

1 Conditionals and counterfactuality

- (1) Indicative vs. subjunctive conditionals (Adams 1970)

- a. If Oswald didn't kill Kennedy, someone else did. [indicative]
- b. If Oswald hadn't killed Kennedy, someone else would have. [subjunctive]

- (2) One-past vs. two-past conditionals (Tellings 2016)

- a. If Mary is late today, she will be fired. [indicative]
- b. If Mary were late today, she would be fired. [one-past subjunctive]
- c. If Mary had been late today, she would have been fired. [two-past subjunctive]

- (3) If John had taken the bus, he would have been on time. (Tellings 2016)
 CF_p : John did not take the bus
 CF_q : John was not on time

These counterfactual inferences are context-sensitive and cancellable.

- (4) Counterfactuals vs. agnostic subjunctive conditionals (Iatridou 2000)

- a. John is not rich, but if he were rich, he would be popular with that crowd. [CF_p]
- b. I don't know if he is rich, but if he were rich, he would be popular with that crowd. [agnostic]

1.1 Cancellation of CF_p

Cancellation of CF_p is possible in Anderson-type contexts, and depends on tense morphology of conditional and surrounding context

- (5) Anderson-type contexts (Anderson 1951)
 If Jones had taken arsenic, he would have shown just exactly those symptoms which he does in fact show. [So, it is likely that he took arsenic].

- (6) Surrounding context affects felicity of Anderson-type examples (Von Stechow 1998)

- a. Did Jones take arsenic? If Jones had taken arsenic, he would have shown just exactly those symptoms which he does in fact show. [So, it is likely that he took arsenic].
- b. I will claim that Jones took arsenic ??If Jones had taken arsenic, he would have shown just exactly those symptoms which he does in fact show. [So, it is likely that he took arsenic].

- (7) Claim: two-past subjunctive conditionals require counterfactuality on p , whereas one-past conditionals can be either counterfactual or agnostic on p . (Ippolito 2006)
- a. I don't know whether John will play next week, but if he played then, he would certainly win.
[one-past, agnostic]
- b. John is dead. If John were alive, he would be 90 years old. [one-past, CF_p]

1.2 Cancellation of CF_q

Cancellation of CF_q is possible in variety of contexts, and depends on (at least) the context being a multiple-cause context

- (8) Also (Iatridou 2000)
- a. If he had been nice, he would have had friends.
- b. A: John is very rich and his wealth has gotten him quite a few friends.
B: Yes, but if he had been nice he would *also* have had friends.
- (9) Still (Declerck and Reed 2001)
- a. If we'd taken the other road, we would have been here on time.
- b. A: We are on time because we have taken the road I said we should take.
B: If we'd taken the other road, we would *still* have been here in time.
- (10) Listing context (Tellings 2016)
- a. If you had gone outside at 9:41pm, you'd have seen a falling star.
- b. A: I went outside at 10:22pm, and I saw a falling star!
B: Well, that's not so special. If you had gone outside at 9:41pm, you'd have seen a falling star, if you had gone outside at 9:54pm, you'd have seen a falling star, if you had gone outside at 10:40pm, you'd have seen a falling star,... There were lots of falling stars tonight.
- (11) Semifactual conditionals (*context: one is standing in front of a broken bridge*) (Bennett 1982)
Even if the bridge were standing, I wouldn't cross.

2 How is CF_p generated?

- 'fake tense' proposals derive counterfactuality compositionally from a special 'modal' interpretation of tense marking in the antecedent (Iatridou 2000)
- 'real tense' proposals assume a regular interpretation of past tense which modifies the temporal argument of the modal base (Ippolito 2003, 2006, 2013)

2.1 Fake tense and exclusion operators (Iatridou 2000)

'Fake tense': conditionals can allow for future interpretation despite past-tense morphology

- (12) If he took this syrup, he would get better. (Iatridou 2000)

- (13) If John had come to Mary’s graduation next Saturday, she would have been happy. (Ippolito 2006)

Iatridou proposes that the past-tense morphology consists of an *exclusion operator* (ExclF). Normally, ExclF conveys exclusion in the temporal domain, but in certain environments, it can be interpreted in other domains. In this case, the domain of worlds.

- (14) ExclF
time domain: the topic time excludes the utterance time
worlds domain: the topic worlds exclude the speaker worlds

In the worlds domain, ExclF says that the ‘topic worlds’ (the worlds being talked about) are excluded from the actual world (the set of worlds epistemically accessible to the speaker).

3 How is CF_q generated?

- (15) Conditional Perfection (CP): the pragmatic strengthening of a conditional into a biconditional (i.e. strengthening $p \rightarrow q$ to $p \rightarrow q \wedge \neg p \rightarrow \neg q$. This is also the same as strengthening from *if* to *if and only if*)

- a. If you move the lawn, I will give you \$5. (Geis and Zwicky 1971)
Implicature: if you don’t mow the lawn, I will not give you \$5.
b. One can take this seat if one is disabled or one is older than 70. (de Cornulier 1983)
Implicature: one cannot take this seat if one is not disabled or younger than 70.

- (16) Karttunen’s schema (Karttunen 1971)
Utterance: $p \rightarrow q$
Implicatures:
 $\neg p$ (counterfactuality of p)
 $\neg p \rightarrow \neg q$ (conditional perfection on $p \rightarrow q$)

 $\neg q$ (by Modus Ponens)

- In Karttunen’s schema, the way in which CF_p is generated is not relevant.
- There are only two necessary ingredients for CF_q to be generated:
 1. CF_p is somehow generated
 2. The conditional can be perfected (i.e. strengthened into a biconditional)

- (17) Tellings (2016)

Prediction: if a conditional does not have conditional perfection, it does not have CF_q .

- The contexts in which CF_q is cancellable are characterized as being multiple-cause contexts (i.e. more than one salient antecedent for the same consequent).
- By Karttunen’s schema, CP is a necessary condition for generating CF_q .
- So we expect contexts that are not multiple-cause to be unperfectable, and those that are multiple-cause to be unperfectable.

3.1 Unperfectable conditionals

- (18) Semifactual conditionals
 Even if John goes home, I (still) won't come.
 \nrightarrow (even) if John doesn't go home, I will not come.
- (19) Biscuit conditionals
 If you're hungry, there are biscuits in the cupboard.
 \nrightarrow If you're not hungry, there are no biscuits in the cupboard.
- (20) "Discourse unperfectables" (von Fintel 2001)
- a. If this cactus grows native to Idaho, then it is not *Astrophytum*.
 \nrightarrow If this cactus doesn't grow native to Idaho, it is an *Astrophytum*.
- b. If you scratched on the eight-ball, then you lost the game.
 \nrightarrow If you didn't scratch on the eight-ball, then you didn't lose the game.
- (21) Multiple-cause contexts: recall (8), (9), and (10) above. If there are multiple salient causes for the consequent, the conditional cannot be perfected because the antecedent in question is not a necessary condition for the consequent. In other words, if I say $p_1 \rightarrow q$ and $p_2 \rightarrow q$, the former cannot be strengthened into the biconditional $p_1 \leftrightarrow q$, because p_2 is another salient condition for q .

4 What happens in languages that don't use overt tense to mark counterfactuality? (Nevins 2002)

- (22) **Mandarin:** The special complementizer *yaobushi* cannot be used in contexts that are not counterfactual.
- a. *Yaobushi ta he le neige duyao, ta jiu bu hui si le*
 If-not-that he drank PERF that poison, he then not will die PERF
 'If he hadn't drank that poison, he wouldn't have died.'
- b. *Yaobushi Lisi you qian, tade nupengyou jiu bu hui dasuan gen ta jiehun*
 If-not-that Lisi had money, his girlfriend then not will plan with him marry
 'If Lisi didn't have money, his girlfriend wouldn't plan to marry him.'
- c. *Yaobushi ni qu Jiazhou, women keyi mingtian wanshang zai zheli war*
 If-not-that you go California, we could tomorrow night at here have-fun
 'If you weren't going to California, we could have fun here tomorrow night.'
- (23) **Tagalog:** The complementizer *kung* marks for counterfactuality with an obligatory optative particle *sana* in the consequent. *kundi* is formed by compounding *kung* with negation *hindi*, and is used as a counterfactual complementizer just like *yaobushi*.
- Kundi napakalayo ng Maynila, papag-aaralin ko sana siya roon*
 If-not-that very-far CASE Manila, cause-study I SANA him there
 'If Manila weren't so far away, I'd send him to study there.'

- (24) **Slovenian:** There are two complementizers in conditionals, *bi* has the distribution of a hypothetical ‘if’, and *da* that of a strictly counterfactual ‘if’.

- a. *Da imam, bi ti posodil*
that have-1.SG.PRES would to-you lend-SG.MASC
‘If I had it, I would lend it to you.’
- b. *Da je bilo deZevalo, ne bi bili Sli ven*
that is be-part-3SG rain-PART.3.SG not would be-PART.PL go-PART.PL out
‘If it had rained, we wouldn’t have gone out.’

- (25) **Hebrew:** The particle *im* is used in hypotheticals (and can be used in counterfactuals with two layers of past-tense morphology), while *ilu* can only occur in counterfactuals.

- a. *Im hu hayah lokeach et ha trufah, hu hayah mevri*
IM he had taken DIR-OBJ the medicine he would-be healthy
‘If he had taken the medicine, he would be healthy.’
- b. * *Im hu lakach et ha trufah, hu hayah mevri*
IM he took DIR-OBJ the medicine he would-be healthy
Intended: ‘If he had taken the medicine, he would be healthy.’
- c. *Ilu hu hayah lokeach /lakach et ha trufah, hu hayah mevri*
ILU he had taken /took DIR-OBJ he would-be healthy.
‘If he had taken the medicine, he would be healthy.’

- (26) **Turkish:** The morphemes *se* (conditional) and *di* (past) can occur in two distinct orders.

- a. *Abelard Eloise-e dün çiçek ver-se-y-di, Eloise mutlu or-ur-du*
Abelard Eloise-DAT yesterday flowers give-**cond**-COP-**past** Eloise happy be-AOR-PAST
‘If Abelard had given flowers to Eloise yesterday, Eloise would have been happy.’
- b. *Abelard Eloise-e dün çiçek ver-di-y-se, Eloise mutlu or-ur-du*
Abelard Eloise-DAT yesterday flowers give-**past**-COP-**cond** Eloise happy be-PERF-COP
‘If Abelard gave Eloise flowers yesterday, Eloise must have been happy.’

4.1 Cancellability (or not) of CF_p

- (27) * *Yaobushi ta mei you fengzhen, tade pifu shang hui you bao. Qishi, yinwei tade*
If-not-that she didn’t have measles, her skin surface will have bumps. Actually, since her
pifu shang xianzai you zheiyang de bao, ta haoxiang you fengzhen
skin surface now has those-kind of bumps, she appears-to have measles

Intended: ‘If it were the case that she has measles, she would have bumps on her skin. Actually, since she does have those kind of bumps on her skin now, she appears to have the measles.’

- (28) * *Kung ang pasiente ay may tigdas, ehdi sana meron siyang mga marka sa*
 If-not-that TOPIC patient AY has measles, then SANA has TOPIC-he PLUR marks LOC
kanyang kamay, na yong nakikita ngayon. Eh di, meron siyang tigdas.
 his hand NA that GOAL-see now. So well, has he measles.

Intended: ‘If the patient had the measles, then he would have the marks on his arm that he has now. Therefore, the patient has the measles.’

- (29) * *Da ima oSpice, bi imel toCno take simptome, kot jih ima sedaj. Torej, pacient ima oSpice.*

Intended: ‘If the patient had the measles, he would have exactly the symptoms he has now. We conclude, therefore, that the patient has the measles.’

- (30) *Nevins’s generalization* (Nevins 2002)
 Only languages that mark counterfactuality by ‘fake past tense’ can cancel CF_p .

- According to Nevins, in an Iatridovian system, cancellability of a counterfactual is a feature of the exclusion operator encoded by the past-tense morphology. In these languages with either no overt past-tense morphology or with dedicated counterfactual morphology, we would therefore not expect cancellability to occur.
- Tellings (2016) argues that because CF_q is unrelated to ExclF but rather arises from the independent phenomenon of CP, languages like those explored by Nevins should indeed allow for cancellation of CF_q .
 - These languages can generate CF_p , and so the separate phenomenon of CP should determine whether CF_q is generated or not.
 - So let’s put this to the test!

5 Hebrew

- (31) *ilu dan haya ba-xayim hu haya ben 90*
 ILU Dan was in-life he was of 90

‘If John were alive he would be 90.’

- (32) Also

- Im/ilu hu haya nexmad, hayu lo xaverim*
 IM/ILU he was nice were to-him friends
 ‘If he had been nice, he would have had friends.’
- Ken, aval im/ilu hu haya nexmad, GAM hayu lo xaverim*
 Yes but IM/ILU he was nice also were to-him friends
 ‘Yes, but if he had been nice he would also have had friends.’

(33) Still

- a. *Ilu/im hayinu lokxim et ha-derex ha-shniya, hayinu megi'im ba-zman*
 ILU/IM were taking ACC the-road the-second were arrive on-the-time
 'If we'd taken the other road, we would have been here on time.'
- b. *Ilu/im hayinu lokxim et ha-derex ha-shniya, adayin hayinu megi'im ba-zman*
 ILU/IM were taking ACC the-road the-second still were arrive on-the-time
 'If we'd taken the other road, we would still have been here on time.'

(34) Listing context

- a. *Ilu hayita yoce be-9:41 hayita roe koxav nofel*
 ILU were go-out at-9:41 were see star falling
 'If you had gone outside at 9:41, you'd have seen a falling star.'
- b. A: I went outside at 10:22, and I saw a falling star!
 B: *Ilu hayita yoce be-9:41 hayita roe koxav nofel. Ilu hayita yoce be-9:54 hayita roe koxav nofel. Ilu hayita yoce be-10:40 hayita roe koxav nofel.*
 ILU were go-out at-9:41 were see star falling. ILU were go-out at-9:54 were see star falling. ILU were go-out at-10:40 were see star falling
 'If you had gone outside at 9:41, you'd have seen a falling star. If you had gone outside at 9:54, you'd have seen a falling star. If you had gone outside at 10:40, you'd have seen a falling star...'

6 Mandarin

- (35) *Yaobushi John hai hou-zhe, ta jiu yijing yibai sui le*
 If-not-that JOHN still live-ASP he will already 100 year ASP
 'If John were alive, he would be 100 years old.'

(36) Also

- a. *Yaobushi ta gexing hao, ta jiu hui you henduo pengyou*
 If-not-that he personality good, he will have many friend
 'If he had been nice, he would have had friends.'
- b. Speaker A: *John he you qian, ta-de caifu shi ta you henduo pengyou*
 JOHN very have money he-POSS wealth CAUS he have much friend
 'John is very rich and his wealth has gotten him quite a few friends.'
- Speaker B: *Dui, buguo yaobushi ta gexing hao, ta haishi hui you henduo pengyou*
 Yes, but if-not-that he personality good, he also will have many friend
 'Yes, but if he had been nice, he would also have had friends.'

(37) Still

- a. *Women yaobushi mei zhou zhe yi-tiao lu, jiu hui lai-de-ji le*
 We if-not-that not walk this one-CLASS road, will be on-time
 ‘If we hadn’t taken this road, we would have been here on time.’
- b. Speaker A: *Women lei-de-ji shi yingwei women zhou-le wo shuo women gai zhou de lu*
 We on-time is because we walk-ASP I say we should walk-POSS road
 ‘We are on time because we have taken the road I said we should take.’
 Speaker B: * *Women yaobushi mei zhou zhe yi-tiao lu, haishi hui lai-de-ji*
 We if-not-that not walk this one-CLASS road, still be on-time
 Intended: ‘If we hadn’t taken this road, we would have still been here on time.’
- c. *Women ruguo zhou lingwai yi-tiao lu, jiu hui lai-de-ji le*
 We if walk other one-CLASS road, will be on-time
 ‘If we’d taken the other road, we would have been here on time.’
- d. Speaker A: *Women lei-de-ji shi yingwei women zhou-le wo shuo women gai zhou de lu*
 We on-time is because we walk-ASP I say we should walk-POSS road
 ‘We are on time because we have taken the road I said we should take.’
 Speaker B: *Women ruguo zhou lingwai yi-tiao lu, haishi hui lai-de-ji*
 We if walk other one-CLASS road, still be on-time
 ‘If we’d taken the other road, we would have still been on time.’

(38) Listing context

- a. *Yaobushi ni 9:41 chumen, jiu hui kan dao yike liuxing*
 If-not-that you 9:41 exit-door, will see-PERF one-CLASS shooting-star
 ‘If you had gone outside at 9:41, you’d have seen a falling star.’
- b. Speaker A: *Wo 10:22 chu-men, kan-dao le yi-ke liuxing*
 I 10:22 exit-door, see-PERF ASP one-CLASS shooting-star
 ‘I went outside at 10:22, and I saw a falling star!’
 Speaker B: *Na mei shenme tebie. Yaobushi ni 9:41 chumen, jiu hui kan-dao yike*
 That not something special. If-not-that you 9:41 exit-door, will be see-PERF one-CLASS
liuxing. Yaobushi ni 9:54 chumen, jiu hui kan-dao yike liuxing.
 shooting-star. If-not-that you 9:54 exit-door, will be see-PERF one-CLASS shooting-star.
Yaobushi ni 10:40 chumen, jiu hui kan-dao yi-ke liuxing.
 If-not-that you 10:40 exit-door, will be see-PERF one-CLASS shooting-star.
 ‘Well that’s not so special. If you had gone outside at 9:41, you’d have seen a falling star. If you
 had gone outside at 9:54, you’d have seen a falling star. If you had gone outside at 10:40, you’d
 have seen a falling star.’
Note: My consultant finds the listing context here a little weird, and reports that it is much better
 with the addition of *haishi* ‘still’.

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