

What do conditionals commit us to?

Ontological analysis in dialogue with cross-linguistic semantics

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Roadmap

- ① Motivation / Intro
- ② Three types of conditionals
- ③ From epistemic vs. metaphysical to real-unreal
- ④ Truthmaker semantics
- ⑤ Crosslinguistic evidence
- ⑥ Unifying core & predictions
- ⑦ Further questions: (a) categorisation (b) gaps
- ⑧ Next steps: focus on aspect
- ⑨ Payoffs
- ⑩ Summary / Outro

Motivation

Goal. Bridge the gap between linguists and philosophers:

- attend to fine-grained semantic distinctions,
- understand compositional contributions of morphemes / lexical items,
- keep the crosslinguistic picture in view.

Motivation. Conditionals encode ontological commitments: define ontology not by “what exists” but by *how* language carves possibility space and commits to truthmakers.

Guiding question. Which kinds of truthmakers do grammars license in antecedents, and where are they located in a branching possibility model?

Standard views

- Truth-conditional or dynamic accounts focus on worlds/orderings.
- Indicative (Epistemic) vs. counterfactual (Metaphysical) as main split.
- Meaning via exclusion / non-actual-veridicality (fake past, etc.).

Present proposal

- Integrate **REAL** vs. **UNREAL** distinctions.
- Integrate a truthmaker perspective.
- Test: can we dispense with “metaphysical” as a grammatical category?
- Expand typology: which truthmakers are *grammatically licensed*?

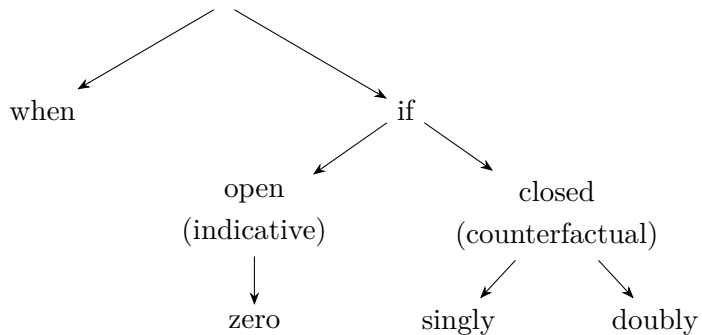
From possible worlds to truthmakers and branching worlds

To account for the taxonomy in conditionals

- Not enough to say “a set of worlds,” when we talk about possibility.
- **Takeaway:** we need finer-grained *entities* than worlds: situations, kinds.
- **Takeaway:** we need fusion of possible worlds and branching times.

Three types of conditionals

Conditionals: taxonomy



The puzzle:
categorisation, falsity, modal base

Categorisation problem (1)

- (1)
- a. If John comes to the party, we will have a good time.
 - b. If John came to the party, we would have a good time.
 - c. If John had come to the party, we would have had a good time.

Linguists: two types by morphology — “indicative” (1a) vs “subjunctive” (1b–c), where past is repurposed (exclusion).

Philosophers: focus on connective/possibility/worlds — (1a) indicative, (1c) counterfactual; (1b) patterns with (1a) as still open (not metaphysically false).

This simplified picture surfaces at least three problems:

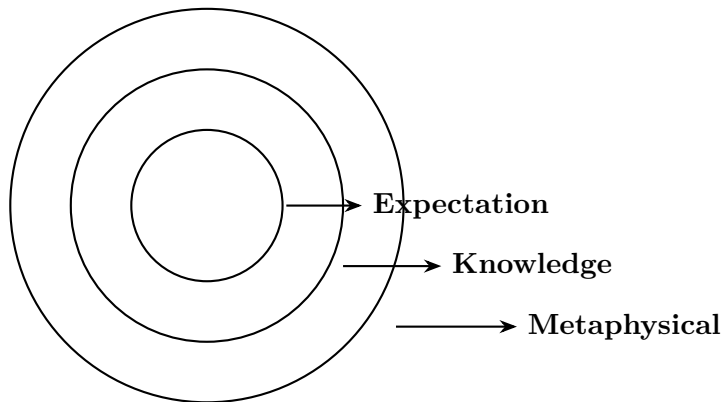
- ① **Categorisation problem:** morphology vs meaning groupings diverge.
- ② **Falsity problem:** $\Diamond p$, $\Diamond \neg p$, $\neg \Diamond p$.
“Possible $\neg p$ ” is weak; “not-possible p ” is strong. How does falsity arise and what type of inference is it?
- ③ **Modal base problem:** philosophers’ CFs are metaphysical; hypotheticals are epistemic.
How does grammar encode this?

Three problems at a glance

- **Categorisation:** morphological vs epistemic vs metaphysical cuts misalign.
- **Falsity:** graded closeness vs settledness; presupposition vs implicature.
- **Modal base:** epistemic vs metaphysical: does the Grammar care?

From epistemic vs metaphysical
to real–unreal possibilities

Expectation, Knowledge, Metaphysical: degrees differ



Degrees of inclusion/ exclusion.

Expectation, Knowledge, Metaphysical: degrees differ

	Compatible with Expectation	Compatible with Knowledge
Open	✓	✓
Unlikely	×	✓
Excluded	×	×

Falsity is best modeled as a presupposition in the latter two; degrees differ.

- Open (zero-marked): compatible with expectation and knowledge.
- Unlikely (singly-marked): conflicts with expectation, compatible with knowledge.
- Excluded (doubly-marked): conflicts with knowledge (settled as false).

Enter Truth Makers Semantics

Truthmaker semantics: beyond worlds

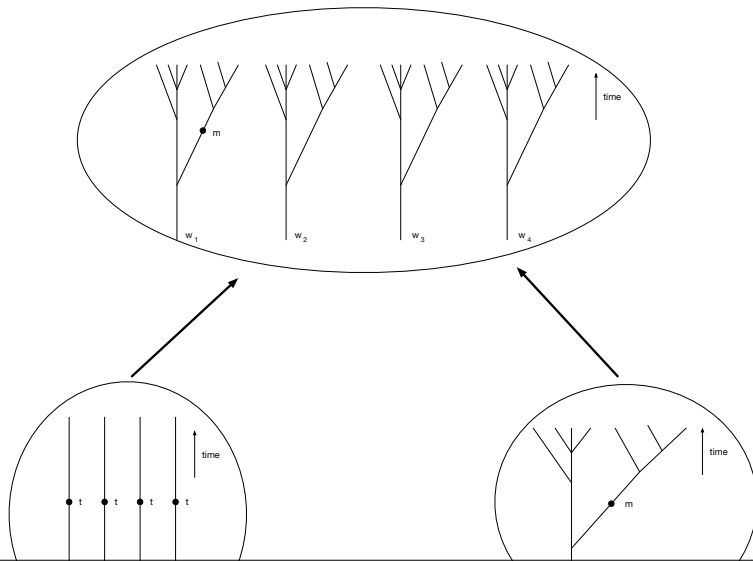
- Possible worlds semantics treats propositions as **sets of worlds** where the sentence is true.
But that's too coarse: it misses **what in the world** makes a sentence true.
- Truthmaker semantics shifts focus to **slices of reality**: minimal events, states, or situations that *make* a sentence true.
- For instance:
The door is closed.
Truthmakers: specific states of the door being closed.
Not all “closed-door worlds,” but a particular slice of one.
- These slices give us the right granularity for comparing possibilities —
for understanding how conditionals depend on what can, or cannot, be realized.

Conditionals differ in what they ask the world for

- Each type of conditional *asks* the world for a different kind of truthmaker:
 - **When**-clauses: ask for an **actual or settled** truthmaker.
 - **If**-clauses: ask for an **open or possible** truthmaker.
 - **Counterfactual if**-clauses: ask for an **excluded or unreal** truthmaker.
- We don't ask whether something exists, but how it exists – and what kinds of presuppositions are expressed by a range of lexical-grammatical means.

Forest of branching trees

The Forest Model



- Merge branching time with possible worlds: a *forest* of branching histories.
- Indices: moment m , history h , world w .
- `REAL` = still open from now; `UNREAL` = closed (formerly open) or never open.

- Possible-worlds or branching time? We can have both!
- Unifies recalcitrant examples:
 - (2) If Humfrey had won the elections,
If kangaroos had no tails,
- Especially illuminating with **past tense morphology** as encoding inequality/exclusion.
- REAL/UNREAL possibilities opens more avenues for truthmaking – and aspect!

English mini-series and limits

- (3) When John comes, we will have a great time.
Real: certain arrival; unspecified time.
- (4) If John comes, we will have a great time.
Open possibility.
- (5) If John came, we would have a good time.
Unlikely from speaker's perspective.
- (6) If John had come, we would have had a great time.
Excluded: settled false now.
- (7) If John had been Mary, . . . kangaroos. . .
Never open in this world.

Granularity is not universal (and not uniform)

- English is fine-grained for **future**, but not equally so for present/past.
- This fine-grained pattern is *not universal*.

Dutch: Limited range, but freer than English

- (8) a. Het lijkt me sterk dat hij ooit in China is geweest.
maar als hij er ooit geweest **mocht** zijn, dan is hij vast heel snel weer teruggekomen.
- it seem.PRS.3SG me strong that he ever in China be.PTC
but if he there ever be.PTC might be.INF then is he surely very
fast again returned.PTC
- ‘I doubt he has ever been to China. But if he ever *might* have been there, he must have come back very quickly.’

Observation:

Dutch uses the special modal *mocht* to express present unlikelihood without full counterfactuality. But *mocht* cannot combine past — hence no graded past unlikelihood.

- (9) a. ma baraf iza b-iib is-samak, bas iza kan-no b-iibb-o, b-ikuun mkayyef bi-qaryet is-sayyadeen.
'I don't know if he likes fish, but if he does, he's delighted at the fishermen's village!'
- b. b-astabed inno ykuun daa il-herring, bas iza kan-no daa-o, kaan akiid ma aad-ha!
'I doubt he ever tried herring, but if he did, I'm sure he never did it again.'

Observation:

Palestinian Arabic freely expresses unlikelihood across **past, present, and future**. The past auxiliary *kaan* combines/ stacked occurrences of tense and aspect.

Language	Unlikelihood expressed in	Strategy
English	Future only	Tense + Aspect (“fake past”, perfect)
Dutch	Present / Future	Modal, past <i>mocht</i> construction
Arabic	Past / Present / Future	Auxiliary <i>kaan</i> + stacking

The range of tense contrasts correlates with grammatical resources for counterfactuality.

Crosslinguistic evidence

- **Lexical split/ Dedicated markers:** Hungarian / Hebrew
- **TAM-driven:** Germanic / Romance
- **Mixed systems:** Arabic
- **Other domains:** Burmese / Halkomelem / Blackfoot

Note: with mixed strategies, TAM, irrealis or extra dedicated markers. Labels are often used sloppily or diagnostics are missing.

Hungarian (dedicated CF morphology)

(10) **Hungarian** (Iatridou 2009; Zsófia Zvolenszky, p.c.)

- a. ha holnap el-indul, a jövő hétre oda-ér
if tomorrow away-leave.PRS.3SG the next week.onto there-reach.PRS.3SG
'If he leaves tomorrow, he will get there next week.'
- b. ha holnap el-indulna, a jövő hétre oda-érne
if tomorrow away-leave.CF the next week.onto there-reach.CF
'If he left tomorrow, he would get there next week.'
- c. ha hétfőn el-indult, (akkor) péntekre oda-ért
if Monday.on away-leave.PST.3SG (then) Friday.onto there-reach.PST.3SG
'If he left on Monday, (then) he got there by Friday.'

- **Dutch:** Past strategy (fake past for remoteness).
- **English:** Past + Aspect (simple/ perfect).
- **German:** Past + Mood (Konjunktiv I/II).
- **French:** Tense/Aspect/Mood interactions.

Mixed strategy: Arabic (hierarchy)

- Future contrasts: FLV → emphatic CF

law (CF) vs *iza* (neutral/realistic); stacking with past/subjective.

- (11) **FLV** (unlikelihood; one CF ingredient: *law*)

law b-yaXod id-dawa, b-itassan bukra.

'If he took the medicine, he would get better tomorrow.'

- (12) **FLV** (unlikelihood via past "if" in antecedent)

iza aXad id-dawa, b-itassan bukra.

'If he took the medicine, he would get better tomorrow.'

- (13) **FNV** (neutral future; no past or dedicated CF)

iza b-yaXod id-dawa, b-itassan bukra.

'If he takes the medicine, he will get better tomorrow.'

Future contrasts: FLV → emphatic CF

- (14) **Emphatic future CF** (extra past in consequent)

law b-yaXod id-dawa, kaan b-itassan bukra.

'If he were to take the medicine, he would get better tomorrow.'

- (15) **More emphatic future CF** (extra subjunctive in antecedent, extra past in consequent)

law inn-o b-yaXod id-dawa, kaan b-itassan bukra.

'If he were only to take the medicine, he would get better tomorrow.'

- (16) **Even more emphatic future CF** (extra subjunctive, extra past in antecedent, extra past in consequent)

law inn-o kaan b-yaXod id-dawa, kaan b-itassan bukra.

'If he only were to take the medicine, he would get better tomorrow.'

Observation. *Each added layer amplifies the non-actual, counterfactual force.*

Hierarchy: *iza* (neutral) > *law* (CF) > *law + past* > *law + inn-o + past* > *law + inn-o + past + past*.

Observation. Past+imperfective aspect is stronger (i.e. non cancellable) than past+subjunctive mood (Ippolito 2004).

- (17)
- a. *Ho regalato il biglietto del concerto a Gianni, per cui è probabile che venga.*
'I gave Gianni the concert ticket, so it's likely he'll come.'
 - b. *#Se veniva, si divertiva da morire.*
if come.PST.IMPFV.IND.3SG, enjoy.PST.IMPFV.IND.3SG a lot
Intended: 'If he came, he would have a lot of fun.'
 - c. *Se venisse al concerto, si divertirebbe da morire.*
if come.PST.IMPFV.SUBJNC.3SG to-the concert, enjoy.PST.IMPFV.SUBJNC.3SG a lot
'If he came, he would have a lot of fun.'

Ippolito (2004: 28)

Observation. In the absence of TAM, morphemes from similar non-actual domains are employed.

- **Burmese:** spatial exclusion repurposed for CF.
- **Halkomelem:** distal marking (spatial/temporal) and CF interactions.
- **Blackfoot:** person exclusion + dedicated CF *-opi*.

The role of irrealis is less understood. Stacking is less understood too, but the claim: stacking has semantic effects (gradation/strength).

Spatial exclusion (+ irrealis marker) $\Rightarrow$ CF (Burmese)

In Burmese, *khe* marks spatial displacement (originally meaning 'away' or 'elsewhere') in ordinary clauses, and in conditionals it carries over as a counterfactual signal.

(18) Burmese (Nevins 2002:442 (2a,b))

- a. mwei chauP khe Re
snake scare KHE DECL
'(I) scared a snake [in another place before I arrived here].'
- b. shei TauP khe yin, nei kaun la ge lein-me
medicine drink KHE IF stay good come KHE predictive-IRR
'If he took the medicine, he would have gotten better.'

Person exclusion + dedicated marker $\Rightarrow$ CF (Blackfoot)

Counterfactuals in Blackfoot are expressed with a dedicated suffix -opi and cannot derive CF from (fake) participant marking.

Blackfoot (Frantz 1991:115)

(19) Nits'itss'ayoyihtopi, nit'aaksoyi 'annohka

nit-it-say-Ioyi-htopi	nit-'aak-Ioyi	annohka
1-then-neg-eat-UNREAL	1-FUT-eat	now

'If I hadn't eaten then, I'd eat now.'

Note Blackfoot person morphology (Ritter and Wiltschko's $[\pm\text{local}]$ in INFL) signals participant anchoring (roughly "with/near the speech participants").

Question interactions?

Similarly, in Halkomelem, as discussed by Ritter and Wiltschko (2009), the distal marker contributes spatial or temporal displacement: $[\pm\text{distal}]$ in INFL.

(20) **Halkomelem (Ritter & Wiltschko 2009: 2(3))**

- a. lí qw'eyíleX tu-tl'ó
AUX[+distal] dance he
'He is/was dancing (there).'

Question interactions?

If dedicated markers entail the unreal realm, the

- **Irrealis:** $\pm$ real
- **Mood:** $\pm$ coincidence with context set.
- **Tense:** $\pm$ equal with moment of speech.
- **Aspect:** $\pm$ actualization

... **not here-and-now or non-actual veridicality (NAV)**

Unifying core and predictions

- **Lexical-split systems** (e.g., *when/if/CF-If*):
 - show wider interpretive flexibility — but not uniform strength.
 - predict variability in how far exclusion from the actual is grammatically encoded: stronger ingredients $\Rightarrow$ less cancellable CF meaning.
- **TAM-driven systems:**
 - expect tense/aspect morphology to interact with *stacking strategies* where available.
 - the more TAM layers we can stack the stronger the counterfactual inference: more ingredients $\Rightarrow$ less cancellable CF meaning.
- **Mixed systems:**
 - empirically the richest systems: lexical complementizers and TAM morphology jointly encode non-actuality.
 - predict *interaction effects*: complementizer introduces CF domain, TAM adjusts degree of factual exclusion — ideal for testing gradience in counterfactual strength.

Payoffs and program

- Real/unreal divide clarifies how falsity arises (presuppositional profile) without invoking a metaphysical category in the grammar.
- REAL vs UNREAL is more fundamental, empirically, than an epistemic–metaphysical split as a grammatical category.
- Exclusion generalizes across tense, mood, aspect, space, person.
- Truthmakers as *possibilia* in a forest (m,h,w) map to morphosyntax-semantics of the ingredients.

Further questions

- **Gaps:** Which logical/ontological distinctions never grammaticalize, and why?
- **Categorisation:** Can diagnostics be systematized to align morphology, ontology, and epistemic status?

Program: Bridge typology, semantics, and philosophy via *truthmaker access*; test stacking and gradation across domains.

Next (3-year) focus: the **imperfective**, in and out of CFs.

Summary and Outro

- Conditionals differ in *what they ask the world for*.
- Grammar encodes access to REAL vs UNREAL truthmakers; we can represent that by a branching forest.
- The shared semantic core is **exclusion from the actual**; we get gradation via stacking.

Thank You

спасибо 谢谢
GRACIAS 谢谢
THANK YOU

ありがとうございました **MERCI**

DANKE धन्यवाद

شُكراً **OBRIGADO**