

# Aspect in X-marking

X-marking

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Where we are:

- Why we introduced the term X-marking
- There are languages with specialized X-morphemes (Hungarian)
- There are languages whose X contain (several) morphemes that have other uses, commonly “past”: “Fake Past”

Once we figure out the semantic contribution of X, we can write that as the meaning of the Hungarian specialized morpheme.

But what about languages whose X contains multiple morphemes?

What is the task there?

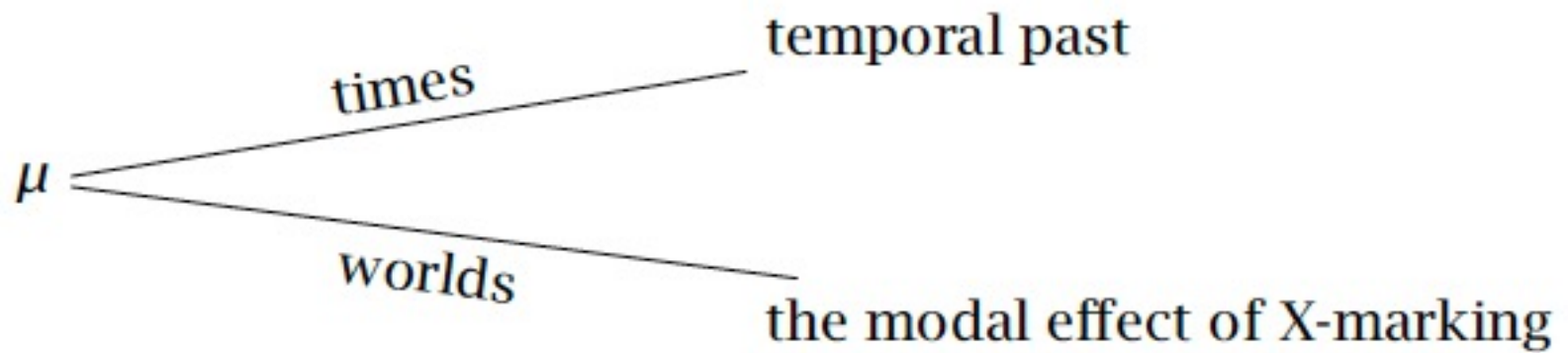
In those languages, we need to understand

- what that particular morpheme contributes in X
- what that particular morpheme contributes in its non-X uses
- How the two are related

We already saw this discussion for Past

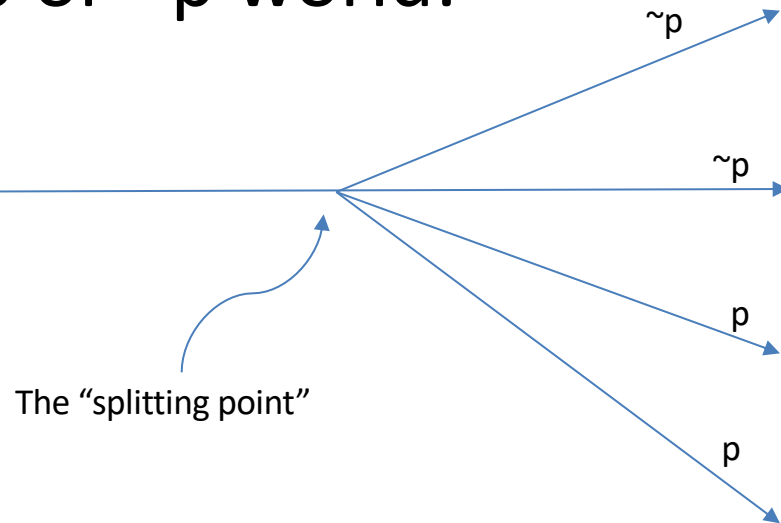
Past-as-Modal: Iatridou, Schultz, Bittner, Mackay  
and others

Past-as-Past: Ippolito, Arregui, Khoo, Romero,  
and others



(This is independent of the exclusion theory)

That is, the past takes us back to a time where it was still open whether the world would develop in to a  $p$  or  $\sim p$  world:



Greek X-marking consists of “fake past” and “fake imperfective” (Iatridou 2000, 2009):

1. An **eperne/\*pire** to farmako, tha **ginotan/\*egine** kalitera  
if **take-pst-imp/\*-prf** the meds, FUT **become-pst-imp/\*-prf** better  
‘If s/he took the medicine, s/he would get better’
2. An **pandrevotan/\*pandreftike** mia prigipisa,  
if **marry-pst-imp/\*-prf** a princess, FUT  
tha **esoze/ \*esose** tin eteria tu  
**save-pst-imp/\*-prf** his firm  
‘If he married a princess, he would save his company’



What happens when the verb is PST.PRF instead of PST.IMP?

- If there is Past+PRF instead of Past+IMP, the sentence is an epistemic conditional:

3. An pire to farmako, tha egine kalitera  
if take-pst-prf the meds, FUT become-pst-prf better  
'If s/he took the medicine, s/he will have gotten better'

But “Fake Imperfective”  $\neq$  Perfective in disguise

The interpretation of Fake IMP can also be imperfective:

4. An dhiavazes Dostoyevsky tin ora pu tha bi, tha endiposiazotan  
if read-pst-imp D. the time that comes in, FUT be-impressed-pst-imp  
‘if you were reading Dostoyevsky when s/he comes in, s/he  
would be impressed.’

In FLVs, the form is necessarily imperfective, but the aspectual interpretation can be more or less whatever you want it to be.

Wrt PrsX, it is a bit more convoluted to show that there is fake IMP: as PresX are interpreted as being about the present, one would expect their aspectual marking to be imperfective anyway—there is no Present Perfective.

Wrt PastX, since the pluperfect is involved, which needs the auxiliary *have*, it is difficult to show fake aspect: this is one of a handful of Greek verbs which do not morphologically mark aspectual distinctions.

However, in other languages it is possible to show that there is fake aspect in PresX and PastX as well.

So this is the comparative Greek-English picture:

$[\text{past}]_G$  “needs” the presence of the imperfective for X-marking

$[\text{past}]_E$  does not need help from the imperfective for X-marking

Two possible conclusions:

5.  $[\text{past}]_G \neq [\text{past}]_E$

Or

6.  $[\text{past}]_G = [\text{past}]_E$

- and the obligatory imperfective in Greek X-marking makes no semantic contribution. But then why is it there?

## Language with Fake Past

### English

If she took the meds,...  
X, epistemic

## Language with Fake Past and Fake IMP

### Greek

If she took+IMP the meds, ...  
X, epistemic

If she took+PRF the meds, ...  
epistemic

Quite a few languages are like Greek in having fake imperfective in X  
eg Hindi, as we will soon see, but also in a “hidden” way:

# Conditional Mood

Verbal form in the consequent of Romance X-marked conditionals:

7a. Si Pierre partait demain, il **arriverait** là-bas la semaine prochaine. (FLV)

if Pierre left tomorrow he would arrive there the week next

‘If Pierre left tomorrow, he would arrive there next week.’

b. Si je savais que c’était du chocolat, je le **mangerais**. (PresX)

if I knew that this were of the chocolate I it would eat

‘If I knew that this were chocolate, I would eat it.’

c. Si Pierre était venu, je l’**aurais** vu. (PastX)

if Pierre had come I him would have seen

‘If Pierre had come, I would have seen him.’

But is this a separate mood that contributes to X and that other languages, eg English and Greek lack?

2000: Probably not.

English X-marked consequent:

8. “would leave”: woll+Pst V

Greek X-marked consequent:

9. “tha efevga”: FUT V+Pst.IMP

Now imagine a language where **both** FUT and PST are bound morphemes that must appear on the verb. Then one of the following two combinations appears:

10a. V+PST.IMP+FUT

b. V+FUT+PST.IMP

Future	+	Past Imperfective	=	Conditional
je chercherai		je cherchais		je chercherais
tu chercheras		tu cherchais		tu chercherais
il/elle cherchera		il/elle cherchait		il/elle chercherait
nous chercherons		nous cherchions		nous chercherions
vous chercherez		vous cherchiez		vous cherchiez
ils/elles chercheront		ils/elles cherchaient		ils/elles chercheraient

So there probably is no reason to believe that Romance Ls have a specialized mood in their consequent X-marking that English and Greek lack.

Romance has just a different morphological spell-out of FUT+PST.IMP than Greek does.



An important question:

IMP in Greek and Romance has two common functions.

Habitual:

11. When she was little she **went<sub>IMP</sub>** to the beach  
(=used to go)

Progressive:

12. When I saw her, she **went<sub>IMP</sub>** to the beach  
(=was in the process of going)

Does IMP appear in X because of its “progressive” function or because of its “habitual” function?

It seems that it may be possible to answer this question.

Iatridou 2000:

**Fake aspect dove-tails with the morpheme's habitual/generic persona, not its progressive persona.**

- There is no known case of a “progressive” that is fake. English has a progressive, but no fake progressive. Romance Ls have an imperfective and a progressive but only a fake imperfective, no fake progressive.
- Classical Persian had one morpheme for habituais, X-marking and progressive. Modern Persian has one morpheme for habituais and X-marking and another one for progressives, i.e. of the three meanings, the one that went its separate way is the progressive, and X-marking and habituais/generics stayed together (but there is a caveat to the Hindi and Persian data, to which we will return)
- Hindi has no “imperfective”. It has a habituality marker and a progressive marker. Fake aspect is HAB, not the progressive. Here are some arguments:

-In unembedded contexts, PROG and HAB are incompatible (from Iatridou 2009/Bhatt):

13. \*vo gaa **rahaa ho-taa**  
he sing Prog be-Hab

But in X:

14. He's not really singing....

agar vo gaa **rahaa ho-taa**,  
if he sing Prog be-Hab

to log wah wah kar rahe ho-te  
then people 'wow' 'wow' do Prog.MPI be-Hab.MPI

'If he was singing, people would be going 'wah wah'.

-individual-level statives cannot take the habituality marker:

15. \*vo **lambaa ho-taa** (hai)  
he tall be-Hab (is)

But in X:

16. agar vo **lambaa ho-taa**, to army use bhartii kar le-tii  
if he tall be-Hab then army he.Dat admit do TAKE-Hab.f  
'If he was tall, the army would have admitted him.'

-generic/habitual sentences take a habituality marker:

17. Vo macchlii khaa-**taa** hai

He fish eat-Hab be.Prs

X-marked antecedents whose predicate is generic, ...  
take two Habituality markers:

18. Agar vo macchlii **khaa-taa ho-taa**,

If he fish eat-Hab be-Hab

to use yeh biimaarii nahiiN ho-tii  
then he.Dat this illness Neg be-Hab.f

‘If he ate fish (on a regular basis), then he would not have this disease.’

So when Generic and Progressive have the same form, Fake Aspect in X has that form as well.

But when Generics and Progressives take different forms, the form of Fake Aspect in X is that of generics.

(Iatridou 2000)

This will need to be explained too, of course.

We saw that Fake Imperfective permits either perfective or imperfective interpretation. That is, aspectual interpretation is not constrained by the morphology.

What about the temporal interpretation of conditionals? How is that done, in the absence of temporal morphology to guide us?

Basically, just as in O-marked conditionals.

This point can be made in English (from Iatridou 2009):

## Stage-level statives:

- 19a. If he is drunk, he will be arrested (drunk at utterance time)
- b. If he is drunk tomorrow, it will be embarrassing (drunk in the future)

## Non-statives:

- 20a. If he takes the syrup, he will get better (syrup-taking in the future)
- b. If he runs, he will win (running in the future)

## Non-statives with progressive:

- 21a. If he is singing the Marseillaise, he will be feeling great (singing at utterance time)
- b. If he is singing when the queen walks in, his mother will be very proud. (singing in the future)



- Temporal Interpretation of O-marked conditionals:

	Future	at UT
statives	+	+
non-statives without Prog	+ (completed)	-
non-statives with Prog	+ (in progress)	+

Stage-level stative:

22a. If he was/were drunk, he would be louder right now (PresX)

b. If he was/were absent tomorrow, it would be embarrassing (FLV)

Non-statives:

23a. If he took the syrup, he would get better (FLV)

b. If he ran, he would win (FLV)

Non-statives with progressive:

24a. If he was/were singing the Marseillaise, he would be singing louder (PresX)

b. If he was/were singing when the queen walks in, his mother would be very proud (FLV)

## Temporal Interpretation of O-marked conditionals:

	Future	at UT
statives	+	+
non-statives without Prog	+ (completed)	-
non-statives with Prog	+ (in progress)	+

## Temporal Interpretation of conditionals with one layer of (fake) past:

	FLV	PresX
statives	+	+
non-statives without Prog	+ (completed)	-
non-statives with Prog	+ (in progress)	+

■ Iatridou 2000:

FT makes the substantive contribution to the meaning of X-marking.

FA is a side-phenomenon, that is, it does not semantically contribute to the composition of X-marking.

So FA was not taken to contribute semantically, just like the subjunctive, even though FA, unlike the subjunctive, was present in all the Ls discussed in 2000.

# Post -2000 empirical observations:

2000: Ls that have FT have FA, and vice versa  
(modulo English)

2009: Slavic!

Slavic Ls have FT but not FA.

2009 Generalization:

Languages with FA are a proper subset of  
Languages with FT

## Russian (from Iatridou and Tatevosov; October 2015, Cornell)

You have the aspectual morphology you want to have:

25a. Esli by, nachinaja s zavtrashnego dnja on prixodi-l  
If BY starting from tomorrow day he come.**IPFV.PST**

kazhdyj den', my by xorosho provodili vremja  
every day we BY good spend.**IPFV.PST** time

‘If, starting from tomorrow, he came every day, we would have fun.’

b. Esli by on prishe-l zavtra, my by xorosho proveli vremja  
If BY he come.**PFV.PST** tomorrow, we BY good spend.**PFV.PST** time

‘If he came tomorrow, we would have fun.’

c. Esli by my spe-l-i etu pesnju,  
If BY we sing.PFV.PST.PL this song,

byl by bol'soj skandal.

be.PST BY big scandal

'If we had sung this song, there would have been a big scandal.'

d. Esli by my peli etu pesnju, kogda on voše-l,  
If BY we sing.IPF.PST.PL this song, when he walk.in.PST

byl by bol'soj skandal.

be.PST BY big scandal

'If we had been singing this song when he walked in, there would have been a big scandal.'



- This new picture pushes towards a certain answer to the question of whether FA makes a substantive contribution to meaning of X.
- Specifically, it pushes towards the ‘no’ answer, in a reasoning that is similar to the one that led to the conclusion that the subjunctive does not make a substantive contribution.

Specifically:

- There are languages that do not have FA, even though they have Fake Past in X,
  - either because they have no aspect morphology at all (Hebrew) or
  - because they have it but do not use it (the fake guise) in X-marking (Russian).
- So we can conclude again that Fake Aspect makes no semantic contribution. If it did, we would have to conclude that Fake Past does different things in the two types of Ls:

$$[\text{Fake Past}]_{\alpha} = [\text{Fake Past}]_{\beta} + \text{Fake IMP}$$

If we want to assume that Fake Past always plays the same semantic role in X-marking, we would have to conclude that FA makes no semantic contribution to the meaning of X.

But the case is not quite identical with the subjunctive:

- In Ls that have subjunctive in X, we can understand its presence as a reflective morphology / agreement phenomenon, as in the dubitative subjunctive.

Nothing obviously parallel comes to mind for IMP for Ls that have fake IMP.

- In languages without subjunctive in X but with a subjunctive elsewhere, we can understand its absence as resulting from the priority to have fake Past: if the subjunctive cannot morphologically co-exist with Past, then the former cannot appear.

Nothing obviously parallel comes to mind to force the absence of fake IMP

- Why is there fake aspect in X in some languages? (Greek, Romance)
- Why is there no fake aspect in X-marking in languages like Russian, which have the aspect that appears as fake elsewhere?
- Why is FA imperfective and not perfective?

# The crosslinguistic picture up to this point

	Fake Aspect	No Fake Aspect
Fake Tense	Greek, Romance	Slavic  (Ls w/out aspectual morphology; eg Hebrew)
No Fake Tense	???	Hungarian

# Fake Aspect, no Fake Past?

Background:

Iatridou 2000/2009:

Hindi and Persian have FA and FT

Bjorkman and Halpert 2014/2016 (BH):

Hindi and Persian have FA but no FT

Let's focus on Hindi.

(based on Bhatt 1997, p.c.)

Clearly, as we saw, Hindi has FA. What about Fake Past?

Bhatt 1997: in X, there is no overt Past tense morpheme.

However, whenever –ta is unaccompanied by an overt tense morpheme, the interpretation is that of Past.

Such environments include:

*when*-clauses:

26. jab [mantrii-ji Dilli jaa-te] tab [un-ke sab chamche bhii Dilli jaa-te]  
when [minister.Hon D. go.Hab] then [his all spoons also D. go.Hab]  
'When the minister would go to Delhi, all his flatterers would also go to D.'

NOT 'When the minister goes to Delhi, all his flatterers also go to Delhi.'



Correlatives:

27. [jis din        mantrii-ji Dilli jaa.te]

which day minister-Hon Delhi go.Hab

[us din un-ke sab chamche bhii Dilli jaa.te]

that day his all spoons also Delhi go.Hab]

‘The day the minister would go to D, all his flatterers would also go to Delhi’

NOT ‘The day the minister go to Delhi, all his flatterers also go to Delhi’

With adverbs of quantification:

28. kai-baar apnii hatheli ko mantrii-ji anjaane-mē jakhmii kar le-te

often self.GEN palm.ACC min.Hon unknowingly wound take.Hab

‘Often, the minister would unknowingly wound his palm’

NOT ‘Often, the minister unknowingly wounds his palm’

On the basis of the fact that when *ta* appears without tense it is interpreted as past, and on the force of the crosslinguistic picture, Bhatt 1997 ventured the hypothesis that Hindi X-marked conditionals have both FA and FP.

BH: “..Hindi seems to be a language ..., where tense and aspect are fully independent and realized using separate morphemes. There is therefore no morphological correspondent to a past tense operator, and no independent means of motivating a covert operator. It appears, then, that Hindi is a language that marks [X-marking] with imperfective (habitual) aspect alone.” p. 14

In addition to BH's concern, there is an additional reason why we should be worried about the conclusion that Hindi has Fake Past:

In (26-28), the Past tense morpheme is absent, but it *can* be present. That is, those are environments where a null Past is optional.

In X-marked conditionals, on the other hand, the overt past cannot appear. This then, would be an environment where the null past is obligatory.

If we can make this conclusion stick, then we can say that Hindi has FP in X. But if not, this would be an important change in the broader picture.

Persian is another L which according to BH has FA but not FT.

I had assumed that Persian has both. Fake Aspect *mi* on what is traditionally called the “Past Stem” (2009):

29.      age fardaa    mi-raft hafte-ye ba'd mi-resid  
         if tomorrow   dur-went week-EZ next dur-arrived  
         'If he left tomorrow, he would arrive next week.'

30.      age alaan    javaab-e    so'aal-o      mi-dunest-am, xeyli eftexaar    mi-kard-am  
         If now    answer-EZ    question-acc.   Dur-knew-1sg, a lot pride    dur-did-1sg  
         'If I knew the answer now, I would be very proud (lit.: take pride a lot)'

BH agree that Persian has FA but they argue that the verbal form called “Past Stem” is not really semantically a past.

**31. “Past stem” in formal future form**

- a. Sârâ daru-hâ-yaš râ      xâh-ad    xord  
S.    medicine-PL her-ACC want.3SG eat.PAST  
“Sârâ will have her medicine.” (Taleghani 2008, ex. (30))
- b. xâh-am    raft  
want-1SG go.PAST  
‘I will go.’ (Maziar Toosarvandani, p.c.)

**32. “Past stem” with prospective interpretation (colloquial Farsi)**

- a. raft-am  
go.PAST-1SG  
‘I went’ / ‘I’m about to go.’ (Maziar Toosarvandani, p.c.)

The case of the prospective interpretation may be rebuttable but (31) seems a bit harder.

The crosslinguistic picture (and therefore, the questions) change, if BH are right:

	Fake Aspect	No Fake Aspect
Fake Tense	Greek, Romance	Slavic  (Ls w/out aspectual morphology; eg Hebrew)
No Fake Tense	Hindi, Persian	Hungarian

Final BH-triggered (possible) amendment to the crosslinguistic pattern.

So far, all the cases of FA that we have seen are imperfective, and so, one of the questions on our to do list is to explain why FA is only necessarily IMP. And this is what some have tried to do, as we will see later.

But BH:

There are cases of FA being Perfective, specifically Palestinian Arabic, as based on the work of Halpert and Karawani (HK).

The next few slides are adjusted from Iatridou and Tatevosov (2015).

BH and HK rely on two sentences (from HK) to conclude that FA is perfective. Here is the first one

33.

[ iza tileʕ                      halaʔ,] kaan                      b-iwsal                      ʕal waʔt                      la  
if leave.**past.pfv** now,    be.PAST.PFV B-arrive.IMPF on the-time for  
l-muħaadara  
the-lecture

‘If he left now, he would arrive on time for the lecture.’                      (Halpert and  
Karawani, 2011, ex. (6a))

- HK translate this example as a PresX. It is indeed only if it is a PresX that the argument can be made that PRF is fake: a PresX is about the present, which is necessarily imperfective in interpretation. If, therefore, PRF appears in a PresX, that PRF is fake.



- If, on the other hand, (33) were a FLV, it could very well be that the PRF is real, since FLVs can have a perfective interpretation, in which case PA would be like Russian: FT but not FA
- . In fact, HK do give an example of a FLV, and the morphology in the antecedent is exactly that of the antecedent in (33). The only difference with the actual (33) is the presence of *tomorrow* instead of *now*.
- So is (33) indeed a PresX? HK must assume that the presence of *now* in (33) forces a PresX reading. But this is not necessarily so. The adverb *now* can very easily be used as an immediate future: *He will leave now*. Or for that matter an immediate past: *He left just now*.

So the presence of *now* does not ensure that we are dealing with a PresX. What **would** ensure it is a stative or progressive predicate that is interpreted (as not holding) at UT. But there PA does NOT use PRF but a different strategy altogether (HK's 7b,c):

34.

iza **kanno** ʔam yitlaʔ      halaʔ min l-bet,      kaan b-iwsal      ʔa l-waʔt  
if be.PST PROG leave.IMP now from the-home, be.PST B-arrive.IMP on the-time  
, 'If he were leaving home now, then he would arrive on time.' (PresCF)

35.

iza **kanno** b-yitlaʔ      bakkeer kul yom, kaan b-iwsal ʔa l-waʔt la l-muḥadaraat  
if be.PST B-leave.IMP early every day, be.PST B-arrive on the-time for the-lectures  
'If he were into the habit of leaving early, he would arrive on time for the lectures.' (PresCF)

In other words, for the clear cases of PresX, there is no fake PRF. And the one case that is supposed to have fake PRF is not at all clearly a PresX.

The second argument that BH give for fake PRF in PA also comes from HK (actually, HK's 7c, not 17 as said in BH):

36.

[ iza **kanno**        **b-yitlaʕ**        bakkeer kul    yom,] kaan  
if be.**past.pfv** B-leave.**impf** early    every day,    be.PAST.PFV  
b-iwsal        ʕa l-waʔt    la l-muḥadaraat  
B-arrive.IMPF on the-time to the-lectures  
'If he were in the habit of leaving early, he would arrive to the lectures on time.'  
(Halpert and Karawani, 2011, ex. (19a))

Fake PRF is said to appear on the item *kanno*. It is fake because habituals are not compatible with PRF normally (not even in PA).

- However, HK, where BH took the example from, do not gloss *kanno* as ‘past.pfv’, but just as ‘past’ and have the following footnote (fn. 3) about this auxiliary:

“In this paper, we characterize KAAN simply as a past form. Morphologically, it looks like a past-perfective form, but it is not completely clear to us what to make of this fact: because it is the case that all auxiliaries in Palestinian Arabic appear to be morphologically perfective, including non-past auxiliaries, we choose not to treat this form as a true perfective in the nature of perfective-marked main verbs, which always receive a past tense interpretation.”

- In other words, the evidence that PA provides a case of fake PRF, is rather inconclusive. And without it, we cannot decide whether FA is always IMP or sometimes IMP, sometimes PRF. But this does not mean that BH are necessarily wrong. It could very well be that they are right but that PA is not the right L to show this.

For a much fuller description of PA in these phenomena, we will look at Karawani 2014. What is relevant for us at the moment is that the PA data that BH rely on do not support their conclusion.

Until then, we will continue to assume that FA is Imperfective but we should keep in mind the possibility that this may have to change.

So here is what we need to explain:  
How do these morphological combinations yield the  
meaning of X?

	Fake Aspect	No Fake Aspect
Fake Tense	Greek, Romance	Slavic  (Ls w/out aspectual morphology; eg Hebrew)
No Fake Tense	(Hindi, Persian)	Hungarian

Now that we have seen the  
crosslinguistic picture (a little) what  
can we say about the contribution of  
Aspect in X-marking?

Wrt Fake Aspect:

Iatridou 2000: FA makes no contribution to the semantics of X.

Possible reactions:

-indeed FA does not contribute semantically to X  
(Grønn, Bjorkman and Halpert)

-FA does contribute semantically to X (Ippolito, Anand&Hacquard 2012, Ferreira 2012, 2015)



- Iatridou 2000: in the presence of fake past, IMP makes no semantic contribution. Specifically:

“When the temporal coordinates of an eventuality are set with respect to the utterance time, aspectual morphology is ‘real’, when the temporal coordinates of an eventuality are not set with respect to the utterance time, morphology is always Imp.” (page 262 )

$T_{\text{not connecting to VP}} > FA_{\text{imp}} > VP$

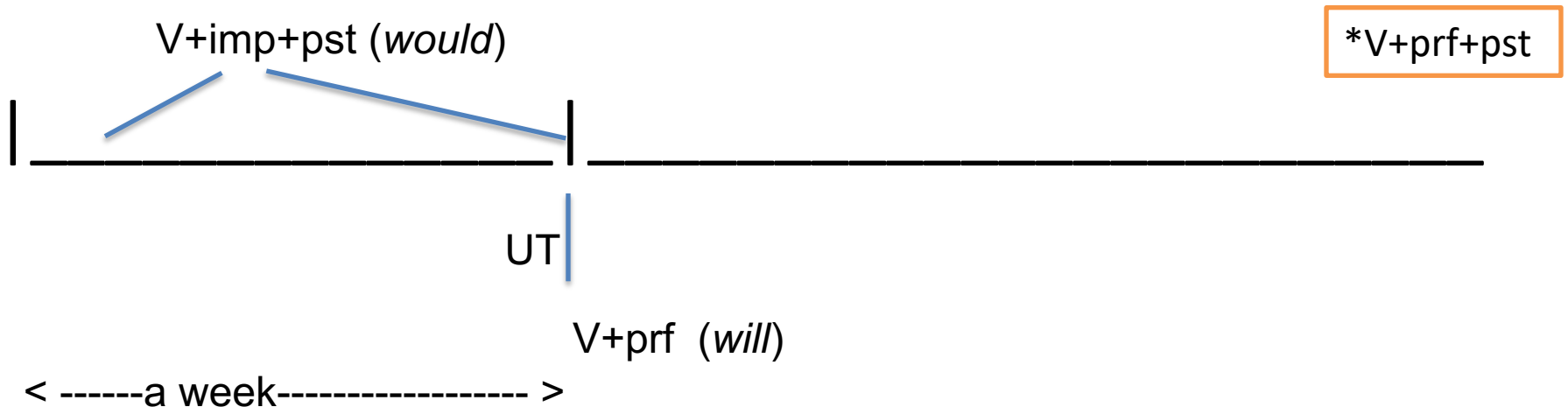
- The cases that fell under this:
  - **X** --where Tense does an X job, and does not contribute to placing the event on the timeline.
  - **generics** - -where Tense modifies the generic predicate, not the underlying event

37.      a. Bears hybernate      (said in August)  
            b. John eats fish      (said when John is asleep)

- **Would SOT embeddings**– where the time of the embedded event description is unspecified in the case of imperfective, but specified in the case of perfective:

38. Prin apo mia vdhomadha ipe oti tha efeyie/fiyi se dhio meres  
before one week said that FUT leave-pst-imp/non-past-prf in 2 days

‘A week ago s/he said that she would/will leave in 2 days’



- We can call this the “buffer” theory:  
IMP functions as a buffer to separate Tense and the VP.

$T_X$  or GEN...      >     $FA_{imp}$       >    VP

- No causal direction was intended: when Tense does not interact with the verb, there is no aspectual marking.
- The buffer theory needs to address
  - Why would there be a need of a buffer?
  - Why is the buffer Imperfective?

Bjorkman and Halpert 2014's underspecification theory:

There are languages with FT and no FA.

There are languages with FA and no FT.

BH address the Russian facts and the absence of FA in this L:

In Russian, aspect can be real because tense and Aspect are morphologically disassociated: Tense and Aspect are expressed on very different morphemes.

So one can have FT, which contributes to X, as well as any aspectual marking one chooses.

**That is, one is forced to the aspectually underspecified form only if Tense and Aspect are morphologically fused.**

The underspecification theory needs to address why should the form of FT that is used be without aspect marking? That is, why does it need to be underspecified for aspect?

What the buffer theory and the underspecification theory have in common:

In X-marking with FT, Aspect (marking) does not contribute to the meaning of X.

In X-marking with FT, the verb is essentially not specified for Aspect (IF aspect and tense are not dissociated). As a result, the verb can be interpreted perfectly or imperfectively.

Now let us go to the camp in which Aspect does semantically contribute to the meaning of X-marked conditionals.

# Ferreira 2014/2016

What Ferreira wants to explain:

From Iatridou 2000

“In languages without a dedicated CF morpheme, verbs in CF constructions are marked as imperfective. When such a language has different forms for progressive and habitual readings, CFs pattern with habituals, not with the progressive.” F152



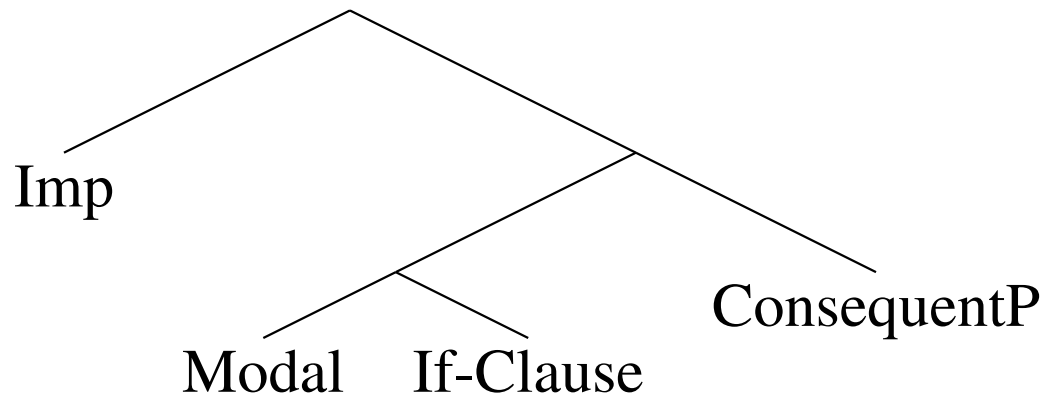
## Background assumptions

- I. Progressive and habitual readings are the result of one and the same operator. Imperfective markers which can convey both progressive and habitual readings are like nominal quantifiers which are not selective with respect to the number of their argument, like *some*.
- II. Chierchia 1998: There are quantifiers for mass and plural nouns that exclude singulars (like English *most* or Italian *molto*, but there are no quantifiers for mass and singular nouns that exclude plurals).
- III. Stative predicates are the verbal counterpart of mass nominal predicates. They are non-atomic. Modals are statives (if actuality entailments are not forced on them)

Putting the last two together:

IV. There should be no Imp operator that accepts statives and progressives, but excludes habituals.

X-marked conditionals are constructions in which Imp is attached on a modal/stative predicate:



Ferreira 2016:

“It is my crucial assumption that the modal combines with the past tense, the if-clause and the ConsequentP and outputs a stative predicate. It is this stative predicate that will serve as an argument to the imperfective operator located immediately above it. “

A modal state (relative to properties of times  $P$ ,  $Q$  and interval  $i$ ) holds at the evaluation time  $t^*$  in the evaluation world  $w^*$  time just in case

the worlds most similar to  $w^*$

where the past  $i$  led to a present  $t^*$

in which  $P$  is true

are also worlds

where the past  $i$  led to a present  $t^*$

in which  $Q$  is true

Therefore:

In Ls where progressives are marked differently from habituais, X-marking (where IMP on statives/mass) will pattern with habituais (where IMP on plurals) and not with progressives (where IMP on singulars).

## Questions:

- Why *must* Aspect be displaced in X-marked conditionals.
- Why is there no displaced Aspect in O-marked conditionals?

- SO...

No good theory of FA exists.

Moreover, Slavic poses a problem for all FA theories we have seen so far.

- Russian is a language that has FT but not FA:

38. Esli by, nachinaja s zavtrashnego dnja on prixodi-l  
If BY starting from tomorrow day he come. **IPFV-PST**

kazhdyj den', my by xorosho provodili vremja  
every day we BY good spend. **IPFV-PST** time

'If, starting from tomorrow, he came every day, we would have fun.'

38. Esli by on prishe-l zavtra, my by xorosho proveli vremja  
If BY he come. **PFV-PST** tomorrow, we BY good spend. **PFV-PST** time

'If he came tomorrow, we would have fun.'



Even though the buffer theory has no semantic contribution for FA in X-marking , the Slavic languages still pose a problem for it:

Why is there no need for a buffer in Slavic X-marking ?

Russian also poses a problem for the underspecification theory.

There is another way of forming X-marking in Russian, which we will refer to as “Chess X-marking ” because Grønn (2012) who studied them describes them mostly in the context of chess.

However, Chess X-marking is not limited to descriptions of chess games--though we don't know exactly what the correct description of their overall context is (see Grønn 2012). Possibly there are restrictions that track Lexical Aspectual classes.

Chess X-marking is interesting because it must have FA, specifically Fake IMP. Here is IMP with a Perfective interpretation:

39. Context: a player makes a move  $\alpha$   
Then the commentator wants to say:  
'If the move had been  $\beta$ , White would have won a pawn'

Posle  $\beta$  belye vyigryva-li pešku.

After  $\beta$  white win.IPFV-PST pawn

'After  $\beta$ , White would have won a pawn'

(Grønn)

With the Perfective, X-marking is not possible. Here is a minimal pair from Grønn:

40. Srazu **reshilo**<sup>PFV.PST</sup> partiju 22.Qb3.  
'22.Qb3 immediately decided the outcome of the game.'
41. Srazu **reshalo**<sup>IPFV.PST</sup> partiju 22.Qb3.  
'22.Qb3 would immediately have decided the outcome of the game.'

So it is not true that Russian completely lacks FA.

What is the difference between “common” X-marking and chess X-marking ?

The item *by*:

A. common X-marking : FT + *by* + real aspect

B. chess X-marking : FT + FA

We will return to *by* later.

The existence of chess-Russian is a problem for BH:

BH: in common Russian, FT does the X-marking job and the aspectual opposition exists (i.e. there is no FA) because the Tense and Aspect morphemes are separate.

In chess Russian, Tense and Aspect morphemes are still separate, FT still does the FT job, but the aspectual opposition does not exist.

- Grønn's theory of the “chess-X-marking” :
- Imperfective in Russian is semantically “unmarked”, that is, has no aspectual meaning and is neutral with respect to factuality
- Due to the competition with the perfective, it gets pragmatically strengthened, which yields X-inferences

- Strengthening scenario
  - 1. The perfective invariably denotes a complete factual event. The imperfective is “unmarked”, or “underspecified”
  - 2. Given this stereotypical interpretation of PFV, the underspecified IPFV is pragmatically strengthened to the *opposite* interpretation
  - 3. IPFV tries to dissociate from PFV aspectually. But the context can prevent IPFV from acquiring a progressive/ processual/ habitual-iterative interpretation
  - 4. When this happens, IPFV would be used with a complete event interpretation, that is, be synonymous to PFV.



- Strengthening scenario
  - 5. For the PFV/IPFV opposition to make sense in such a situation, IPFV finds another way of getting strengthened
  - 
  - 6. The only remaining way of strengthening / reinterpretation is along the modal dimension.
  - 7. Since PFV entails a factual interpretation, IPFV is thus interpreted counterfactually.
  - 8. Putting all these ingredients together, we arrive at the interpretation of IPFV whereby it describes a complete eventuality (and is thus aspectually identical to PFV) that occurs in counterfactual worlds.

40. Srazu **reshilo**<sup>PFV.PST</sup> partiju 22.Qb3.  
‘22.Qb3 immediately decided the outcome of the game.’
41. Srazu **reshalo**<sup>IPFV.PST</sup> partiju 22.Qb3.  
‘22.Qb3 would immediately have decided the outcome of the game.’
- In a nutshell, **reshalo**<sup>IPFV.PST</sup> in this example has a perfective **counterfactual** interpretation because
    - 1. PFV in **reshilo**<sup>PFV.PST</sup> induces a perfective **factual** interpretation and
    - 2. there is no way for IPFV to acquire a factual progressive or habitual interpretation.
  - Counterfactual IPFV is mostly confined to chess annotations precisely because it is in this type of discourse that strengthening of IPFV to PROG or HAB is strongly dispreferred.

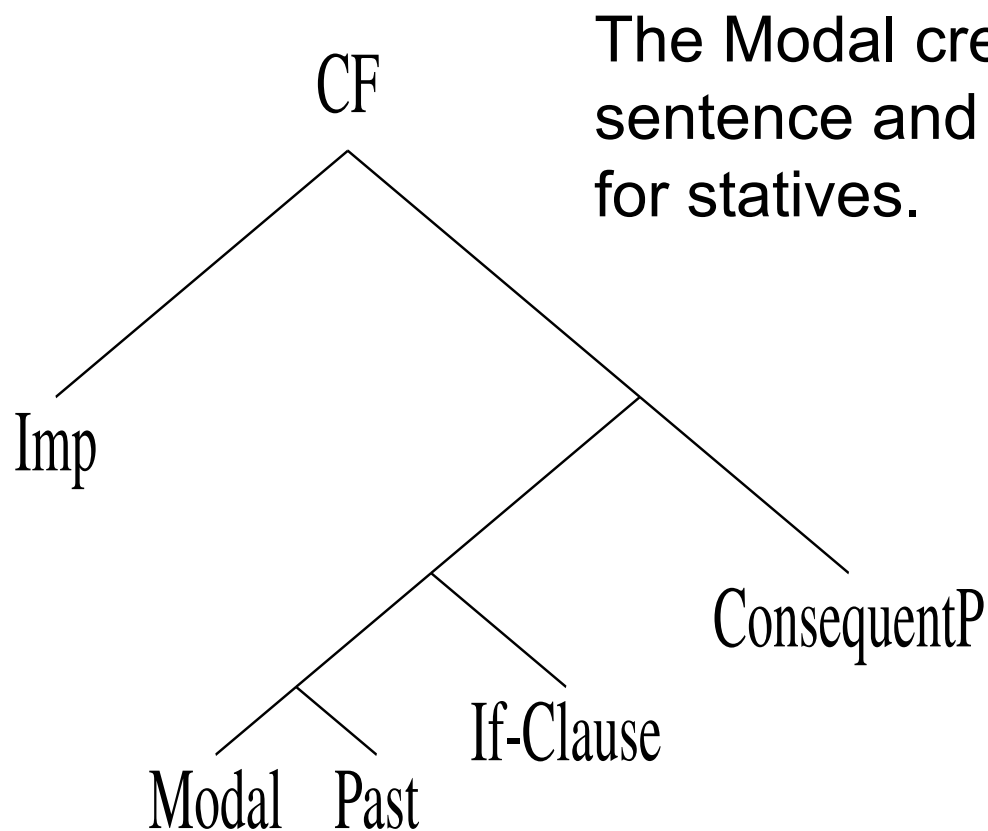
- Gronn's strengthening scenario cannot a theory of FA in languages like Greek/Romance
- The analysis predicts that, aspectually, the modal IPFV is not fake.
- It has to be interpreted as counterfactual and perfective.
- This makes it crucially different from the fake imperfective in the languages like Greek, which allows for both perfective and progressive construals

So far we saw the challenges that Russian poses for the camp in which FA makes no semantic contribution.

Ferreira 2014

Also in the Past as Past camp.

FA: Actual Imperfective, but displaced in X-marking (as Tense is in X-marking):



The Modal creates a stative sentence and IMP is the aspect for statives.

For Ferreira, FA is not *really* needed for the composition of the X-marking. That is done by displaced Past. So in principle, there may be a way of fitting Russian in. What could that way be?

Maybe: All languages have displaced aspect in X-marking and all have an aspectual operator inside the antecedent and consequent. Some spell out the higher (Greek, Romance), some the lower (Slavic).

Interesting?

# Comparing Hindi and Russian

(Making Sense of Russian and what it teaches us)

42. He's not really singing....

agar vo gaa **rahaa ho-taa**,

if he sing      Prog be-Hab

to      log      wah wah      kar rahe      ho-te

then people `wow' `wow' do Prog.MPI be-Hab.MPI

'If he was singing, people would be going `wah wah'. '

Hindi has FA but also the possibility for a real aspectual opposition underneath!

We just saw V..PROG ..FA.

And V..PRF..FA is also possible:

43. agar us-ne chocolate khayii ho-tii, ....

if he-Erg chocolate eat-Pfv.F be.Hab.F

‘If he had eaten chocolate, ...’

Crucially, (42) is only about an occurrence of having eaten chocolate in the past, NOT a habit.



This second layer of “real” aspect is possible only when/because FA can appear on a light verb, leaving “space” on the lexical verb for more aspect:

44a. agar .... khaa **rahaa ho-taa**  
if ..... eat PROG BE-FA

b. agar .... kha-**yii ho-tii**  
if ..... eat-PRF BE-FA

And of course we also saw this:

45. agar .... khaa-**taa ho-taa**  
if ..... eat-HAB BE-FA

FA can also appear straight on the lexical verb, and then there is no space for more aspect:

46a. agar ... khaa-taa

if ... eat-FA

[In the X- interpretation of (84), this can only be understood as a single perfective (counterfactual) event, for example:

b. If she had eaten that chocolate

and not (c) or (d):

c. if she was eating the chocolate...

d. If she had the habit of eating chocolate

(i.e. the bare stem has only a perfective interpretation)]

Hindi X-marking in short:

A.V.FA

B. V.RA LV.FA

‘RA’ = “Real Aspect”, i.e. aspectual oppositions are expressed.

‘FA’= “Fake Aspect, not to be interpreted at face value”

Hindi has the exact same phenomenon in generics!

X-marking:

A.V.FA

B. V.RA LV.FA

GEN:

A.V.HAB

B. V.RA LV.HAB

‘FA’ = “Fake Aspect”

‘RA’ = “Real Aspect”

#### 47. V-Hab:

jab-bhii mEN R.-ke ghar jaataa huun, vo cake banaataa hai  
when-ever I R.-Gen house go.Hab Pres he cake make.Hab is  
'Whenever I go to Ram's house, he bakes a cake.'

#### 48. V Prog be-Hab

jab-bhii mEN R.-ke ghar jaataa huun,  
when-ever I Ram-Gen house go.Hab Pres

vo cake banaa rahaa hotaa hai  
he cake make Prog be.Hab is

'Whenever I go to Ram's house, he is baking a cake.'

#### 49. V-Pfv be-Hab

jab-bhii mEN Ram-ke ghar jaataa huun,  
when-ever I Ram-Gen house go.Hab Pres

us-ne cake banaayaa ho taa hai  
he cake make.Pfv be.Hab is

‘Whenever I go to Ram's house, has baked a cake.’  
i.e. the cake is ready

This pattern is not particular to Hindi.

Here is a language you have probably never heard of:

Bagwalal, a North Caucasian language

## Bagwalal (North Caucasian; Kibrik *et al.* (ed.) 2001)

### Pattern A: V+HAB

- Habitual marking on a lexical verb, underlying VP is aspectless

50. ʕali            w-a:-w-qatir                            maḥammad-i-r  
Ali                M-come.PFV-M-TEMP Mohammed-OBL-ERG

kaʁal            q<sup>w</sup>a-r-o:-b  
letter           write-istem-**HAB-N**

‘It regularly holds that

1. Ali comes in, then Mohammed writes a letter.
2. When Ali comes in, Mohammed is writing a letter.’



Pattern B: V.RA<sub>perfective</sub> LV.HAB

51. ʕali w-a:-w-qatir maḥammad-i-r kaʕal  
Ali M-come.PFV-M-TEMP Mohammed-OBL-ERG letter

**q<sup>w</sup>a-b-o** **b-uk'-ur-o:-b**  
write.**PFV**-N-CONV AUX-istem-**HAB**-N

It regularly holds that

1. When Ali comes in, Mohammed had already written a letter.'
2. \*When Ali comes in, Mohammed is writing a letter.'

Pattern B: V.RA<sub>imperfective</sub> LV.HAB

52. ʕali w-a:-w-qatir maḥammad-i-r  
Ali M-come.PFV-M-TEMP Mohammed-OBL-ERG

kaḅal q<sup>w</sup>a-ra:-X b-uk'-ur-o:-b  
letter write-istem-IPFV AUX-istem-HAB-N

'It regularly holds that

1. 'When Ali comes in, Mohammed is writing a letter.
2. \*When Ali comes in, Mohammed had already written a letter.
3. \*Ali comes in, then Mohammed writes a letter.'

[NOTE: the only difference between Bagwalal and Hindi lies in the interpretation of Pattern A (V.HAB):

Hindi: only perfective interpretation

Bagwalal: either perfective or imperfective

Possibly the difference lies in that in Bagwalal, you have to decide which stem of the verb to use, whereas in Hindi there is only one stem and the absence of any marking is interpreted as perfective]

So what if Russian is like Hindi and Bagwalal:

Pattern A: V.X → Chess Russian

Pattern B: V.RA (LV+)X' → Common Russian

What could X be?

Since X appears as past imperfective in Pattern A, it should be that X' is -or is equivalent to- past imperfective in Pattern B.

What determines the A vs B choice?

Only one candidate: *by*.

Common Russian: *by* Past RA<sub>imp/prf</sub> V

Chess Russian: Past FA<sub>imp</sub> V

Russian X-marking =

*by* + Past

or

Imperfective + Past

Can one conclude that *by* = Imperfective?

No. One can conclude that *by* and the Imperfective have an overlap in meaning in certain environments.

That is, in certain environments they can be made to do the same thing.

But what is that thing?

Logical next step: look at the range of meaning of *by* and that of the imperfective and see what they share.

We have not done this yet.

*by* is historically the past of the verb BE. It is used in a number of other modal environments, still to be explored.

So, we could venture the following guess:

If *by* and the Imperfective do the same job in X-marking, and *by* does a modal job in general, then maybe the Imperfective does a modal job in X-marking as well.

For FT, we have Past-as-Past accounts  
and Past-as-Modal accounts in X-marking .

For FA, have Aspect-as-Aspect accounts,  
but no Aspect-as-Modal accounts!