STRENGTH OF COUNTERFACTUALITY & PRESUPPOSITIONS OF TENSE PRONOUNS

INTRODUCTION. The term counterfactual (CF) conditionals is misleading, as the same structure can also have a Future Less Vivid interpretation (Iatridou, 2000, 2009), shown in (1). They can also be used as part of reasoning for the truth of the antecedent (2).

(1) *Context: John is not a romantics person. It's unlikely that he'll buy flowers for Mary.*
     If John gave flowers to Mary tomorrow, she would be pleased.

(2) If the patient had the measles, he would have exactly the symptoms he has now.
     ✓We conclude, therefore, that the patient has the measles.
     ✓But we know that he doesn't have the measles.   Anderson (1951)

There is an important generalization made by Nevins (2002) that the counterfactuality of antecedents of CF conditionals in languages that lack a specialized CF marker and only use their TAM morphemes to mark counterfactuality is cancelable.

PROBLEM. Farsi breaks this generalization. Farsi uses past tense to express counterfactuality. However, the counterfactuality of antecedents of Farsi CF conditionals is **not** cancelable. A conditional about the future which is still realizable, no matter how unlikely it is, can only be expressed using the subjunctive form (3a). A CF form (3b) is only acceptable in a context where we *know* that John will not give flowers to Mary, for instance because he's dead.

(3) a. agar John farda   be Mary gol   be-dah-ad,   Mary xošhal mi-šav-∅-ad
        if   John tomorrow to Mary flower **SUBJ**-give-3SG Mary happy IMPF-become-PRES-3*sg*
        'If John gave flowers to Mary tomorrow, she would be pleased.'
     b. # agar John f. be Mary gol   mi-daad,   Mary xošhal mi-šod
         if   John t. to Mary flower **IMPF**-give.**PST**.3SG Mary happy IMPF-become.PST.3*sg*
     'If John had given flowers to Mary tomorrow, she would have been pleased.'

Anderson-type examples in Farsi cannot be uttered with a CF conditional. To express the meaning of (4a), Farsi uses the perfect subjunctive (4b).

(4) a. agar bimar sorxak gerefte bud,   daghighan in alayem-i   ke alan neshan
        if   patient measles catch-**PP** AUX.**PST**.3SG exactly   this symptoms-INDF that now show
        mi-dah-∅-ad   ra neshan mi-daad.
        IMPF-give-PRES-3.SG RA show   IMPF-give-PST-3.SG
        '*If the patient had the measles, he would have exactly the symptoms he has now.*
        ✗We conclude, therefore, that the patient has the measles.
        ✓But we know that he doesn't have the measles.
     b. agar bimar sorxak gerefte bash-ad,   daghighan in alayem-i   ke alan neshan
        if   patient measles catch-**PP** AUX.**SUBJ**-3SG exactly   this symptoms-INDF that now show
        mi-dah-∅-ad   ra neshan mi-dah-∅-ad
        IMPF-give-PRES-3.SG RA show   IMPF-give-PRES-3.SG
     '*If the patient had the measles, he would have exactly the symptoms he has now.*
     ✓We conclude, therefore, that the patient has the measles.
     ✗But we know that he doesn't have the measles.

In the light of the new data from Farsi, this paper addresses the following question: *What linguistics factors determine the strength of counterfactuality in conditionals cross-linguistically?*

CONDITIONALS IN FARSI. Like many languages, Farsi distinguishes among different kinds of conditionals via a combination of Tense/Aspect/Mood morphology in the antecedent of conditionals. It is the aspect that is responsible for manipulating the temporal location of the antecedent situations. The imperfective aspect refers to present and future events. The perfect aspect refers to past events. Tense seems to mark the conditional's relationship to the presuppositions of the common ground (CG). Conditionals whose antecedents are marked with the present tense yield a factual interpretation. A factual conditional is assertable only if the antecedent is presupposed to be true (usually by someone other than the speaker (Bhatt &

Pancheva, 2017; Iatridou, 1991)). Conditionals whose antecedents are marked with past tense yield a counterfactual interpretation, and they are assertable only if the antecedent is presupposed to be false. Conditionals whose antecedent are marked with the subjunctive are used only if the antecedent consistent with CG, but CG is unsettled with respect to the truth of p (Mari & Portner, 2018). I take the subjunctive to be the morphological realization of zero tense in Farsi.

		TENSE		
		PRESENT	**PAST**	$\varnothing$ **(SUBJUNCTIVE)**
Imperfective	**CG**	p	¬p	p ∨ ¬p
	time	present/future	present/future	present/future
	morphology	**IMPF**-verb.**PRES**	**IMPF**-verb-**PST**	**SUBJ**-verb (=**IMPF**-verb.$\varnothing$)
	interpretation	factual	counterfactual	hypothetical
Perfect	**CG**	p	¬p	p ∨ ¬p
	time	past	past	past
	morphology	verb.**PP** AUX.**PRES**	verb.**PP** AUX.**PST**	verb.**PP** AUX.**SUBJ**
	interpretation	factual	counterfactual	hypothetical

Farsi makes a morphological distinction between hypothetical and factual conditionals. The present tense in the antecedent of Farsi conditionals, (5), presupposes that there is already a proposal to update the CG with p (CG∩p = *ps* where *ps* is the projected set (Farkas & Bruce, 2010)). Hypothetical conditionals which are marked with subjunctive in Farsi (6), presupposes that CG is unsettled (Mari & Portner, 2018), i.e. CG∩p ≠ $\varnothing$ ∧ CG∩p ≠CG (Rawlins, 2010).

(5) (**PRES**) [if p-**PRES**, q]: factual   (6) (**PRES**) [if p-$\varnothing$, q]: hypothetical

Imagine a scenario where police is investigating the speculation that Oswald might not be the murderer, but noting is certain. In this context only a conditional marked with subjunctive is felicitous. However, after it is confirmed that Oswald wasn't the murderer, both factual and hypothetical conditionals are felicitous.

(7) Agar Oswald Kennedy ro na-košte   **ast/**   **baš-ad,**   kas-e   digar-i

    if   Oswald Kennedy RA NEG-kill-**PP AUX.PRES**.3SG/ **AUX.SUBJ**.3SG, person-EZ another-INDF

    ou ro košte ast

    him RA kill.PP AUX.PRES.3SG

'If Oswald didn't killed Kennedy, someone else did.'

CFs in Farsi pattern with factual conditionals. They also presuppose that the question of p has been (proposed to be) settled in the CG. I follow Ippolito (2013); Arregui (2005)a.o, in taking the CF conditional to involve a past operator which scopes the whole conditionals and shifts the accessibility time a past time. The antecedent of CF conditionals contains a zero tense pronoun, as shown in (8). It is morphologically realized as past subjunctive (Russian) or past if the language has a tense deletion rule (English). Farsi represents a language where none of these options is available. Instead, Farsi use its shiftable present (Tsilia, 2021) to mark counterfactuality. I propose (9) as the structure of CF conditionals in Farsi.

(8) **PAST** [if p-$\varnothing$, q]   (9) **PAST** [if p-**PRES**, q]

    Past subjunctive/ Deleted past   Shiftable present

I take CF marking to indicate that the domain of quantification is partly outside of the context set (Stalnaker, 1975; von Fintel, 1998; von Fintel & Iatridou, 2019; Leahy, 2018) a.o, which together with the presupposition of embedded present tense, and the existence of a morphological realization for unsettled CG pragmatically presupposes the falsity of the antecedent:

CG∩p = CG - *ps* = { $\varnothing$ if *ps* = CG or it has the effect of rejecting p}

In languages with the past subjunctive or the tense deletion rule, CF conditionals pattern with subjunctive-marked conditionals in allowing unsettledness. Therefore, the antecedent falsity of CF conditionals in these languages arises as an implicature from the competition between CF condinditionals in (8) and hypothetical (indicative) conditionals in (6) whose presuppositions are asymmetrically ordered by logical strength (Leahy 2011, 2018; Mackay 2019).

Typological Generalization: <u>past subjunctive > deleted past</u> > <u>CF marker ≥ shiftable present</u>
                               (weak counterfactuality)   (strong counterfactuality)