Modal past is past: evidence from non-SOT languages

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O-marked & X-marked conditionals

- Languages very often distinguish two kinds of conditionals. Consider the case of English:

  (1)   If Oswald didn't kill Kennedy, someone else did.

  (2)   If Oswald hadn't killed Kennedy, someone else would have.

- (1) is traditionally known as an **indicative conditional**. There is nothing extraordinary in the morphology we see. Conditionals like (1) are what have recently been called **O-marked conditonals**.
- (2) is traditionally known as a **subjunctive conditional**. The morphology in both the antecedent and the consequent is not ordinary (extra). This kind of conditional has recently been labelled an **X-marked conditional**.

- Though many languages mark their X-conditionals with specialized morphemes, a large number of genetically unrelated languages, mark X-conditionals with the past tense, similarly to what we saw for English:

  (3)   If Leo leaves tomorrow, he will be able to attend the ceremony.

  (4)   If Leo **left** tomorrow, he **would** be able to attend the ceremony.

- This distinction reflects a truth-conditional difference: while (5) is true, (6) is not.

  (5)   If Oswald didn't kill Kennedy, someone else did.

  (6)   If Oswald hadn't killed Kennedy, someone else would have.

- Both conditionals have some kind of past morphology but it differs in each kind: a plain past in O-marked conditionals, a past perfect in X-marked conditionals.
- Moreover, the past in O-marked conditionals must be connected to the temporal location of the antecedent eventuality ((7-a)), whereas the past in X-marked conditionals does not ((7-b)):

  (7)   a.   If Steffi didn't call (yesterday/*tomorrow), someone else did.
         b.   Steffi called a week ago. If Steffi had called yesterday/tomorrow (instead), she would have spoken with Larry.

- Much research on conditionals in the last twenty years has been devoted to understanding what role the past tense plays in X-marked conditionals.
- Researchers have divided mostly into two main camps:
    1. The **past-as-past view**: Dudman 1983; Thomason 1984; Ippolito 2003, 2006, 2013; Arregui 2005, 2007, 2009; Romero 2014; Khoo 2015, 2022; Mirrazi 2022, etc.
    2. The **past-as-modal view**: Iatridou 2000; Leahy 2011; Schulz 2014; Mackay 2019, etc.

Past-as-past

- The bare bone idea of past-as-past theories is that, just like familiar occurrences of the past tense, the past tense we see in X-marked conditionals reflects the presence of a past tense interpreted temporally, but in a structural position that allows it to manipulate the time argument of the modal operator.

(8) $[\text{PAST}_X [[\text{WOLL} [\phi]]\psi]]$

(9) a. If Leo left tomorrow, he would be able to attend the ceremony.

b. $= 1$ iff $\exists t' < t_c[\forall w'[w' \in \text{SIM}_w(\text{HIST}_{w,t'}(\lambda w''.\text{Leo leaves tomorrow in } w'))] \rightarrow [\lambda w'' : \text{Leo is able to attend the ceremony in } w''](w') = 1]$

- O-marked conditionals have no past operator above the modal, and the time argument of the accessibility relation is set to the time of utterance t_c.

  (10) a. If Leo leaves tomorrow, he will be able to attend the ceremony.

     b. $= 1$ iff $[\forall w'[w' \in \text{SIM}_w(\text{HIST}_{w,t_c}(\lambda w''.\text{Leo leaves tomorrow in } w''))] \rightarrow [\lambda w'' : \text{Leo is able to attend the ceremony in } w''](w') = 1]$

- Past-as-past theories can also account for multiple occurrences of non-temporal past as in the following examples:

(11)   The Blue Jays played their last game last week. George Springer, one of their best players, was injured and couldn't play on that day and they lost. Now he's fully recovered.
        If the final game **had been** tomorrow, they would have won.

(12)   If I **hadd-a known** you were coming, ...

(13)   a.   [PAST[PAST [MODAL [$_\phi$ NON-PAST* ... play ...][$_\psi$ ...]]]]
        b.   [PAST[PAST[MODAL[$_\phi$ PAST* ... know ...][$_\psi$ ...]]]]

Past-as-modal

- The essential idea of past-as-modal theories is that whatever marks X-marked conditional has a purely modal function: thus, if *X* is **past**, this past is not interpreted temporally.

- To illustrate, consider Mackay (2019)'s proposal: the "past" forces the modal base to be a subset of the factive common ground, i.e. the set of propositions that are presupposed and true in the world of the context.

  (14) $[\![\text{PAST}(\square_{f,o}: \text{if p, q})]\!]^{c,w,g}$ is defined iff $[\![f]\!]^g(w) \subset C^T$, where C^T is the set of propositions presupposed in *c* that are true in w_c.

- In other words, the modal past indicates that some of the presuppositions from the factive *cg* have been abandoned.

Pro and cons for past-as-past

1. Pros: it gives a principled explanation for the occurrences of past; it explains multiple occurrences of past;
2. Cons: but it has nothing to say about languages where X is not past.

Pros and cons for past-as-modal

1. Pros: it has the potential to apply to all X-markings
2. Cons: it has nothing to say about why past is used, and it does not explain multiple occurrences of past.

Sequence of Tense

- Sequence of Tense (SOT) is the name of the phenomenon that characterizes the possible interpretation of tense in clauses embedded under attitude verbs and verbs of saying, in languages like English:

  (15) **past-under-past**
  Leo said a week ago that he was happy.
  ✓happiness $<$ saying (anteriority)
  ✓happiness $\approx$ saying (simultaneity)

  (16) **present-under-past**
  Leo said a week ago that he is happy.
  ✓happiness $>$ saying and happiness $\approx t_c$
  (double-access)
  ×happiness $\approx$ saying (simultaneity)

- Non-SOT languages:
  (Japanese and Hebrew data from Ogihara & Sharvit (2012))
  Japanese: <u>past-under-past</u>

  (17)   2005-nen ni Joseph-wa Mary-wa   1999-nen-ni zibun-o
              2005-year in joseph-top mary-nom 1999-year-in self-acc
              aisi-te i-ta-to   sinzi-te i-ta
              love-prog-past that believe-prog-past
              Joseph believes in 2005 that Mary loved him in 1999.
              (✓anteriority reading)

(18) #2005-nen ni Joseph-wa Mary-ga   sono-toki zibun-o
       2005-year at joseph-top mary-nom that-time self-acc
       aisi-te ita-to   sinzi-te i-ta
       love-prog-past that believe-prog-past
       ($\times$simultaneous reading)

Japanese: present-under-past

(19)   Taroo-wa ni-nen-mae-ni [Hanako-ga Italia-ni ik-u]-to
        taro-top   2-year-before-at hanako-nom Italy-DAT go-PRES-that
        it-ta
        say-PST
        Two years ago Taro said Hanako was going to Italy.
        (✓simultaneous)

In non-SOT languages, present-under-past receives a
simultaneous interpretation.

Hebrew: present-under-past

(20) lifney Snatayim, sara amra Se dan
before year-DUAL Sara say-PST-FEM COMP Dan
nosea le-talia.
go-MASC.PRES to-Italy
Two years ago, Sara said that Dan went to Italy
(✓simultaneous).[1]

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[1] Some would gloss "nosea" as tenseless. In any event, "nosea" contrasts with
"nasa", which is clearly marked for past tense (Yael Sharvit, p.c.).

Farsi: <u>present-under-past</u>

(21)   do sal-e   piš,   Sara gof-t   ke John be Italia
       two year-EZ before, Sara say-PERF.PST.3SG that John to Italy
       mi-rav.∅-ad.
       IMPF-go-PRES-3SG
       Two years ago, Sara said that John went to Italy
       (✓simultaneous).'[2]

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[2]Present tense in Farsi is morphologically null.

- Past-as-past theories predict a correlation between being an SOT-language or not and the interpretation of the antecedent of an X-marked conditional.
- We argue that the data support this prediction.

- If the past tense morphology we see in X-marked conditionals is a true past tense interpreted above a bare conditional structure, then we expect this tense to interact with the tense in the lower embedded clauses (the antecedent φ) as required by the SOT/non-SOT nature of the language.
- More specifically, we expect that in non-SOT languages, the **presente tense in the antecedent** of an X-marked conditionals present tense will receive a **shifted (past-oriented) interpretation**.

- No such interaction is expected if the past tense morphology we see in X-marked conditionals is modal.

Language	SOT	shifted present in ϕ_{X-cond}
English	yes	no
French	yes	no
Italian	yes	no
Japanese	no	yes
Hebrew	no	yes
Farsi	no	yes

- In SOT languages like English, X-marked conditionals whose antecedent carry one instance of past tense morphology cannot describe a counterfactual past event.

(22)   Due to Covid-related travel restrictions, John couldn't attend Sara's birthday in Italy yesterday.

    a.   *If John went to Italy yesterday, Sara would be/have been happy.

    b.   If John had gone to Italy yesterday, Sara would have been happy.

- In non-SOT languages, X-marked conditionals whose antecedent carry one instance of past tense morphology can describe a counterfactual past event.

Hebrew: X-marked conditionals

(23) im dan haya   nosea   le-italia etmol,   sara
      if Dan be-MASC-PST go-MASC.PRES to-Italy yesterday Sara
      hayta   smexa.
      be-FEM-PST happy
      If Dan went to Italy yesterday, Sara would have been happy.

Farsi: X-marked conditionals

(24) agar John dirooz   mi-rav.∅-**t**   italia, Sara xošhal
      if   John yesterday IMPF-go.**PRES-PST**.3SG Italy   Sara happy
      mi-šod
      IMPF-become-PST.3SG
      If John went to Italy yesterday, Sara would have been happy. [3]

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[3]Present tense in Farsi is morphologically null.

Japanese: X-marked conditionals

(25)   Taro-ga   asita/kinoo   it-**ta-ra**,   Hanako-wa uresika-**ta**
           Taro-NOM tomorrow/yesterday go-**PST-RA** Hanako-   happy-**PST**
           daroo.
           MODAL
           'If taro went to Italy tomorrow/yesterday, Hanako would have been happy.'

- We can have both counterfactuality and past oriented antecedent with one instance of past, but only in non-SOT languages.

The challenge for past-as-modal theories

- The correlation between being an SOT language on the one hand, and allowing the past tense in the antecedent of counterfactual conditionals to be simultaneously an X-marker and an expression of temporal anteriority on the other hand, challenges past-as-modal theories.

- An X-marker past whose function is supposed to be modal is not expected to contribute to temporal orientation of the antecedent.

If it looks like past, and it acts like past, it is past

- The difference between SOT and non-SOT languages straightforwardly follows from past-as-past theories.
- In non-SOT languages like Farsi, present tense shifts under a c-commanding real *past*: therefore, a present tense in the antecedent of an X-marked conditional can also be interpreted as a bound tense and therefore it is allowed to co-occur with past or future adverbials.

    (26)   [**PAST** [[WOLL [$_\phi$... **pres**$_\varnothing$ tomorrow/yesterday...]] ψ]]

- In an SOT language like English, on the other hand, a present tense is always indexical and therefore compatible only with non-past adverbials.

  (27)   [**PAST** [[WOLL [$_\phi$... **pres**$_{deictic}$ tomorrow/*yesterday...]] ψ]]

Conclusion

- Most theories of X-marked conditionals fall into either the past-as-past camp or the past-as-modal camp.
- We argued that past-as-past theories predict that the present in φ will interact with the higher past according to the SOT/non-SOT nature of the language.
- Past-as-modal theories do not make any such prediction.
- The data we presented show that being an SOT/non-SOT language correlates with the interpretation of the antecedent present, just as predicted by the past-as-past modal.
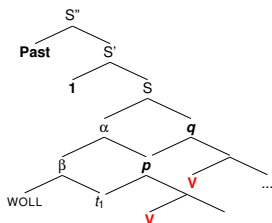
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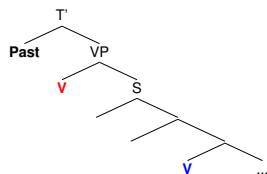
Appendix

Morpho-syntax

- Deictic tense features have to be morphologically realized via agreeing with the **closest verb** in their c-commanding domain.

(28) X-marked conditionals

(29) Pres-under-past

- In the X-marked conditional, neither the antecedent verb no the consequent verb c-command each other. So they both Agree with the tense c-commanding the whole conditional without violating Relativized Minimality.

Farsi: The antecedent tense is not past

- It is infelicitous to use past tense in the antecedent of Farsi conditionals to refer to a past event.

(30)   *Agar John dirooz **raghs-id**/
    if   John yesterday dance-PERF.**PST**.3SG/
    mi-raghs-id,   Mary ham
    IMPF-dance-**PST**.3SG, Mary too
    raghs-id/raghs-ide   ast.
    dance-PERF.PST.3SG/dance-PP AXU.PRES.3SG
    '*If John danced yesterday, Mary danced too.*'

- To refer to a past event in the antecedent of a conditional, Farsi uses either present perfect (31) or zero tense perfect (32).

(31)   Agar John dirooz **(mi)-raghs-ide ast**,   Mary ham
        if   John yesterday (IMPF)-dance-PP AXU.**PRES**.3SG, Mary too
        raghs-ide ast.
        dance-PP AXU.PRES.3SG
        '*If John danced yesterday, Mary danced too.*'

(32)   Agar John dirooz **raghs-ide bash-ad**,   Mary ham raghs-ide
        if   John yesterday dance-PP   AXU.∅.3SG, Mary too   dance-PP
        ast.
        AXU.PRES.3SG
        '*If John danced yesterday, Mary danced too.*'

Farsi: The antecedent tense is not zero tense

- The imperfective aspect in Farsi has two morphological representations whose distribution depends on the presence and the absence of deictic tense. The tensed variant of imperfective marker is (**mi-**) & the zero tense variant is (**be-**).

    (33) a. T[PRES/PST][Asp[IMPF]] → **mi-**
          b. T[∅][Asp[IMPF]] → *be-*

- Imperfective X-marked conditionals carry the indicative version of imperfective marker (**mi-**).

    (34) agar John dirooz   **mi**-rav.∅-**t**   italia, Sara xošhal
          if   John yesterday IMPF-go.PRES-PST.3SG Italy Sara happy
          mi-šod
          IMPF-become-PST.3SG
          If John went to Italy yesterday, Sara would have been happy. [4]

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[4]Present tense in Farsi is morphologically null.

- Conditionals with zero tense in their antecedent cannot be embedded under a past temporal adverbial scoping over the whole conditional.

    (35)   a.   dah sal-e   piš,   [agar danevju-ha dars-ešun   ro 5 sale
                    ten year-EZ before if   student-PL studies-their RA 5 in-years

                    tamum **mi**-kard-and,   estekhdam mi-šod-and]
                    finish **IMPF**-do-PRES.**PST**-3SG, hired   IMPF-get-PST-3SG

                    Ten years ago, (the rules were such that) [if students finished their studies within 5 years, they would get hired].

              b.   *dah sal-e   piš   [agar danevju-ha dars-ešun   ro 5 sale
                     ten year-EZ before if   student-PL studies-their RA 5 in-years

                    tamum **be**-kon-and,   estekhdam mi-šav-$\varnothing$-and]
                    finish **IMPF**-do.$\varnothing$-3SG, hired   IMPF-get-PRES-3SG

                    Ten years ago, (the rules were such that) [if students finished their studies within 5 years, they would have get hired].