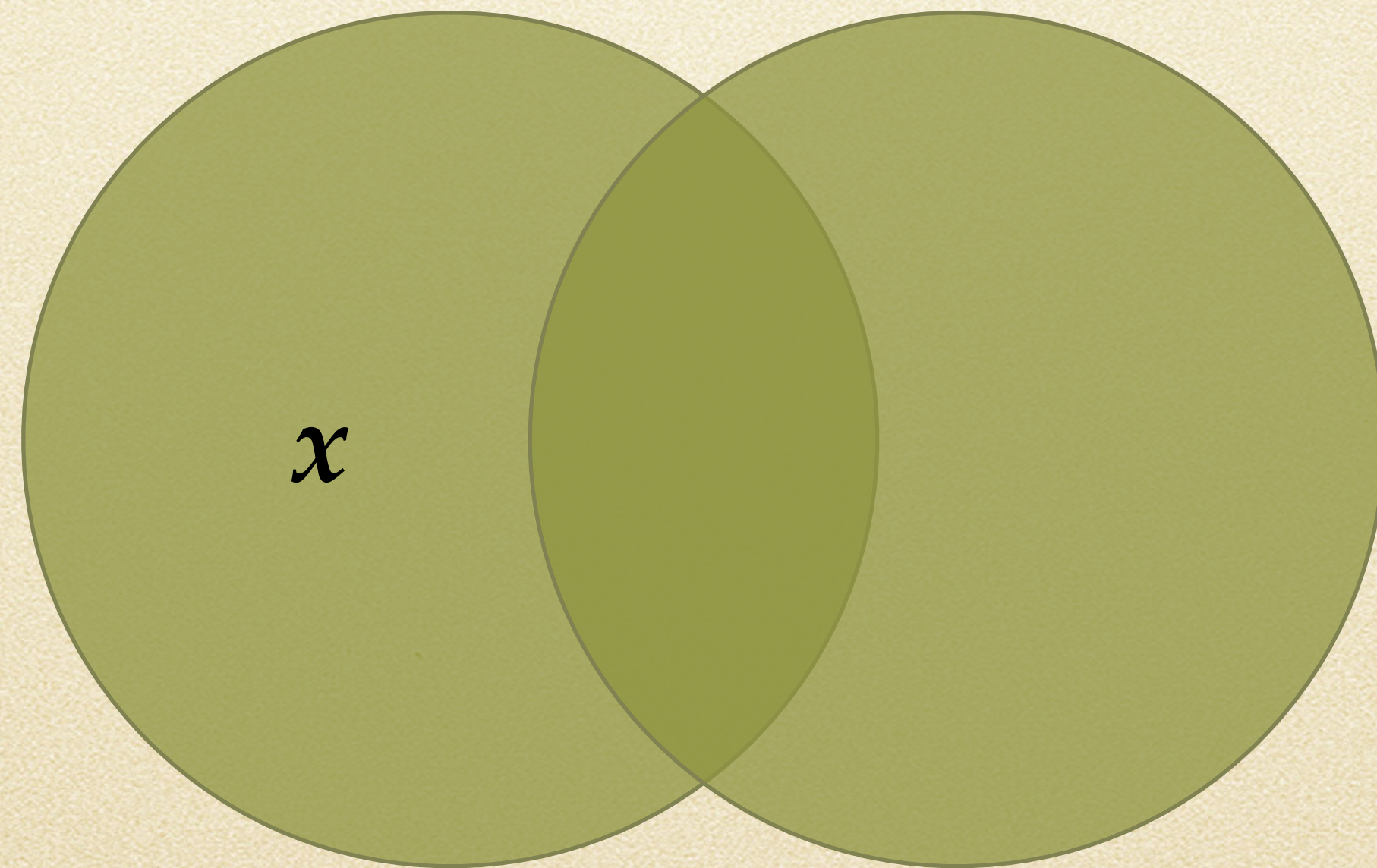
Categorical Logic

Translating Ordinary Sentences into Categorical Form

Some things that glitter are not things that are gold.

All S are not P?
Some S are not P?
Not all S are not P?

things that glitter



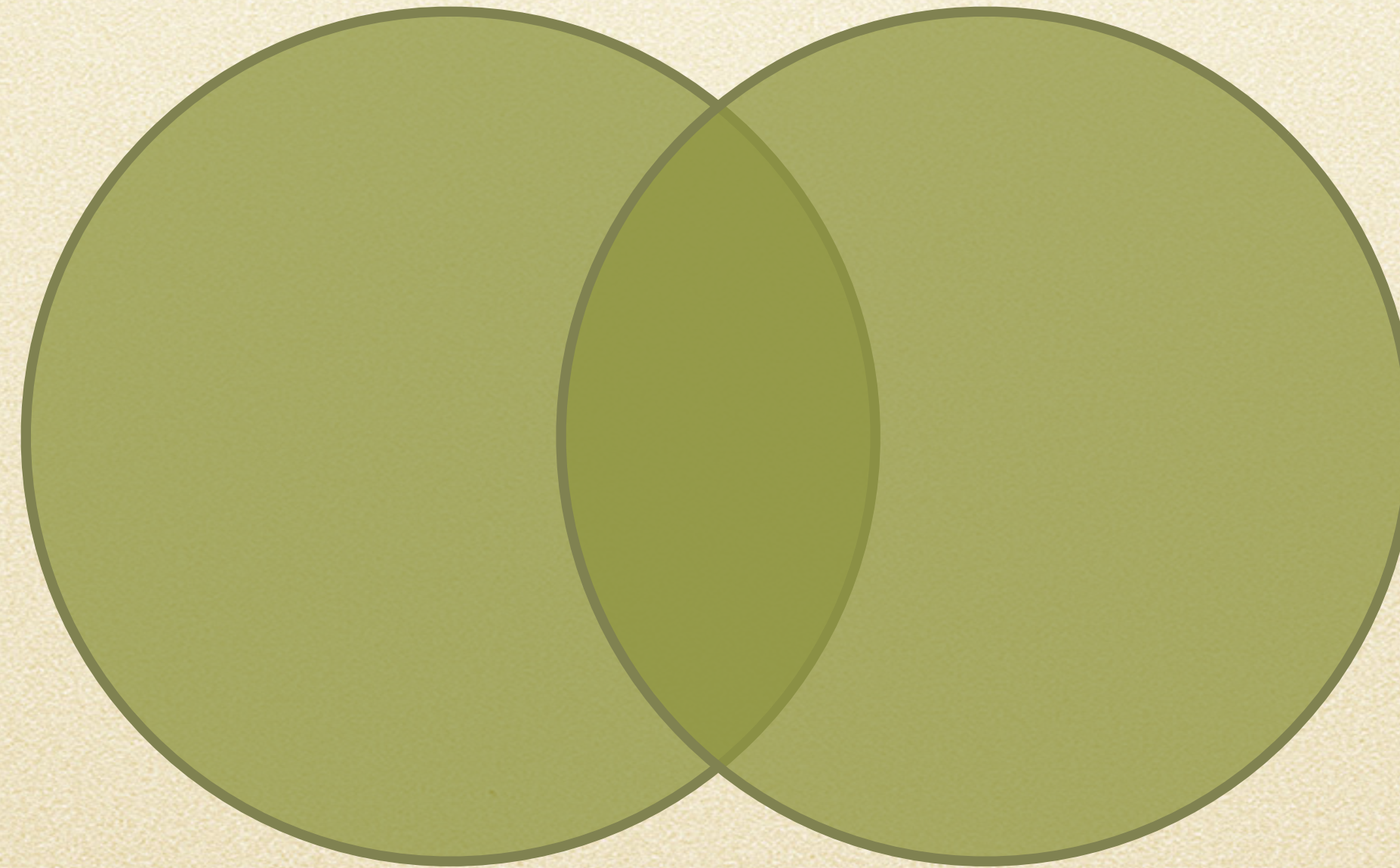
things that are gold

Categorical Logic

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If it is a unicorn, then it's magical.

things that are unicorns



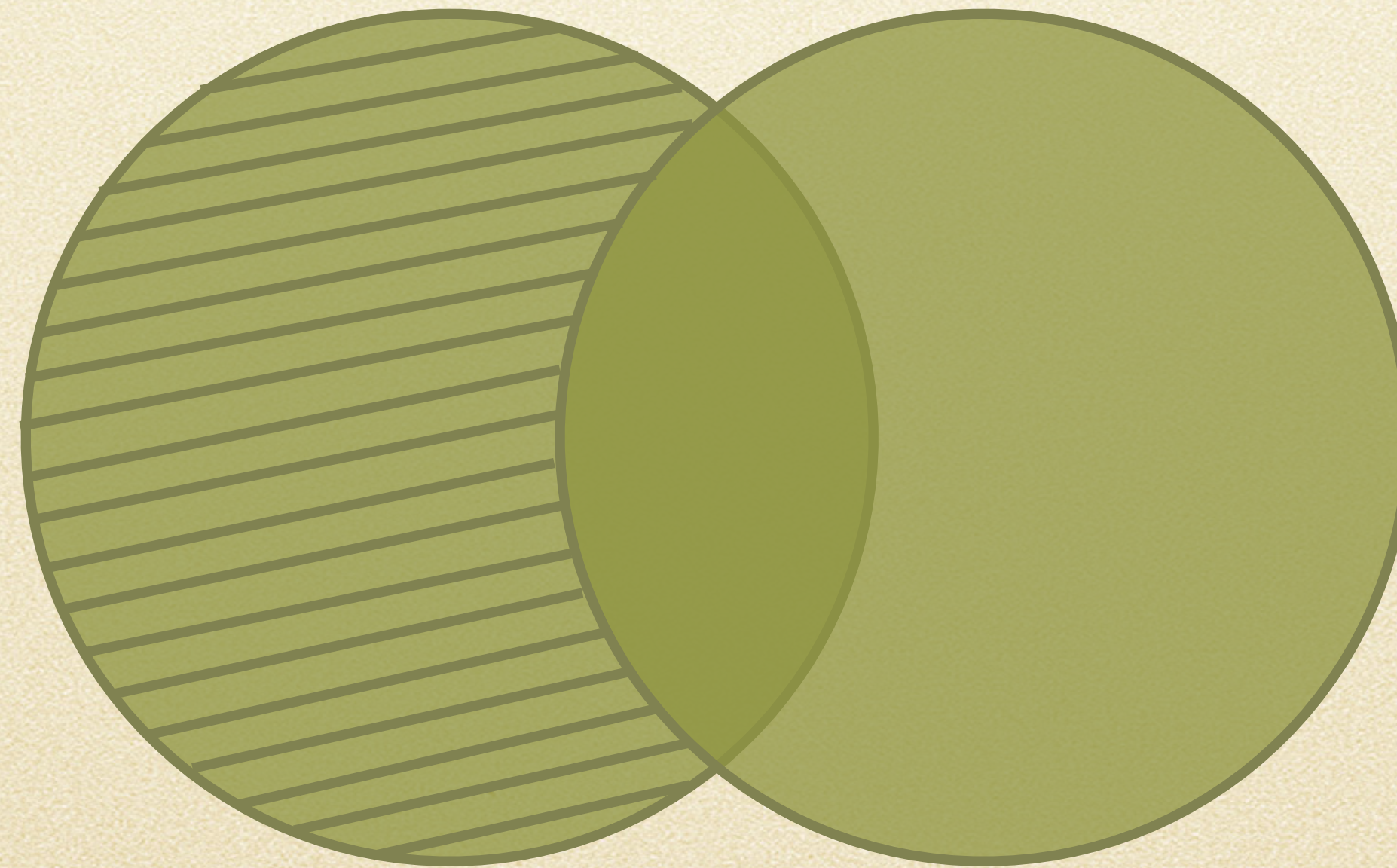
things that are magical

Categorical Logic

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If it is a unicorn, then it's magical.

things that are unicorns



things that are magical

All things that are unicorns are things that are magical.

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