Some thoughts about the Imperfective in Counterfactuals

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1. The larger question

In a paper entitled "The Grammatical Ingredients of Counterfactuality" that appeared in 2000 in Linguistic Inquiry I explored the morphological markings of what we call counterfactual constructions, primarily conditionals, but also wishes. The idea behind this investigation was obvious:

Q: Somehow the meaning of Counterfactuals (whatever this may be exactly) is conveyed by morphological cues. What are these cues?

There are some languages that have a marker that appears (most likely) only in CF constructions. In other words, every time this marker appears the construction is CF. We can therefore to as "specialized CF markers". Here is Hungarian –*ne/na* (these are phonologically conditioned variants) (Aniko Csirmaz):

(1) ha holnap el-indul,   a jo:vo" h'etre oda-e'r
    if tomorrow away-leave the following week.onto there-reach
    'If he leaves tomorrow, he will get there next week'

(2)   ha holnap el-indul**na**,   a jo:vo" he'tre oda-e'r**ne**
    if tomorrow away-leave.CF   the following week.onto there-reach.CF
    'If he left tomorrow, he would get there next week'

[we will be referring to CF-marked conditionals like (2) with the traditional grammarian's term Future Less Vivid (FLV). Even though these mark the worlds of the conditional antecedent as unlikely to come about, rather than the more commonly associated meaning with CFs, in many languages they receive the same marking as what are more traditionally called CFs and so we will group them with CFs when relevant.]

However, there are also languages where CFness is morphologically marked by elements that are pooled from other parts of the grammar, that is, by elements that have uses/meanings other than CFness. This conclusion can be reached very simply: in these Ls there is no specialized CF marker, yet speakers unambiguously interpret these sentences as CF. In addition, there are peculiar appearances of certain morphemes in CF construction, which I referred to as "fake". Don't read much into the choice of this term. By this I meant then (and we will mean today) that the meaning of this morpheme in CF constructions is not what it is outside of CF constructions.

2. Fake Past

Specifically, there are many languages where CF constructions contain "fake" past tense. That is, the relevant morpheme does not, at least in any obvious way, contribute pastness. English is among these.

(3)   a. He left yesterday
        b. *He left tomorrow
        c. If he left tomorrow, he would get there next week   (future less vivid, FLV)

(4)   a. He had a car last year
        b. *I had a car now
        c. If I had a car (now), I would be happy   (present counterfactual, PrsCF)

[The use of 'PresCFs' indicates that the predicate in the antecedent does (not) hold at the time utterance]

In addition, the presence of a fake past can be detected in sentences that contain a temporally interpreted past morpheme as well, i.e. there is a fake" past in addition to a "real" past (on the fairly common assumption that English pluperfect can be described as containing 2 pasts):

(5)   a. He was descended from Napoleon
        b. *He had been descended from Napoleon
        c. If he had been descended from Napoleon he would have been shorter
                        (past counterfactual, PstCF)

[The use of 'PstCFs' indicates that the predicate in the antecedent does (not) hold at a time before the time of utterance]

The proposal was that in all these cases, the fake past morpheme was somehow involved in making the sentences be CF. I suggested one way for how this might be done. Since then there have been other proposals in the literature about how fake tense does what it does. The details of this are not relevant at this moment but at any rate, the idea was that these past morphemes somehow achieve or help achieve CFness.

I also concluded that the actual temporal interpretation of the sentences was determined by either the presence of a real past (5c), or could be predicted on the basis of the aspectual class and morphology of the antecedent. For example in English, the simple present on eventives yields only FLVS. The simple present on statives yields FLVs or PrsCFs. The progressive behaves like the statives. I argued that none of this had anything to do with CFness. This is how non-CF conditionals behave. I won't give you example sentences here, examples and charts come in a later section.

So my point was very simple, <u>fake past is (somehow) implicated in CFness</u>. The temporal interpretation is exactly what you would expect it would be if that fake past wasn't there.

By the way, there is an additional question that we will not address here and that is whether fake past needs to be just in the antecedent, just in the consequent, or in both. We think that maybe there is reason to believe that it is the one in the antecedent that is the important one but that is not relevant for us as the languages we will look at have fake past in both antecedent and consequent.

3. Mood

A further difference in the morphology between CF and non-CF conditionals in several languages lies in the mood marking. In the languages I had looked at, with one exception[1], non-CF conditionals are in the indicative. CF-conditional, though, fall in two classes with respect to the mood of the antecedent[2]:

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[1] Icelandic is the only exception. In Icelandic, non-CF conditional antecedents in which there has been movement to C, the verb is in the present subjunctive (data from Iatridou and Embick 1994):

i. Ef hann hefur   faridh, eg kom
   if he   has-prs-indic   gone,   I come
   'If he has gone, I will come'

ii. Hafi   hann faridh,   eg kom
    has-prs-subj   he   gone,   I come

iii. *hefur   hann faridh,…
      has-prs-indic   he gone, …

iv. *Ef hann hafi   faridh,….
      If   he   has-prs-subj   gone,…

Apparently this was the case also in Old English

[2] Romance languages have what is called the "conditional mood" in the antecedent. However, this is just the combination of the elements in the consequent of non-Romance Languages as well. For example, both English and Greek have future and (fake) past in the consequent.. However, while in Greek the future is in a form that can combine with Past, in Greek the future is an indeclinable particle. In English the fake Past morpheme merges with the marker for the future yielding *would*. In Greek, the fake past goes on the verb.

English: Past +Fut   V e.g. *would leave*
Greek: Fut   Past+V   e.g. *tha efevga*.

In Romance, however, both the future and the past are bound morphemes. As a result, when they co-occur, they have to *both* go on the verb. This is what has been called

Class I: indicative in antecedent
Class I: subjunctive in antecedent

Of course there are languages that do not have a subjunctive and so by necessity are Class I. What I had found is that there are languages (like French) that have a subjunctive but are still in Class I, that is, they do not use that subjunctive in CFs. I argued that <u>Ls that put the subjunctive in the antecedent are those that have a paradigm for past subjunctive. What *must* be in the antecedent is fake past. If a language has to choose between putting an indicative with a (fake) past in the antecedent or a non-past subjunctive, it will use the former</u>. In other words, it is (fake) past that is necessary. If the subjunctive can fit with the past, fine; if not, the subjunctive is not possible. Indirectly, this is another argument that it is (fake) past that does the CF job.

The above explains why it is only a language that has a past subjunctive that can put the subjunctive in the antecedent. It does not explain a different fact, namely that if a language has a past subjunctive, it *must* put it in the antecedent.
I argued that the appearance of the subjunctive is some kind of agreement phenomenon and not essential to deriving CFness. This is consistent with the behavior of the subjunctive elsewhere. For example, some languages require the subjunctive in complement sentence of *doubt, don't believe* etc. This is called the "dubitative subjunctive". But this is an agreement phenomenon. It is not the subjunctive that marks the sentence as being outside the beliefs of the speaker. That is done by the matrix verb. The dubitative subjunctive *reflects* that something else has placed that proposition outside of the beliefs of the speaker. This is consistent with the fact that there are plenty of Ls that can convey that a proposition is outside the beliefs of a speaker without any additional morphology of the embedded verb.
Similarly in CFs: the fake past makes a sentence CF, the subjunctive, if a language has it and it can fit together with the fake past on the verb, the subjunctive *reflects* that something has made the sentence CF.

The above view is supported by some historical facts. French used the past subjunctive in the antecedent when it still had it. At some point, the past subjunctive was lost. Then the language had to choose between going the past-but-no-subjunctive way or the subjunctive-but-no-past way. The choice that was made was in favor of the past-but-no-subjunctive in CF antecedents. In other environments, where the presence of a particular tense morpheme was not required, the subjunctive was kept.

"conditional mood" but there is no reason to believe that Romance has a different modal semantics there from English or Greek.

<u>So my conclusion was that the subjunctive was not essential in deriving CFness</u>.

4. Aspect.

Finally we come to Aspect.

In the languages that I had looked at, the verb in counterfactual constructions had appeared to me to be in obligatory form when it came to aspectual marking.

Let me start with Greek. In general, the Greek verb is either in the perfective or the imperfective. However, in CFs, the verb always appears in the imperfective. We will look at the evidence for this position, going through different types of CF conditionals in turn.

4.1 Fake Aspect: **not easily detectable in PstCFs.**

We cannot see this in Past CFs, which contain the pluperfect, because the Greek verb 'have', which, like in English, participates in the formation of the pluperfect, is one of a handful of verbs that do not have a perfective/imperfective contrast. As a result, the fact that the verb 'have' is always frozen aspectually means nothing[3].

4.2 Fake Aspect: Easiest to see in FLVs

However, we can see that aspect always has to be imperfective in other types of CF-marked conditionals.

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[3] A similar issue arises with Romance PastCFs. Italian, Catalan and other Romance languages have a perfective-imperfective distinction on the auxiliary verb that appears in the pluperfect. The form that appears on the auxiliary in PastCFs is always the imperfective:

i. Si estuviera   comiendo los plátanos estaría en la cocina
    If s/he were-past-imp-subj eating the bananas   s/he would be in the kitchen
         'If she were eating the bananas she would be in the kitchen'

ii. Si hubo estado comiendo los plátanos estaría en la cocina
If s/he were-past-**prf**-subj eating the bananas   s/he would be in the kitchen

However, the perfective on auxiliaries has in general a very restricted distribution, so while the Romance pluperfect facts, like the Greek ones, are consistent with the generalization that CFs always have imperfective, they do not truly argue for it.

Let's start with FLVs.

In FLVs, the form of the verb must be imp:

(6) An   **eperne/*pire**   to farmako,   tha   **ginotan/*egine** kalitera
    if **take-pst-imp/*past-prf**   the medicine, FUT **become-pst-imp/*pst-prf** better
    'If s/he took the medicine, s/he would get better'

(7)   An **pandrevotan/*pandreftike** mia prigipisa, tha **esoze/*esose** tin   eteria tu
     if   **marry-pst/-imp/*pst-prf** a princess,   FUT **save-pst-imp/*pst-prf** his firm
     'if he married a princess, he would save his company'

I should point out that the "*"s in (6,7) are meant that the sentences are out with an FLV reading. They are not ungrammatical, however. They receive an epistemic conditional interpretation, just like the following do *If she took the medicine she has gotten better* and *If he married a princess, he has saved his company.*
The appearance of IMP in (6.7) had made me call the imperfective (imp) also "fake" in conditionals. That is, imp is not interpreted the way it is outside CFs. Outside of CFs, imp is interpreted as progressive or generic/habitual. However, the sentences in (6, 7) are not interpreted as progressive or habitual/generic. The events talked about are understood as culminated, i.e. as if they were marked with the perfective in that we are talking about a completed event of taking the medication that would be followed by a completed event of getting better. Or a completed wedding after which the company is saved.
In other words. (6,7) clearly don't mean that the healing would start while the event of taking the meds was in process. Neither that the saving of the company would be ongoing while the wedding was in progress.
Similarly, the sentences in (6,7) are not interpreted as being about habitually taking medication or habitually getting married.

I had concluded therefore, that imp in FLVs is "fake", that is, the reasons for its existence in CFs are different from the conditions that license its distribution outside of CFs. <u>From now on when I say "fake imp" I will be referring to the imperfective morpheme in CFs and when I say "real" imp, I will be referring to this morpheme outside of CFs, namely as being associated with the semantics of the progressive or the semantics of genericity.</u> These names are not ideal but I have sort of gotten used to them.

So we see that fake imp permits the event description to be interpreted perfectively[4].

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[4] However, not all perfective behaviors are possible. For example, the perfective on statives yields inchoatives/inceptives. But the "fake" imperfectives in CFs does not bring about inchoativity on a stative predicate. This may be because to get the completed/perfective meanings of fake imperfective verbs, all you need is the right context, adverbs etc. To get the inchoative on a stative you apparently need actual perfective morphology.

However, it is not the case that fake imp is interpreted only perfectively. The predicate with fake imp can also be interpreted as in progress.

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

In short, in FLVs, the form is necessarily imperfective, but the aspectual interpretation can be more or less (see fn 3) whatever you want it to be. We will return to this shortly.

4.3 Fake Aspect in PresCFs?

What about Present CFs? Is it possible to show that imp is fake there? This may prove impossible to determine for Greek. The reason is this: Present CFs are, as the name suggests, interpreted as CF at the time of utterance. Predicates that hold at the time of utterance are necessarily imperfective. There is no such thing as perfective present. Since PresCFs are interpreted as being about the present, one would expect, if aspect was "real", that their aspectual marking would be imperfective. So in principle, it could very well be the case that the imperfective in PresCFs is not fake in Greek. The same arguments hold for the imperfective in PresCFs in Romance languages. In other words, it is not possible by looking at CFs with only one layer of past in Greek and Romance, to determine whether the language has fake imp in its CFs. Fortunately, there is one language where this can be determined, and this is Hindi, which we will look at in section 4.3.2.

First, we will address the following prior question: PresCFs and FLVs both have one layer of fake past. What is it then that determines whether a conditional is to be interpreted as an FLV or a PresCF? In other words, what is the temporal interpretation of a CF with one fake past? The answer to this question is basically the lexical aspectual class of the predicates and details for this are shown in 4.3.1. (partly summarized form Iatridou 2000).

4.3.1 When do we get a FLV and when we get a PresCF?
     (or what is the temporal interpretation of CFs with one Fake Past?)

When can we tell whether we are dealing with a FLV or a PresCF? Languages differ on this. In English, this depends entirely on the aktionsart of the predicate in the if-clause.

With one fake Past (i.e. without a pluperfect) non-statives in the progressive and statives, yield either PrescCF or FLVS optionally. Non-statives in the non-progressive yield FLVs only:

(9)a.If he was/were drunk, he would be louder right now   (PresCF)
   b. If he was/were absent tomorrow, it would be embarrassing   (FLV)
   c. If he took the syrup, he would get better   (FLV)
   d. If he ran, he would win (FLV)
   e. If he was/were singing the Marseillaise, he would be singing louder (PresCF)
   f. If he was/were singing when the queen walks in, his mother would be very proud
                                                                              (FLV)

Table 1 temporal interpretation of CFs with 1 level of past morphology

	FLV	PresCF
Non-statives w/out prog	completed	-
Non-stative w/prog	in progress	in progress
Stage-level statives	in progress	in progress
Indiv-level statives	-	in progress

We use the terms "in progress" and "completed" to refer to what one might call the (progressive use of the) imperfective and perfective interpretations, and we use 'imperfective' and 'perfective' only for the names of the morphemes. So a verb that would be marked 'imperfective' but interpreted 'completed', would have 'fake imperfective'.
A FLV that is interpreted as 'in progress' would have the event or stative in progress at a time after the time of utterance. A PresCF interpreted as 'in progress' will have the event or stative interpreted at the time of utterance.

In 2000, I had argued that one can predict Table 1 (or a version of it) by watching what happens if one subtracts the layer of fake past. That is, fake past achieves CFness and the temporal interpretation of the antecedent is what it is without fake past. In "indicative", i.e. non-CF conditionals the temporal interpretation is determined by the type of the predicate

(10)a. 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)
    c. If he takes the syrup, he will get better   (syrup-taking event in the future)
    d. If he runs, he will win (running event in the future)
    e. If he is singing the Marseillaise, he will be feeling great (singing at utterance time)
    f. If he is singing when the queen walks in, his mother will be very proud.
                                                                   (event in the future)

In short, Table 1 and Table 2 show the same range of temporal interpretation per predicate. The presence of fake tense does not influence temporal interpretation.

Table 2. temporal interpretation of non-CFs

	Future	Now
Non-statives w/out Prog	completed	-
Non-stative w/PROG	in progress	in progress
Stage-level statives	in progress	in progress
Indiv-level statives	-	in progress

The pattern of FLV vs PresCF in Greek is different from that in English along the following dimension: in English, the verb with the fake past still has a choice between being in the progressive or the simple (possibly perfective) form. In Greek, the verb that has a fake past can only be in the imperfective formally.

As a result, the Greek tables corresponding to 1 and 2 will be different from the English ones, since non-stative predicates cannot appear without imp in CFs (that is, they cannot appear with perfective without becoming epistemic conditionals). The Greek tables then look as follows:

Greek Table 3: temporal interpretation of CFs with 1 level of past morphology

	FLV	PresCF
Non-statives w/perfective	form not found; interpretation necessarily epistemic	
Non-stative w/imperfective	completed in progress	in progress
Stage-level statives	in progress	in progress
Indiv-level statives		in progress

Greek Table 4 temporal interpretation of non-CFs

	Future	Now
Non-statives w/perfective	completed	
Non-statives w/imperfective	in progress	in progress
Stage-level statives	in progress	in progress
Indiv-level statives		in progress

So now we have an idea of when we have a FLV and when a PresCF: in short, it depends on the aspectual interpretation of the event descriptions. We will address this in a later section. But now we can ask the question of whether we can show that imp is fake in PresCFs.

4.3.2 Where Hindi comes to the help and we formulate a working hypothesis

So for Greek (and other languages) it is difficult to show that imp is fake in PresCFs

This means that we are faced with the following dilemma. Either

(a) the imperfective is fake in FLVs but real in PresCFs

(b) the imperfective is fake in both FLVs and PresCFs.

We will try to see whether we can go with hypothesis (b), the sronger one of the two, as it will permit us to make common statements about all CFs. An additional reason to go with this hypothesis is that there are languages, Hindi among them, where it is possible to determine that imp is fake also in PresCFs.

Bhatt 1997 shows that fake aspect in Hindi is the habituality/generic marker. Here are some arguments:

Outside of CF contexts the progressive marker and the habituality marker cannot co-occur:

(11)   *vo gaa **rahaa ho-taa**
          he sing Prog be-Hab

However, in PresCFs this is exactly what you get:

(12) He's not really singing….

agar vo gaa **rahaa ho-taa**, to log wah wah kar rahe ho-te
if   he sing Prog be-Hab   then people `wow' `wow' do Prog.MPl be-Hab.MPl
If he was singing, people would be going `wah wah'.

This means that the habitiual marker "-taa" does not receive its usual (i.e. outside of CFs) interpretation. In other words, it is "fake" in the sense in which we have been using this term.

Moreover, individual-level statives cannot take the habituality marker:

(13) *vo **lambaa ho-taa** (hai)
       he tall be-Hab (is)

But in PresCFs, they do:

(14) 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.

Again, this means that '-taa' has a different role in CFs.

Finally, generic/habitual sentences take a habituality marker:

(15) Vo macchlii khaa-**taa** hai
    He fish eat-Hab be.Prs

PresCFs whose clause is generic, take two Habituality markers:

(16) Agar vo macchlii **khaa-taa ho-taa**, to use yeh biimaarii nahiiN ho-tii
     If he fish eat-Hab be-Hab then he.Dat this illness Neg be-Hab.f
    If he ate fish (on a regular basis), then he would not have this disease.

Again, this means that 'taa' has a function in CFs that differs from the one it has in unembedded contexts.

Clearly then it is possible to show that even PresCFs have fake imp in Hindi. <u>We will go with the hypothesis, then, that in languages with fake tense/aspect, both are fake in PresCFs as well, though in some languages this is not possible to determine independently.</u>

5. If CFs have fake imperfective, how do CFs receive their *actual* aspectual interpretation?
(or, what is the aspectual interpretation of CFs with fake aspect?)

We are going with the working hypothesis that CFs have fake imperfective (even though it is not always possible to tell for sure). Given that, what cues do we have to assign them an actual aspectual interpretation?

Languages differ on this.

For Greek, the answer to this may be simple: the Greek verb has only one "slot" for aspectual morphology. Since this is taken up by fake imp, the verb in effect, has no 'real' aspectual morpheme. The absence of such permits any desired interpretation. That is, there is no obstacle from the morphology to impose any desired aspectual interpretation on the verb. This explains the aspectually "free" interpretation of the predicates[5]. That is,

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[5] This relies on the assumption that the relevant system has a requirement against mismatch, NOT a requirement for match. Agreement morphology in predication works the same way: the verb must agree with the subject if there is agreement morphology:

the event description can be interpreted perfectively (FLV) or imperfectively (FLV or PresCF)

Romance is similar to Greek with an additional twist. The plain verb with fake imp can be interpreted perfectively or imperfectively. However, fake past/imp can also go on a verb that carries the progressive:

(16)   Si Jean etait en train de manger,…
         If Jean be-pst-imp in process of eating,…

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i. Peter is tall
ii.*Peter are tall
However, when there is no agreement morphology, then there is no problem:
iii. want Peter to be tall.

Similarly in the case of aspect. The interpretation must match the morphology when there is such. However, when the verb has no aspectual morphology (because what there is, is there for some CF-specific purposes), then in principle any aspectual interpretation is possible. This does not preclude that there are pieces of morphology that are governed by a requirement for match, rather than a requirement against mismatch. For example, it is possible that the inchoative interpretation of the perfective on statives actually requires the presence of perfective morphology, since fake imp does not permit this interpretation. Another such case is provided by Hindi (Rajesh Bhatt p.c.). As we will see, in Hindi the CF verb can take fake imp on a light verb or on the verb itself:

iv. V-CF: khaa-taa
v. V-Pfv be-CF: khaa-yaa   ho-taa
vi. V-Hab be-CF: khaa-taa   ho-taa
vii. V Prog be-CF: khaa rahaa   ho-taa

The V-CF case in iv permits interpretations like those of v and vi, but not that of vii. This means that the interpretations yielded by v and vi don't actually require the presence of the relevant morphemes, i.e. the interpretations are possible as long as there is no (mismatch with) incompatible morphology. However, the interpretation produced by vii is not a possible interpretation of iv, indicating that the interpretation of an event in progress actually requires the presence of the PROG morpheme. But why would the unmarked form not be capable of a progressive interpretation? Possibly a suggestion along the lines of Deo's proposal might work, namely the existence of the progressive morpheme blocks the unmarked verb from receiving an in progress interpretation. Iconfess we do not know how blocking works, though, or even if it exists (Embick and Marantz). A similar tendency holds also in some Romance languages, though as far as we can tell, the blocking effect is not so severe and the fake-imp marked CF verb can be interpreted as (counterfactually) in progress, even without the PROG marker. However, Romance speakers do *prefer* to put PROG in those cases, at least in Spanish and Catalan.

'If John was eating,...'

Such sentences cannot escape the in-progress interpretation.

As for the aspectual interpretation of CFs with fake imp in Indo-Aryan languages, these languages are like the Romance ones in having the option of placing additional real aspectual morphology on the verb, but differently from Romance, which only has the option of adding the progressive, Hindi has a larger variety of choices (see also fn. 6). Fake imp can appear on a light verb (the copula), while the main verb carries aspectual morphology that gets actually interpreted aspectually[6]:

(17)a. khaa-yaa   ho-taa
        eat –Pfv   be-HAB

   b. khaa-taa   ho-taa
       eat-Hab   be-HAB

   c. khaa rahaa   ho-taa
       eat-Prog   be-HAB

(Such a mechanism is not permitted in Greek, which has only one slot for aspectual morphology and once that is filled by fake imp, there is no more space for more aspectual morphology)

However, all this is optional . Fake aspect can also appear on just the verb:

(18)   V-CF: khaa-taa[7]
         Eat- HAB

In short, how the aspectual interpretation of a CF marked verb comes about differs croslinguistically. In some Ls there can be additional aspectual marking, in others not.

6. What does fake imperfective contribute in CFs?

What we have seen so far is that in many languages, there is fake imp in CFs.

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[6] This is reminiscent of PastCFs in Greek, English etc, which contain the pluperfect. In 2000 I described these as containing 2 levels of past: one fake and one temporally interpreted.

[7] Bhatt 97 shows that even though this looks like it has only a HAB-marker, it should be analyzed as containing Past-HAB.

So the question is, why is the CF verb aspectually frozen and why is it frozen as imp?

The space of possible solutions appears to be divided into two main ideas:

A. the imperfective makes a semantic contribution that is necessary to achieve CFness (that is, aspect is like tense morphology in CFs; its contribution is substantive, unlike that of the subjunctive). The questions then become:

      i. what is the semantic contribution that fake aspect makes?
      and
      ii. why is it that imp makes this contribution and not the perfective? That is, why
      is the contribution in CFness a common (and therefore natural) extension of imp?

Once (i) is known, the path for (ii) seems obvious: We look at a number of environments where imp appears and see what they all have in common in the hope that a common core meaning can be found. The other two famous uses of the imperfective are habituals and the progressive. There are, in fact, several existing proposals that attempt to give a certain meaning to imp so that it makes sense that it appears both in habituals and progressive. A natural first step then to answering ii is to take some such proposals and see whether they can be extended to also cover imp in CFs. We have explored this for some such proposals (Bonomi, Cipria and Roberts, Deo, Ferreira) but have found no obvious way to extend these to cover CFs. That doesn't mean that it is not possible, nor that at some point there will not be a proposal that covers progressives and habituals and that can be extended to cover CFs.

B.The imperfective makes no semantic contribution to CFness. It is there purely because of some morphological reason(s). For example:

      i. the perfective cannot appear (potentially for semantic reasons) and the verb
      must have **some** aspectual marking after all. Imp is the "elsewhere" aspect. Under
      this view,imp in CFs is sometimes real (when an imperfective interpretation is
      desired) sometimes fake (when a perfective interpretation is desired but the
      relevant morpheme is blocked from appearing in CFs).
      or

      ii. For some reason, CFs cannot be marked for aspect at all, imp is default aspect.
       Under this view, all appearances of imp are fake.

Here are some of the possible arguments in the debate of A versus B:

One argument in favor of A is the fact that for the languages that have a fake aspect it appears to be always imp. If the contribution that Imp makes is substantive, this follows naturally. If, on the other hand, imp's CF appearance is due to it being default, we would have to explain why we have to go to default aspect. We would also have to address the question of why it is imp that is default in so many languages, though I understand that the question of which morpheme out of a paradigm is chosen as default is not something we have an answer to in general.

One argument in favor of B is that there are languages where the CF verb is not aspectually frozen as imp (not frozen aspectually at all). One obvious such type would be languages that have no aspectual morphology like Hebrew. However, there are also languages that have plenty of aspectual morphology but do not have a fake imp or any fake aspect in CFs. This happens, for example, in the Slavic languages and in Tagalog.

We don't have a statistical sample of languages, of course, but if we were to deduce the larger picture from the languages we do have, we would get the following generalizations:

-A language has fake imp only if it has fake past. That is languages, that do CFness with a dedicated CF marker do not have fake imp (even if they have rich aspectual morphology in general)

-If it weren't for Slavic, we would be able to say that if a language has fake past, it has fake imp.
  However, given that the Slavic languages all have, as far as I can tell, fake past, but none has fake imp, we have to say:

(18)

[The set of languages that have fake imp] $\subset$ [The set of languages that have fake past]

Table 5.

	Has tense in general	Has aspect In general	Has fake tense	Has fake aspect	Has specialized CF morpheme	
Greek, Romance Hindi Persian Zulu Warlpiri	+	+	+	+	-	
Hungarian	+	+	-	-	+	

Kashmiri, Zulu						
Slavic	+	+	+	-	-	
Hebrew Korean	+	-	+	N/A	-	
Hebrew	+	-	+	N/A	+	
Tagalog Tzotzil	-	+	N/A	-	+	
Not found	+	+	-	+	-	
Not found	+	+	-	+	+	
Not found	+	+	+	+	+	
Not found	+	+	+	-	+	

A note on Hebrew and Zulu: these languages appear in two places in the table. Please See the appendix for the reason.

If the empirical generalization in (18) indeed holds, then it could be turned into an argument in favor of camp B: On the assumption that the contribution of fake past is the same in all the languages in which it appears, and on the assumption[8] that counterfactuals have the same semantics in all (these) languages, then if fake past can bring about the semantics of CFs in some languages without the help of fake imp, then in languages with fake past and fake imp, fake past conveys CFness still by itself and the role of fake imp is not substantive.

Let's take B as the working hypothesis for now then:

(19)

> Fake imp does not make a substantive contribution to CFness. Fake imp is an expletive/default morpheme in CFs.

This working hypothesis in (19) raises several questions.

Q1: If the imp morpheme on the CF verb makes no contribution to CFness (and it is not interpreted aspectually) why does it appear at all?

Answer: the morphological paradigms in question are such that the verb would be incomplete without the morpheme we have come to refer to as aspect.

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[8] Possibly this is an unwarranted assumption. One should check for e.g. differences like cancellability of CFness

Q2: Why is the aspectual exponent forced to be fake in CFs?

and

Q3: Why is fake aspect in CFs so often (possibly always) imperfective?

We will answer these questions in a roundabout way, starting with Q3.

Given that outside of CFs, imp is used in generics/habituals as well as events-in-progress, Q3 is actually a conjunction of two questions:

> **Q3a: why is fake aspect in CFs expressed by the same morphological exponent as aspect in generics/habituals?**

> **Q3b: why is fake aspect in CFs expressed by the same morphological exponent as aspect in descriptions of events in progress?**

In 2000, I had proposed a hypothesis as an answer to Q3a, which amounted to the imperfective being fake in habituals/generics as well. The rationale had been as follows:

Fake imp appears in CFs, Habituals/generics and events in progress. <u>Does imp appear in CFs because CFs have something in common with the progressive or because CFs have something in common with generics/habituals</u>?

I had concluded that it cannot be that imp appears in CFs because CFs have something in common with the progressive but because CFs have something in common with generics.

The reasons for this were the following:

- There are plenty languages where imp can be used for generics/habituals and for events in progress but that also have a dedicated progressive (French *etre en train de*, Spanish *estar V-ndo*). In those languages it is imp that appears in CFs, never the progressive.

- There are languages that have a habitiuality/genericity marker that cannot be used to describe events in progress, for which there is a specialized progressive. Hindi is such a language. Hindi uses its habituality/genericity marker in CFs; it does not use its progressive marker.

- In modern conversational Persian, the imperfective marker (*mi-*) is used in CFs and habituals/generics. The progressive is done with a periphrastc construction. So in this, modern conversational Persian is like Hindi. But in Classical Persian

(and apparently also in grammar books, Kahnemuyipour, p.c.), *mi-* appears in all three, that is in CFs, habituals/generics and the progressive. In other words, of the three meanings, the one that went its separate way is the progressive and CFs and habituals/generics stayed together.

-I had not been able to find a language where CFs and progressives are formally alike with generics/habituals marked differently.

OK So what is it that habituals and generics have in common?

In 2000, I had suggested that he commonality was that Tense does not access the underlying event of the predicate. In CFs, tense does the CF/modal job and the temporal interpretation is determined by different factors, as we have already seen. In Generics, Tense modifies the time of the habit, not the time of verifying events. As is well-known, one can truthfully utter *Bears hibernate* in August, when there is no hibernating bear. And one can say *John eats fish* when John is asleep or eating something completely different.

I had found one more environment in Greek that can get covered this way. Consider the following sentence:

(20) A week ago he said that he will/ would leave in 2 days.

In the expansion with *will*, the 2 days are after the utterance time. In the expansion with *would*, the 2 days can be after the utterance time but they can also be after the time a week ago. When we translate this sentence into Greek the expansion with *will* can take perfective or imperfective aspect, depending on the intended meaning:

(21) Ipe oti tha   xtisi/*xtizi   to spiti mesa s'ena mina
      said that FUT build-prf / *-imp   the house   in a month
        'S/he said that s/he will build the house in a month'

(22) Ipe oti otan tin ksanadume   tha xtizi/ *xtisi   to spiti[9]
      said that when we see her again FUT build-imp / *-prf   the house
      'S/he said that when we see her again she will be in the process of building the house'

The extension with *would*, on the other hand, must be formally imperfective, perfective is out:

(23) Prin apo mia vdhomadha ipe oti tha efevye/*efiye se dhio meres
      before one week   said that FUT leave-pst-imp/*-prf
       A week ago s/he said that she   would leave-imp/-*prf…….

---

[9] The star indicates that the in-progress reading is not possible with the perfective. The perfective form of the verb is acceptable but it yields the interpretation in which the building happens after we see her again.

However, while the form must be imperfective, the interpretation can be perfective or imperfective:

(24) Ipe   oti   tha extize to spiti mesa se ena mina
      said that FUT build-pst-imp the house in one month
      'S/he said that she would build the house in one month'

(25) Ipe oti kata tin diarkia tis teletis tha etrexe pano-kato
      said that during the ceremony FUT run-pst-imp up-down
      'S/he said that during the ceremony she would be running around'

These are sequence-of tense environments. The future on the embedded verb ensures that the event is in the future wrt to the matrix event, that is, the time of the saying event. However, the embedded event is not specificied with respect to the time of utterance.

So however one does Sequence of Tense (e.g. by deletion of the lower past), the embedded verb does not locally connect to tense. Hence the verb is in the imperfective.

Covering then the aforementioned types of embedding, generics and CFs, I had proposed:

> "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. "[10] (page 262)

Put somehow differently, if we take tense to be a relationship between Klein's Topic Time and the Time of Utterance (Reichenbach's R and S), and if we take aspect to be the relationship between TT and TSit (or R and S), then "fake" imp appears when this indirect relationship between TU and the time of the underlying predicate is somehow broken.

In CFs, there is no TT/TU (R/S) relationship as tense morphology does something different there. The relationship between TU and TSit (S and E) is therefore interrupted.

In generics/habituals, Tense modifies the time the habit/generic statement holds. That is, Tense does the TT/TU relationship as usual, but in the TT/TSit relationship, the TSit (E) is the time the habit holds, not the time the underlying event holds (recall the *John eats fish* case, which is truthfully utterable when John is asleep)

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[10] The year 2000 also the publication of Dahl 2000, which I was unaware of when I was writing my 2000 paper. In that volume there is a relevant paper by Eva Hedin, in which she suggests that the perfective/imperfective distinction is reducible to the token/type distinction, and moreover that (therefore) the imperfective has no temporal specification. Though I am not certain that I quite understand the proposal, its spirit compatible wit h ().

Finally, with respect to the sequence-of-tense case, there are a few mechanisms in the literature for that; possibly more than one is compatible with what we need here, but the relevant point is that the embedded event is not locally connected to TU.

So fake imp does not make a semantic contribution to CFness. It appears when the TSit/E/the time of the VP is "dissociated" from tense in the way specified above. We can call it default or we can call it "non-tensed aspect".

7. Making sense of Generalization 18

According to the perspective entertained here, the appearance of imp in generics is just as "fake" is in CFs. That is, it does not make any semantic contribution there either. The fact that CFs and Generics share the reason for why they have imp, is consistent with the fact that CFs and generics take the same morpheme.

Recall the Generalization in (18): In CFs, languages with fake aspect are a proper subset of the languages with fake past.

We can now also make sense of at least one part of this generalization, namely that there is no language with fake aspect but without fake past in CFs. Fake aspect appears when the TU/TVP relationship is interrupted. If a language does not have fake tense in CFs then the relationship between TT and TU is not interrupted and there is no reason for fake aspect.

What remains unexplained of the generalization? So far, the story covers

-languages that have fake past and fake imp (Greek, Romance)
-languages with no fake past and no fake imp (Hungarian, Tagalog)
-languages with no fake past, but with fake imp (none found)

What about
-languages with fake past but with no fake imp

This group includes at least English and Slavic.

Let's start with English.

It is possible that English is a true member of this group. That is, English has never been reported as a language with fake imp. On the other hand, it might be interesting to see how possible it is to push English into a different category. Why would we think that English does not have fake aspect? The reason is that in CF antecedents, there is an option between simple tenses and progressive:

(26)a. If he read this book, he would like it,
　　　 b. He is not reading. If he were reading, he would be in the library.

However, the same holds for Romance:

(27) Si comiera　　　　　　　todos los plátanos se pondría enfermo (FLV)
　　　 If s/he ate-past-imp-subj all the bananas, s/he would get sick
　　　 'If she ate all the bananas, she would get sick'

(28) ?[11] Si comiera los plátanos estaría en la cocina
　　　 If s/he ate-past-imp-subj the bananas, s/he would be in the kitchen
　　　 'If she were eating the bananas she would be in the kitchen'

(29) Si estuviera　　　　　　　comiendo los plátanos estaría en la cocina
　　　 If s/he were-past-imp-subj eating the bananas   s/he would be in the kitchen
　　　　 'If she were eating the bananas she would be in the kitchen'

(30) *Si hubo estado comiendo los plátanos estaría en la cocina
　　　 If s/he were-past-**prf**-subj eating the bananas   s/he would be in the kitchen

I do not take the option in (29) as evidence that Romance does not have fake imp. Why not? Because I think that fake imp is still present in (29), above the part of the clause that constitutes the periphrastic progressive since the auxiliary is in the imperfective, as evidenced by the unacceptability of (30).

We see this situation even more clearly in Hindi.
Recall that in Hindi, fake imp can appear optionally appear on a light verb/copula, in which case the main verb can take all sorts of aspectual marking. In other words Hindi is like Romance but with more options for "real" aspect under its fake aspect:

(31) khaa-yaa   ho-taa
　　　 eat –Pfv   be-HAB

(32) khaa-taa   ho-taa
　　　 eat-Hab   be-HAB

(33)　khaa rahaa   ho-taa
　　　 eat-Prog   be-HAB

---

[11] We have found a slight preference for (29) over (28). This may be due to a blocking effect (Deo).

So what if the following is the correct picture for English: English, like Greek, Romance, Hindi, uses the same aspect form in CFs as it does in generics/habituals. This is what it means to have fake imp. In English, this form happens to be the simple (i.e. non-progressive) form of the verb. That is, English "fake" aspect is also the one that appears in generics/habituals. When we have a progressive in a Romance or Hindi CF, we have fake aspect over that progressive. The very same can be said for English.[12]

This leaves the Slavic languages. The Slavic languages all have fake past but aspect is not necessarily imperfective:

(34) Co bys' zrobil., gdybym umarl.a?   (Polish)
    What be.COND.2sg do.PRF.Masc, if - be.COND.1sg   die.PRF.Fem
    "What would you do if I died?"

That is, Slavic languages have fake past but not fake aspect. One could say that what Generalization (18) reveals is the existence of a necessary, but not a sufficient condition for fake aspect. This could definitely be the case. However, Slavic language all have something else: they all have *by* in their CFs:

What if *by* fulfills the function that fake imp does in the Ls where fake imp appears? Alternatively, one could explore the idea that *by* is in effect a specialized CF marker. This would make Slavic a language family with a specialized CF marker, fake past and no fake imp, making it similar to Hebrew (though Hebrew lacks aspect altogether). However, *by* appears in non-CF environments as well (Igor Yanovic, Kirill Schlovskyp.c.):

(35) Ona priexala, chtoby pomoch s bugalteriej
    She came-PERF-PAST that-BY help-PERF-INF with accounting
    "She came in order to help with accounting"

(36) chto by popast' v Garlem nuzno   sest'   na poyezd A
     what BY get-INF in Harlem necessary-3 sit-INF on train A
    'To get to Harlem you need to take the A train'

So either this kills the idea that *by* is a specialized CF marker or it may turn out that its meaning is such that in conditionals it amounts to a CF marker somehow.
At any rate, Slavic aspectology is too complicated for us and we leave it for more qualified minds.

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[12] Alternatively, one can say that English doesn't have aspect at all other than the progressive. This would come down to the same thing for our purposes: CFs and habituas/generics are marked (or not) in the same way.

8. And what about the progressive readings of imp?

If the above reasoning is correct we have an explanation for why Habs and CFs are expressed by the same aspectual morpheme. In some languages, these are the only environments where the relevant morpheme appears. However, in several languages the morpheme that appears in CFs and habituals/generics is also used to describe events I progress. Here is a relevant table:

Table 6:

	CF	Habitual generics	Progressives
Greek, Romance Zulu Warlpiri	+	+	+
Hindi. Modern Persian (English)	+	+	-
Not found	+	-	+

The argumentation so far does not address why this morpheme is sometimes also used for events in progress.

Some possibilities:

A:
Imp= Fake in CFs and generics/habituals
        Real in descriptions of events in progress

It could be that the morpheme has the semantics of the progressive but it gets called upon to appear when tense is dissociated from the VP because there is something about the semantics of the progressive such that the morpheme that expresses it naturally lands itself for "dissociative" uses. This means that we need to do a reduction job similar to that in Bonomi, Cipria and Roberts, Deo, Ferreira etc. However, these researchers tried to find an account that covered generics/habituals and progressives. Now, the job would be different, it would be to take the semantics of the progressive and see what it has in common with the dissociative role of imp in CFs and generics/habituals.

But, we can also be imperialistic:

23

B.
Imp= fake in CFs, generics/habituals and descriptions of events in progress

We can say that imp is always dissociative. We have already discussed how that works in CFs and generics/habituals. We could explore the possibility that imp is dissociative also in the progressive uses of imp. That is, the reason it appears in events in progress is the same as why it appears in CFs and habituals.

But then we would have to make the semantics of what we call the progressive come out somehow.
In this state of affairs, when a language has a periphrastic progressive, like English, Romance, Hindi, Persian etc, the semantics of that morpheme **is** events in progress and that is why it cannot be extended to habitual/generic or CFs uses. When imp appears in descriptions of events in progress, there is no semantics of progressivity present. Again, it would be that there is no relation between tense and the VP. But the resulting meaning is sufficiently close to that of the progressive that we think the two are identical.

Can we pull this off?
One challenge would be to derive the TT$\subseteq$TSit reading of sentences where imp appears without having that temporal relationship being contributed by the imperfective morpheme.
It is possible to imagine that/how this would work for predicates that have the subinterval property. But what about those that don't?

(37) Stis 5 egrafe   ena grama
      At 5   s/he write-past-imp a letter
      'At 5 s/he was in the process of writing a letter'

9. Conclusion

Lots more fun to be had…..

APPENDIX:

Some of the data discussed here are in the literature, others were solicited. This appendix contains data that you might find hard to come by.

Persian (Arsalan Kahnemuyipour)

1. 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.'

2. 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)'

3.   man har ruz   raah   mi-rav-am
     I   every day   path   DUR-go-1sg
     'I walk every day'

4.   man daar-am raah mi-rav-am
     I   have-1sg path DUR-go-1sg
     'I am walking (now)'

Zulu and Hebrew

According to Halpert 2007, Zulu has a specialized CF marker that appears in the consequent (*ngabe*), but it is optional[13].
When the marker is absent, both tense and aspect are fake:

5. ukuba **be-**   ngi- zo- phuma kusasa   **be-**   ngi-   zo-   fika ngo
   If   **IMP-Pst** SM1sg Fut leave   tomorrow **IMP-Pst** SM1sg Fut arrive on

Lwesihlanu
Friday

---

[13] Though Halpert correctly points out it that the presence or absence of *ngabe* may determine subtle differences in meaning that need to be tested for.

'If I left tomorrow, I would arrive   on Friday'

6. ukuba be- ngi-   ne- moto   **be-**   ngi- zo- ya e- sitolo
   if IMP-Pst SM1sg with car   **IMP-Pst** SM1sg fut   go LOC store
   'If I had a car, I would go to the store'

When the marker is present, tense and aspect are real in the clause in which *ngabe* appears (that is, in the consequent):

7. ukuba be-   ngi-   zo- phuma kusasa   **ngabe** (*be-) ngi-   zo- fika
   If   IMP-Pst SM1sg fut leave   tomorrow   **CF** (*IMP-Pst)   SM1sg Fut   arrive

ngo Lwesihlanu
on Friday

'If I left tomorrw, I would arrive   on Friday'

8. ukuba be- ngi-   ne- moto **ngabe (*be-)**   ngi-   zo- ya e- sitolo
    if IMP-Pst SM1sg with car   **CF** (*IMP-Pst)   SM1sg fut   go LOC store
    'If I had a car, I would go to the store'

For this reason, Zulu appears both in a row with a specialized CF marker and in a row without.

Hebrew (Omer Preminger p.c.) also has a specialized CF-marker, which is actually a complementizer, and for this reason this language also appears in two rows. However, unlike Zulu, when Hebrew uses its specialized CF complementizer, it retains its fake past (Hebrew has no aspect morphology, so the question of fake aspect does not arise):

9.   im hayiti   yodea carfatit, hayta   li   avoda   yoter tova
 if be.PAST.1sg know French   be.PAST.3rd.FEM DAT-me job(F) more good.F.

'if I knew French, I would have a better job'

10. lu   hayiti   yodea   carfatit, hayta   li   avoda   yoter tova
    CFcomp be.PAST.1sg know Fr. be.PAST.3rd.F DAT-me job(FM) more good.F

'if I knew French, I would have a better job'

Of the languages looked at, 4 out of 5 that have a specialized CF marker do not use fake tense or aspect. So Hebrew from this perspective is in the minority. Possibly fake past with the CF complementizer is a concord phenomenon.

More Greek

11.   Dhen dhavazi Dostoyevsky. An dhiavaze Dostoyevsky, tha to iksera   (PrsCF)
   NEG reads-prs-imp D.   if read-pst-imp D.   FUT it know-pst-imp
  'S/he is not reading Dostoyevsky. If s/he were reading D., I would know it'

12.   Dhen fevgi. An efevye aftin ti stigmi, tha foruse to kapelo tu.
      Neg leave-prs-imp. If leave-pst-imp this moment, FUT wear-pst-imp his hat
  'S/he is not leaving, If s/he were leaving s/he would be wearing his hat'

Source of Tagalog: Norvin Richards
Source of Kashmiri: Sadaf Munshi (via Rajesh Bhatt)
Source of Hindi: Rajesh Bhatt