

Introduction

Recently I asked ChatGPT ... “In present day English “*if you competed tomorrow, you would win*” implies that the competing (and the winning) will not take place. That is the past tense marker has turned into a counterfactuality marker. Are there any explanations for this phenomenon?

Well, the kernel of ChatGPT’s answer was ...

The past tense creates a sense of "distance" from reality, which can be temporal (past events) or modal (hypothetical or unreal situations). This distance helps speakers express events that are not currently true or real. The text highlighted in green, I will refer to as [A] from now on.

Now [A] is wrong. Past tense DOES NOT create a sense of distance from reality.

Certain people that have thought about the “past-tense => irrealis” conundrum have also rejected [A]. Among them ...

J. Bybee (1995)

S. Iatidou (2000)

Van Linden & Jean-Christophe Verstaete (2008)

Kilu von Prince (2019)

However [A] seems to have been accepted as conventional wisdom in most quarters (as can be seen by ChatGPT’s answer to my question).

I think this is a pity.

In this paper I give the ACTUAL reason why (in certain situations) the past tense marker has turned into a counterfactuality marker. But first, let’s try and determine where this “conventional wisdom” comes from ...

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A short history of some Muddled Thinking

Way back in 1964¹ Joos said ... “The unmarked tense will be called actual and the marked one remote. The latter name fits the meaning precisely. The modern English remote tense has the categorical meaning that the referent [...] is absent from that part of the real world where the verb is being spoken.”

He was talking about the English present tense versus the past tense. Now some people might call me some sort of Nazi but I like to call a spade a spade, a wheelbarrow a wheelbarrow etc ... I think it was ill advised for him to call the “past tense” the “remote tense”. And notice his tortured inclusion of the word “real”. It is obviously perfectly possible to report on an action when standing on the exact spot where that action took place. Muddled, so muddled.

Joos did not give any references in his book so it is unfortunately impossible to ascertain if what he wrote originated with him or with someone else.

Now I am sure the term “remote possibility”² existed before 1964 : I highly doubt that Joos’s book resulted in the term becoming widely used. More likely that this phrase influenced what Joos wrote in his book. Now I think the widely accepted phrase “remote possibility” unfortunate (maybe I am a grammar Nazi ... or some sort of Nazi). Far better to say “small possibility” or “unlikely possibility”. As rational clear-thinking human beings we must acknowledge that our distance from an event in no way affects the probability that that event will take place.

If we look at Joos’s paragraph again ... well he doesn’t mention “time” as such but it is obvious that time comes into it as he is talking about the past-tense/present-tense dichotomy. He also touches on “distance” by using the word “remote”. And he also hints at the realis/irrealis continuum by using the word “real”. The intertwining of these concepts will be continued by later linguists considering the “past-tense => irrealis” conundrum³.

I believe the next significant paper written on this subject was by Susan Steele in 1975. In it she (correctly) does not mention “distance” as an ingredient in the brew. However she says that it is wrong to assume that past-tense is more basic than irrealis. She proposed combining past-tense and irrealis into one hybrid concept which she calls DISSOCIATIVE. And she further says that “dissociative” is a “universal linguistic primitive”.

OK ... this is where I disagree with Susan (I’m a polite person. I find it hard to tell it straight. But here we go ... kudos for not bringing distance into it by the way).

I don’t want to go into what a “universal linguistic primitive” is. I don’t want to discuss even whether it is a valid concept But surely the word “primitive” evokes “simplicity”. Can anybody honestly describe the behaviour of this hybrid concept simple? I think not. Susan’s hybrid concept doesn’t exist and never existed⁴. Of course there is some sort of historical relationship between past-tense and counterfactuality. Actually counterfactuality grew out of the past-tense

¹ In a book 268 page book called “The English Verb”, Martin Joos was the author.

² It is a fact of life that an event that happens far off is less likely to affect the individual compared to one that happens near by. I posit that the term “remote possibility” originated in some sort of synthesis of the idea “the possibility that a remote event will affect us”.

³ Of course mentioning “time” and realis/irrealis at the same time is justified. However the inclusion of “distance” is a distraction. An extra source of confusion that probably delayed the “past-tense => irrealis” conundrum being solved.

⁴ Except in the brain of a few linguists (as an extremely high-level yet murky concept).

because past-tense represents past time (shocking ... I know). It grew out of past-tense situations by a process. A process which I call Mangelendring.

In the present day, in the English-speaking-world one learns when growing up that the past tense form in "If you ran tomorrow ..." means irrealis but in "I ran to school" means past tense. One form but two functions. Just as "have" in "I have a dog", "I have been to Norfolk Island" and "I have to go" represents three different functions. So ... no hybrid past-tense/irrealis concept deserving of a name.

Langacker wrote a short paper in 1978. In this paper he reintroduces the concept of "distance" into the brew. The hybrid concept called DISSOCIATIVE by Steele, he calls DISTAL. He was trying to make things conform to a theory called SPACE GRAMMAR so I guess it makes sense that he brings "distance" back into the mix. I haven't much to say about his paper.

Let us take a minute to reflect upon what we have under consideration at this point..

1) Distance

0 ————— infinity

We have the domain of distance, introduced by Joos and reintroduced by Langacker. A continuum from zero to infinity as is common knowledge.

2) Likelihood

0 ————— 1

We have likelihood. Ranging from "0", totally irrealis to "1", totally realis.

3) Time (in the past)

0 ————— infinity

Now of course the past/present tense distinction is a dichotomy. But I can feel some who were engaged with this subject felt this should be a continuum as well (no doubt in analogy of (1) and (2)) and indeed some linguists involved start to talk about (the rare) languages that have two or more past tenses (differentiated by length of time from the present).

Deborah James published a widely referenced paper in 1982. I haven't much to say about it.

And Suzanne Fleischman wrote a widely referenced paper in 1989. Her paper was called "Temporal Distance: A Basic Linguistic Metaphor". I believe that Susan was the first to introduce the word "metaphor" into the conversation⁵.

Suzanne considers "distance" to be the basic domain (or dimension if you like). And she really pushes the metaphor angle. It is like she is suggesting that one can get on a metaphor-powered magic carpet and fly between domains ... NICE . And in addition she posits 6 or 7 further domains, presumably all accessible by the same magic carpet.

Now I am sorry to be so blunt, but the above is not empirical science. It is a flight of fantasy⁶.

⁵ To me a metaphor is a figure of speech. I would think that "analogy" or even "allegory" would have been a more suitable term to use. But never mind.

⁶ Now I would like to apologize for casting aspersions on the above papers. Nothing personal intended. All these papers contain interesting data from real-life languages. The "explanation", which in some cases is just a tiny percentage of what is written is the only thing I disagree with. In fact I think all the above papers could be profitably rewritten with a sounder theoretical underpinning (hint, hint ... Mangelendring :-)

Terms used here

pt = past tense

if-clause = protasis

then-clause = apodosis

if-sentence = a conditional sentence

Counterfactuality = irrealis \neq negative

Negative means that the main verb is not going to happen

Irrealis means that the main verb is probably not going to happen.

But there is maybe a 5% - 20 % chance that it will happen.

That is, the main verb is not absolutely ruled out.

Hypothetical ... well I do not use this term myself although I repeat it here as I quote others. I believe it means a realis value of about 20% - 80%. Or, alternately, it might mean an "open" outcome, as exemplified by "*If you run, you will win*". I am not sure.

if-sentences are usually used for "contingency planning". In particular "future contingency planning".

Obligation is used for that word or construction which suggests an event will happen because the people around the prospective agent (i.e. society at large) think it fitting. An interesting point is that a person's inner conscience feels the same as the pressure applied by society at large.

Volition is used for that word or construction which suggests an event will happen because the prospective agent desires it to happen. Typically for personal pleasure.

Ability. Maybe I would have been more correct to say "root possibility". Root possibility means that all possible impediments to the action happening have disappeared. But "ability" is snappier hence used here.

Us and counterfactuality

In this paper I refer to us humans as neural networks. Just as we find it hard to look into a neural network and find out what's happening, we find it hard to look into ourselves and evaluate things. This is especially true with regard counterfactuality. We are very bad at giving a percentage chance of a certain event happening based on the linguistic construction which frames that event. One technique that helps a little is to stick a positive (a foil) immediately after said construction and try and evaluate if they are mutually consistent or not. This technique is called "cancelability". Cancelability seems to be talked about a lot when people from philosophy departments take an interest in linguistics.

For example ... (a) *If he had been kind, he would have deserved all the good things that came his way.* (d) *And he was kind.*

Mmmh no. These two sentences don't really go together. So maybe (a) is about 90% counterfactual.

Another example ... (b) *If he was kind, he would deserve all the good things that came his way.* (d) *And he was kind.*

Yes these fit together. We could say (b) is 30% realis (which of corresponds to 70% irrealis).

Another example ... (b) *If he was kind, he would deserve all the good things that came his way.*
(e) *And he is kind.*

Yes these fit together. But maybe not quite as closely as before. But notice the tense of the foil has been changed.

My proposition

I believe there are four pathways to irrealis that are discernible in historical English. That is, English from 600 AD up to the present. These are ...

1) The pathway of CONTINGENCY PLANNING

Resulting in "If you ran tomorrow, you would win" being marked for past but actually being counterfactual

2) The pathway of OBLIGATION

Responsible for shall => should, owe => ought

(Note "should" is not irrealis in present day English. But I think it must have been at one point)

3) The pathway of VOLITION

Responsible for will = > would

4) The pathway of ABILITY

Responsible for can => could, may => might

(2) split "shall" from "should" which used to be one word. In some circumstances, in present day English "should" is the past of "shall". But in other circumstances, they are different words. (3) split "will" from "would". They pattern very much like "shall"/"should". (4) split "can" from "could". They pattern like the ones above but are slightly more unified. "could" can sometimes act as past tense of "can" in a simple sentence.

(2) also split "owe" from "ought". But this happened many centuries before the "shall"/"should" split. There is no question that "owe" and "ought" are separate words nowadays. (4) also split "may" from "might". Again, this happened many centuries before the "can"/"could" split.

Demonstrating the "if" pathway

Let's set up a small **scenario** to illustrate the "if" pathway ...

Imagine a small spread-out hamlet called Mud Creek. Me, my younger sister Tina and our mother all live there. We all have our own families and live some distance apart. We have a cousin (Irene) who lives in the larger metropolis of Lake Town. Lake Town is about a two hour drive away from Mud Creek.

On Wednesday I say to Tina "if I go to Lake Town this Sunday, I will look up Irene".

On Friday Tina says to Mum "if Stuart goes to Lake Town this Sunday, he will look up Irene".

Ah ... and one other thing. Let's propose that "clean English" is spoken in our world. "clean English" is the same as normal English ... except that an if-sentence with past tense does not give a counterfactual meaning.

Now Sunday passes and I DON'T go to Lake Town ...

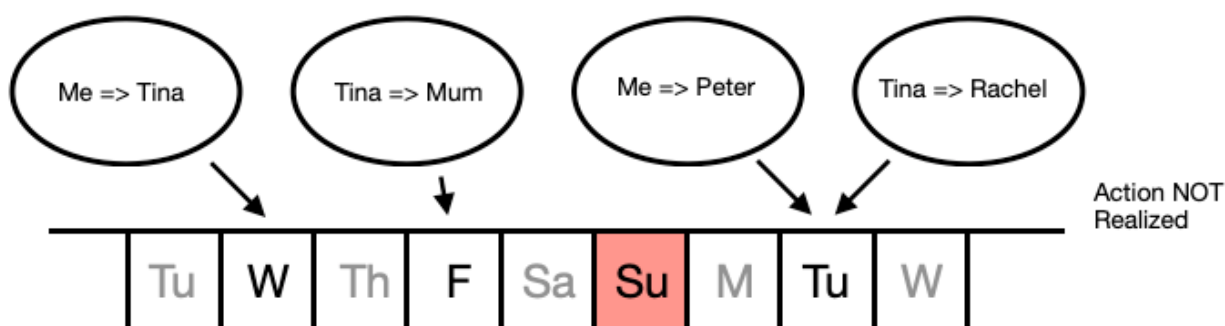
On Tuesday I say to my mate Peter ...

"If I went to Lake Town last Sunday I would visit Irene"

On the same day, Tina says to her friend Rachel ...

"If Stuart went to Lake Town last Sunday he would visit his cousin Irene"

Remember we are talking "clean English" here. If we translated the above into "normal English" we would have "If I had gone to Lake Town last Sunday, I would have visited Irene" and "If Stuart had gone to Lake Town last Sunday he would have visited his cousin Irene"



Now sometimes the action contained in an "open" conditional sentence takes place and sometimes it does not take place. As I am trying to represent the totality of all occurrences of "if" in my little scenario, I must run it again. Run it again with the action taking place.

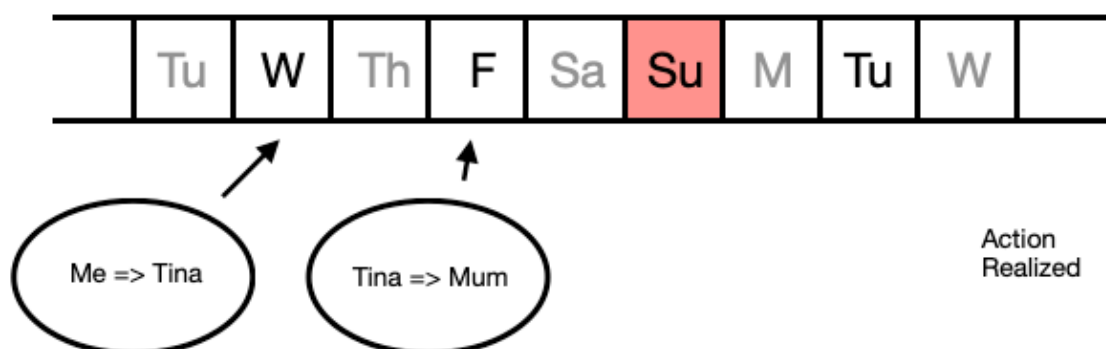
Now I could run the same scenario again in a months time. And have all the conversations as before. But perhaps it is a bit much to ask people to believe that the exact same things happen twice in exactly the same way. So I will split the world into two timelines. In one timeline the action didn't happen, in the other the action did happen.

But please do not get confused. There is ONLY ONE WORLD. Talking about two timelines here is merely a device to let me present my scenario in the best possible manner

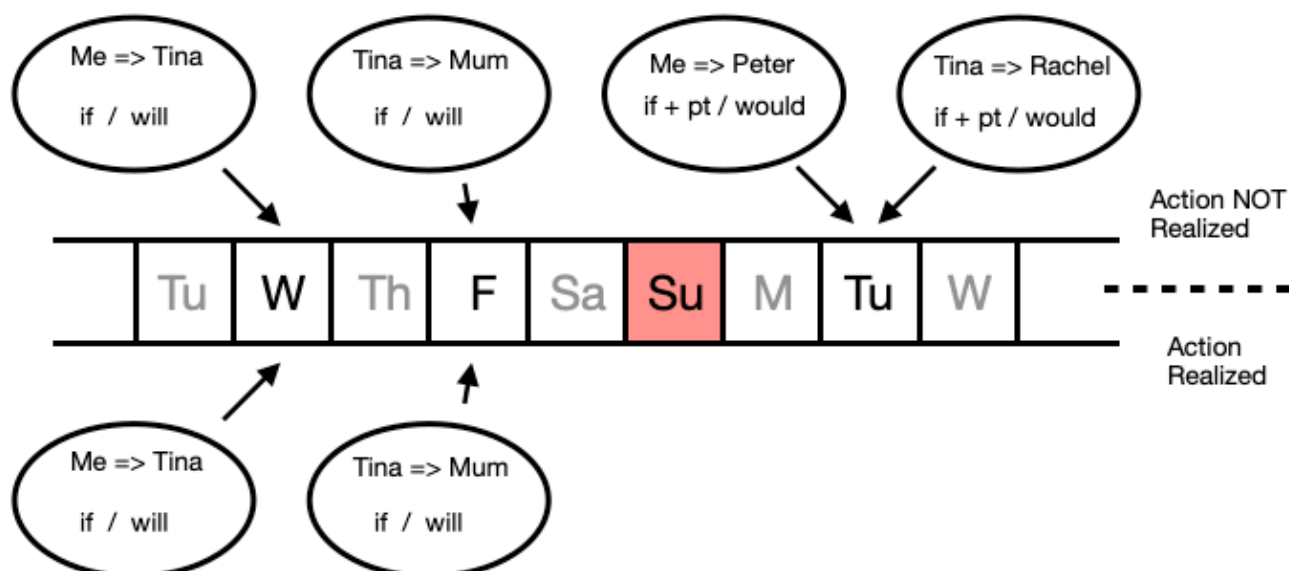
Now the Sunday passes, in the timeline where I DO go to Lake Town ...

Well ... in the timeline where the "going" actually happens, contingency planning is "inappropriate" [I was thinking to use the term "illegal" but maybe "inappropriate" is better] after the event. In this timeline I say to Peter "I went to Lake Town on Sunday and visited Irene". In this timeline Tina says to Rachel, "Stuart went to Lake Town Sunday and visited his cousin Irene".

Notice that there are no if-sentences in the block above.



OK ... lets bring our two timelines together. So we can total up the different types of "if"-sentences we have had ...



I have given both timelines an equal weight (i.e. an equal chance of occurring).

Now there are two parts in an if-sentence. I call them the if-clause and the then-clause (also known as the protasis and the apodosis). Now if-sentences are all about contingency planning. To be more specific ... FUTURE contingency planning. For that reason, the if-clause is not usually marked for time (but it is definitely all about the future) the then-clause is marked for time as a normal clause would be.

So I represent the form of the if-sentence as [if / will] for the if-sentences occurring before the Sunday. And I represent the if-sentence form as [if + pt / would] for the if-sentences occurring after the Sunday. Now "would" used to be merely the past tense of "will" ... and even today, in many many contexts IS STILL merely the past tense of "will". So everything is as expected in our little scenario using "clean" English.

So lets count up the occurrences of the different forms ...

[if / will] = 4 now 2 of these occurred where the action took place, and 2 occurred where the action did NOT take place.

[if + pt / would] = 2 ... both times the action did NOT take place.

Now this is the crux of the matter. Stuart(that's me), Tina, their Mother, Peter and Rachel can all be thought of as neural engines, neural engines with very good eye and ear integration (all the better to be aware of what is going around them). Also these particular neural engines have a very strong interest in what is called "human society". It won't take these neural engines long to make the link between the form [if + pt / would] and the action NOT happening.

Here the grammaticization process (which I call "mangelending") happens. These people (Stuart, Tina, their Mother, Peter and Rachel) will start to use the form [if + pt / would] to hint that an event will not actually happen. (one could say that counterfactuality would be connoted by the form). And then, one day, somebody would use the form to denote a non-past situation. Maybe Rachel (for instance) would say something like "If I went to Lake Town next weekend I would visit my grandmother but ...".

Voila ... Past tense now means Counterfactual ... Past Tense => Counterfactual

Of course, at this point, "clean English" is well on its way to becoming the English we all know and love. Just the adoption of the perfect form (have + past participle verb form) to express past time instead rather than the perfect aspect, and we have modern day English. I would hazard the final step was very easy.

Of all the paths to counterfactuality, I believe that the if-pathway was the first one noticed by linguists. Or to be more precise ... the results of the if-pathway were the first facet of counterfactuality to be noticed. Not just in English, we are talking cross-linguistically here. Indeed, this pathway differs from the others in two ways ...

1) The form [if + pt / would] is "inappropriate"/"illegal" (rather than just too boring to articulate) when the action is known to have happened.

2) Usually there is just one particle in common use for contingency planning. Whereas to express volition, obligation and ability, it is not uncommon to have a bigger variety of words/expressions to get these concepts across.

OK ... Think about the above for a time.

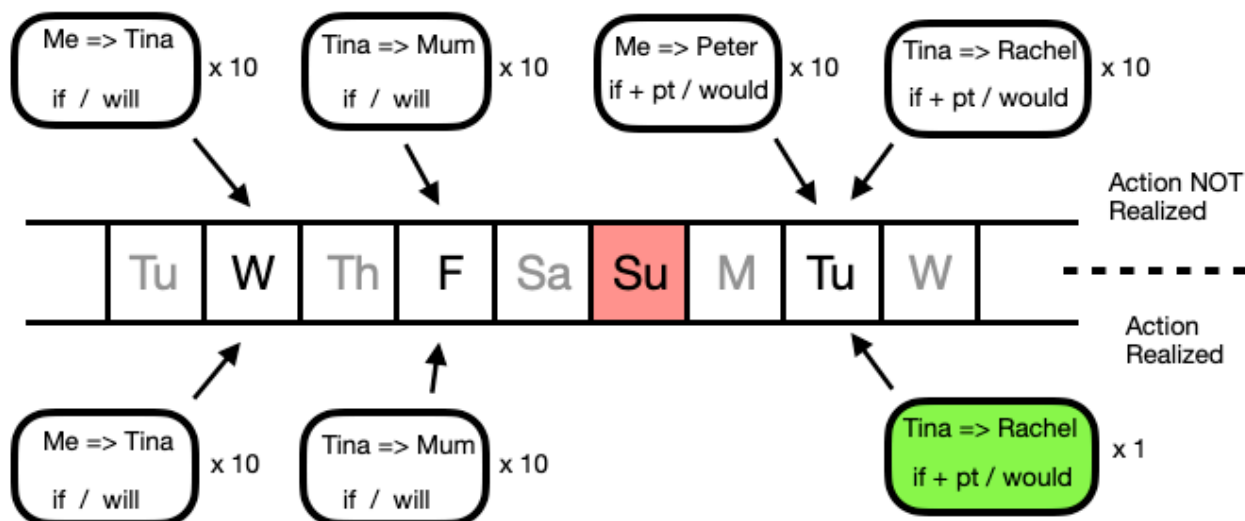
Then proceed to the next bit (it will explain about the 95%)

OK ... so far so good. But the actual situation is slightly more involved than suggested by the scenario above. So let's set up a more expansive scenario ...

This time we have 20 timelines instead of two.

Also Tina is ignorant about my movements-of-two-days-ago 10% of the time.

Apart from the above, everything is identical to before.



I said previously that [if + pt / would] is inappropriate/illegal when the action is known to have happened. However it is not illegal when the designated action time has past but the speaker is ignorant as to whether the action happened or not. Hence in this scenario we have one articulation of [if + pt / would] where the action is realized versus twenty where the action is not realized.

So what conclusion would our neural networks take away from this scenario? Well they would conclude that, when you hear the form [if + pt / would] there is a 1/21 chance that the action was realized. In other words, the form [if + pt / would] designated 20/21 (= 95.24%) that the action did not in fact happen.

Now this conforms to reality. I don't know who first noticed it, but in some circles (I think in philosophy departments) it has long recognized that counterfactuality is not absolute.

End note to the first pathway to counterfactuality

Well, that is the first pathway to counterfactuality explained as best I can. The only difficulty I can see people having with my explanation is about the neural networks (people like you and me) associating hearing [if + pt / would] and the action not being realized. Perhaps people might think that it is necessary for the neural networks to be continuously monitoring the situation to realize that the relevant action did not happen. But not so. The realization is likely to come via the way we get most of our information (well before the internet anyway). That is by good old word of mouth.

The first pathway to counterfactuality when it actually happened

Now I have demonstrated the mangelndring process above as happening in the present period. The process actually happened through the later Old English period and early Middle English period.. I am not so familiar with Old English (and I guess most of you readers also) so easier to set the scenario in the present.

But I can give a brief timeline of what actually did happen. “will” (or *wille* as it then was) transitioned from expressing volition to expressing future.

Now while it was (and is) possible to express such concepts as obligation, volition and ability, in most cases we just have a plain unmarked verb in the if-clause. As most if-sentences are essentially about future contingency planning, the presence of “if” by itself sufficient to indicate that we were focused on the future. No such indicator in the then-clause though and *wille* was usually inserted before the verb.

Now because of the English backshifting law⁷ “would” (or *wolde* as it then was) started to appear in the then-clause of the if-sentences about past situations. Then the mangelndring process happened and we had past tense marked if-sentences actually meaning counterfactuality.

Now we have an opening for ambiguity.

(again I am using Modern English to explain what happened so long ago) a sentence such as ...

- a) If John goes to town, he will get wet
- b) If John went to town, he would get wet

OK ... (b) is just (a) put in the past. However (b) would have two interpretations just after the mangelndring process. It could either be future orientated with the connotation that the “going” and the “getting wet” would never happen. OR it could be about the past with the implication that the speaker was ignorant as to whether “going” and the “getting wet” happened.

It would be nice to get rid of this ambiguity. And in fact Old English did manage this. It introduced the perfect to express past time (I would imagine quite a natural thing to happen as past time is already part of the meaning of the perfect construction). Originally it was the pluperfect construction (have + past participle) (at that time, *hæfde* + past participle) that was introduced to express past time. (Why this was, and why at a later time, this changed to the perfect, I do not know).

- c) If John had gone to town, he would have got wet

According to Molencki “the present-past contrast begins to be obligatory marked around 1300 AD”. That is, form (c) had to be used in all past counterfactual if-sentences and (b) had to be used in all future focused counterfactual if-sentences.

⁷ The backshifting law says that in a sentences, such as “I tell him that he is clever”, if the main verb is put in its past tense form, then the verb in the embedded clause must also be put in its past tense form. Hence we would get “I told him that he was clever”. I think it is the same law that is responsible for the sentence “If John went to town, he would get wet” in contradistinction to “If John goes to town, he will get wet”

The remaining three pathways

The remaining three pathways to counterfactuality are slightly different. But close enough to the if-pathway to come under the same name ... mangelendring⁸.

The following 72 words capture their essence ...

If John desires an ice-cream on Tuesday, who would report that fact on Wednesday (if he got his ice cream), If Peter feels an obligation to buy his wife flowers on Wednesday, who would report that fact on Thursday (if he bought the flowers). If Simon had the ability to climb the mountain on Thursday, who would report on this valid (but now-unimportant fact) on Friday (if he had climbed the mountain)

Now I have already coined a name for one concept. However we have another concept deserving of a name. The name I have given is **tb-threshold**. Derived from “too boring threshold”. Whereas in pathway 1 we have inappropriateness, in pathways 2, 3, and 4 we have the tb-threshold.

Now within about a kilometer of my house there are three people that I like to talk to. I guess that is what you call a friend. Maybe some sort of drug is released in your brain when you are talking with your friends. However any old talk is not sufficient. You need interesting things to say. So, when I visit Henry, there are many many thousand of things I can say. However 99% or 99.9% are below the “too boring threshold” ... they are just too inane to articulate. For example ... if we had a mutual friend called Simon. Simon likes climbing mountains. He was planning to climb a mountain on Thursday. If he did in fact climb the mountain on Thursday, I would say to Henry on Friday “Simon climbed the mountain yesterday”. Now ... obviously Simon had the ability to climb the mountain on Thursday. But this little fact has been subsumed by the statement “Simon climbed the mountain yesterday” Equally obviously, Simon had the desire to climb the mountain on Thursday. But this little fact has also been subsumed by the statement “Simon climbed the mountain yesterday”.

However, let’s suppose something blocked Simon from climbing the mountain. In that case, the statements “Simon had the ability to climb the mountain yesterday” or “Simon wanted to climb the mountain yesterday” are now above the tb-threshold. They could well be articulated in the 15 minute daily chat-chat that I have with Henry.

So, words or expressions that expressed “obligation in the past”, “volition in the past” and “ability in the past” came to be associated with the “action” not happening. By the same walking talking neural networks that we mentioned previously.

Let’s set up another small **scenario** to further illustrate the above ...

Andrew was studying Architecture in Bay City. He lived in Burton Halls in the downtown area along with 300 of his fellow students. His family lived in a very remote location so he only managed to go home about 4 or 5 times a year.

Now Andrew had an aunt staying in Bay City. Neither Andrew or his aunt had a car so it was quite inconvenient to visit her as the transportation links to her side of the city were patchy.

⁸ Mangelendring comes from Norwegian.

“mangel” = a shortage / a lack : “endring” = an alteration / a change

Now some Sundays, Andrew would visit his aunt. Now did he visit her because he delighted in her company? Or did he visit her because he felt a sort of obligation, an obligation to his aunt who lived alone and would enjoy his visit. Or did he visit her because he felt an obligation to his mother, who would sleep better at night if she knew her son was occasionally checking in with a responsible adult. Probably the motive was a combination of all the above.

So ... on Saturday, it would be appropriate for Andrew to say to his friend Ewan ...

- a) I should visit my aunt tomorrow.
- b) I would like to visit my aunt tomorrow.
- c) I could visit my aunt tomorrow.

Now let's change the scene. It is Monday now and Andrew is talking to his other friend Eugene. The visit never took place. The following would be appropriate things to say ...

- d) Yesterday I felt I should visit my aunt but ...
- e) I felt like visiting my aunt yesterday but ...
- f) Yesterday I had the opportunity to visit my aunt but ...

However, if Andrew HAD visited his aunt on Sunday, (d) (e) and (f) (minus the "but ..." of course) would be totally uninteresting (although valid). They would be totally subsumed under **I visited my aunt yesterday and bla bla bla ...**

Or even the **above** might be subsumed. For example **I got totally soaked visiting my aunt yesterday**. Andrew packed quite a bit of information into eight words here. Eugene is sure to appreciate Andrew not being boring by avoiding such drivel as (d) (e) and (f).

Now there is a little point I would like to make here. People might say "Ah but Eugene might still be interested in whether you made the trip from personal desire or from a feeling of obligation?" And that is a good point. However Eugene is a friend of mine. I have discussed my feelings about my aunt before with him. So he doesn't need to get this information.

Actually, I think people speaking to strangers is a modern thing. A hunter-gatherer would hardly ever talk to a stranger. A medieval peasant also. It is just in the melting pots of modern urban society that talking to strangers has become sort of normal (actually i'm not so keen on it myself).

OK ... in explaining mangelendring using modern day English, one always have the chicken and egg problem. Now I want to sweep us all back in time. Over 1,000 years ago, to the time the mangelendring process started on "shall", "will" and "can".

To express the sentiment of (a) (b) (c) way back then, one would say ...

- a-) I shall visit my aunt tomorrow
- b-) I will visit my aunt tomorrow
- c-) I can visit my aunt tomorrow

Now it is obvious that English has changed over the years. (c-) to modern ears sounds like "I" have just got permission from somebody. (b-) to modern ears simply sound like a fact ... nothing about personal desire.

However, back in the day, shall will and can were the go-to methods of expressing obligation volition and ability .

And back in the day, after failing to visit my aunt (for whatever reason) I could say to Eugene.

d-) I should visit my aunt yesterday

e-) I would visit my aunt yesterday

f-) I could visit my aunt yesterday

Now should would and could were simply the past tenses of shall will and can. And these three words usually only occur in irrealis situation, situations in which the matrix verb was never realized. So people would start to use these words to hint at (to connote) that the matrix verb would never actually come about (actually in a similar manner to the first pathway, some people would use should would and could where the matrix verb WAS realized ... these people would have been speaking in ignorance ... so counterfactuality is never absolute).

And then someday, somebody would say ...

g-) I should visit my aunt tomorrow but ...

h-) I would visit my aunt tomorrow but ...

i-) I should visit my aunt tomorrow but ...

At this point we have a three new lexemes (we need three new entries in our dictionary). I would hazard that they are around 90% or 95% counterfactual when they are fresh off the mint. Of course should would and could have not been standing still since they were coined. [And actually, these words were always context dependent. For example, in reported speech they were ever the pt of shall, will and can]. As well as their basic meaning changing over the years, the amount of counterfactuality they convey has been changing over the years.

I would say should nowadays is "open" (the same as the conditional "If I visit my aunt ... " is "open") but would and could are still counterfactual in many/most environments.

Now the question many people will have is ... "well OK, the mangelendring process happened in the past and separated shall/should, will/would and can/could. But what about nowadays. Why isn't the mangelendring process working right now?". Well one possible answer to that is, for any sort of grammaticization to work the word/expression must be very very common. Perhaps in modern English we have a plethora of ways to express things. For example, for obligation we can use should had better have got to ought to be supposed to be expected to and even expressions like it would be good if. And as for personal desire and ability ... well "would" and "could" still have strong counterfactual connotations in many situations. The continued use of these words to express counterfactuality no doubt suppresses the mangelendring process.

Now earlier I said that the if-pathway is slightly different from the other three pathways. For one thing, I said that contingency planning would be more likely to have ONE go-to particle for expressing the idea. However, this is not always the case. I believe that Classical Arabic had three particles commonly used for expressing contingency planning (i.e. three "if"s), one of which (waw) expressed counterfactuality. So I guess that the if-pathway was blocked in Classical Arabic, just as the personal-desire-pathway and the ability-pathway are blocked in present day English.

Politeness

The counterfactual forms are used for politeness. For example ...

(1) “Could you pass the salt” as opposed to (2) “Can you pass the salt”

Well, obviously if you are using a form that indicates around a 90% chance that the “passing” is not going to happen ... well you are hardly inconveniencing them at all. (1) is 10 times less onerous than (2), or at least appears so.

When meaning is diffuse

If you are new to studying language, you might think that meaning is to be found in the word. But that is a naive idea. Take

a) I have three pet dogs.

b) I have to go to town.

c) I have been to Paraguay.

Three “have”s, three completed different meanings. So obviously the meaning must reside in the word have PLUS the wider context. Again ...

d) “If he ran in the race tomorrow, he would win”.

The counterfactuality is due to two dispersed elements, “if” at the beginning of the sentence and the lexeme “run” being in the passed tense (I would suggest that “would” sort of harmonizes with the above two elements but doesn’t really bring much change of meaning to the table).

In English if-sentence counterfactuality is diffuse. And the other types of counterfactuality reside in single words (we can say compact or non-diffuse). However there might exist a language that affixes their if-word to the verb. This language would have compact counterfactuality if-sentences. And furthermore there might exist a language which expresses pt by a stand-alone word. This language would have diffuse counterfactuals exiting pathways 2, 3 and 4.

Counterfactuality in other languages

A decent source about counterfactuality is a paper by An Van linden & Jean-Christophe Verstraete (2008). They study counterfactuality in simple clauses (i.e. they don’t look at conditional sentences) in 43 languages that are dispersed and chosen to represent as many language families as possible. Of these 43 languages they chose only 32 had grammars that gave information on what they wanted. 7 languages had dedicated counterfactuality markers. 16 languages had counterfactuality expressed by a modal and a past tense marker, 6 had counterfactuality expressed by a modal, a past tense marker AND an aspect marker, and 5 have counterfactuality expressed by a modal and an aspect marker (if you are counting you will notice that we have 34 languages here. Two languages had in fact two ways to express counterfactuality). Now the 5 defined by modal plus an aspect particle, and the 7 with a dedicated counterfactual marker might seem to show that mangelendring had not any part in their genesis. However, as the paper says “upon closer inspection, the role of these aspectual categories is in fact much the same as that of past tense” (ie indicating past time). And as for the languages with dedicated counterfactual markers, well perhaps if we could go back in time far enough we would find a obligation word or a volition word or a ability word plus some sort of past tense.

Of course these languages and markers were analyzed with no knowledge of mangelendring. If they had been analyzed with mangelendring as a theoretical base I think more would have been gleaned from the cross-linguistic survey. No doubt our understanding of the mangelendring process would have also been advanced.

How long did it take

The exact timing of the mangelendring [from now on ... MG] process is hard to determine⁹. We have some English manuscripts from the time but they are few and far between. Also there was no national language at that time. The different dialects might not have gone through the process simultaneously. Presumably it was the loss of the subjunctive that occasioned the process to start. Now the disappearance of the subjunctive was hardly instantaneous. So taking all these factors into consideration, I think it is not easy to determine how long it took.

There are many languages with a written history in excess of a thousand years. Presumably many of these hosted the mangelendring process. Perhaps some idea could be gleaned by studying these languages.

The world has over 7,000 languages. If all these had equality as to number of speakers and prestige ... well I think it should be possible to witness the MG process in real time. However with so many of these languages dying out and/or being strongly influenced by their national language, I am not so certain.

But it sure would be nice to witness the process ... from start to finish.

How many pathways

Maybe I was presumptive in calling this paper "The four pathways to counterfactuality 2024". Could there possibly be more pathways to counterfactuality. For example a "permissive" pathway. Mmh it is possible that in the future an irrealis marker is found in a language. And in related language, this same word is used for permission. But in such a case, it would be difficult to rule out the possibility that the marker meant "root possibility" at the time when it assumed its counterfactual meaning.

Actually I don't think a "permissive" word or a "has physical strength strong enough to" word, would have the necessary frequency to grammaticize. But I could be wrong. Maybe in the future there will be a "The six pathways to counterfactuality 2036" paper :-)

Perhaps at this point I should mention the preterite present verbs. These are about 13 verbs in Old English that had past tense form but present tense meaning. They have always been a bit of a mystery. Could they be the product of the MG process?

Actually I don't think so. That would imply the existence of about 13 pathways ... far too much in my opinion. Also all these words appeared singly. That is no shall/should, will/would pairs¹⁰.

⁹ I would guess that the if-pathway is about 5 times quicker than the other pathways. But that is just a guess. I have really no idea.

¹⁰ By the way ... somebody should look into "must" if possible. I have heard that it has past tense form. However it is not one of a pair. Did "must" ever go through the MG process?

End Note

When I discovered during the first few days of May 2018 I was immensely excited. Now the answer to [A] (see Introduction) has been sought for a long, long time. And here I was, an amateur linguist finding the answer. It still gives me a great deal of satisfaction to know what I have achieved. Unfortunately I have met with frustration in interesting other linguists of my ideas. When I publish this paper tomorrow I will be surrendering ... no further attempts to propagate mangelendring.

In the coming days I will also publishing "Propagating Mangelendring 2018-2224". In this paper I present the steps I took during the 6 ½ years between discovering the answer to [A] and giving up.

Maybe the basic problem is that only a small minority of linguists understand grammaticization and only a small minority of linguists understand counterfactuality. And looking at the area on the Venn Diagram where these two groups overlap ... only me ???

Actually the mangelendring process is the same as any other grammaticization process.

Except for the time delay between the speech act and the hearers determining whether the action has been realized or not. I realize that this delay (which varies a lot between instances of relevant speech act) might give some pause. But there is no other answer.

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Appendix A

It was noted before that “should” has no trace of irrealis in present day English. Unlike “would” and “could” which can be demonstrated to be irrealis counterparts to “will” and “can” in many situations.

Below is a rough timeline that gives an explanation for the above. The black smooth-cornered boxes gives the situation at different points in time. The red rectangular boxes contain a grammaticization process.

There existed one word ... “shall” = obligation

“should” was the past tense of “shall”. Just as “ran” is the pt of “run” in present day English.

A long time ago

★ Actually it was the past tense of “have” that was used originally, only later changing to the present tense. I have no idea about this “had” => “have” change. However the expressions that contain both “have” and “had” (when they are “perfect” markers) implicitly contain the idea of “past”. Hence the grammaticization process occurring here is quite understandable.

We had the MG process. Now ... shall = [obligation]
should = [obligation + irrealis]

The expression “should have” ★ took on the meaning (obligation + irrealis + past).

“shall” = obligation (as before).
“should” = obligation but not going to happen ★
“should have” = obligation but not going to happen + pt

Around 1300 AD

“shall” starts to denote “future”

★ This is the interesting part ...

As soon as “should” started to take up connotations of “not going to happen”, “shall” (the other member of the couplet) took up connotations of “is so going to happen”. Which, of course, facilitated “shall” becoming a “future” tense marker.

Now with “shall” loosing all hint of “obligation”, we now have only “should” to express obligation. It must express all situations (realis and irrealis) so quickly became “open” with respect to reality.

“should” starts to denote all obligation

“shall” = future
“should” = obligation
“should have” = past impossible to fulfill obligation

2024 AD

Appendix B

The path that will/would takes parallels shall/should until fairly recently.
See the dotted green line below ...

There existed one word ... "will" = volition

"should" was the past tense of "shall". Just as
"ran" is the pt of "run" in present day English.

A long time ago

✱ Actually it was the past tense of "have" that was used originally, only later changing to the present tense. I have no idea about this "had" => "have" change. However the expressions that contain both "have" and "had" (when they are "perfect" markers) implicitly contain the idea of "past". Hence the grammaticization process occurring here is quite understandable.

We had the MG process. Now ... will = [volition]
would = [volition + irrealis]

The expression "would have" ✱ took on the meaning
(volition + irrealis + past).

"will" = volition (as before).
"would" = volition but not going to happen
"would have" = volition but not going to happen + pt

Around 1300 AD

"will" starts to denote "future"

As soon as "would" started to take up connotations of "not going to happen", "will" (the other member of the couplet) took up connotations of "is so going to happen". Which, of course, facilitated "will" becoming a "future" tense marker.

"want" is adopted to express volition.
Previously it had expressed "to lack".

Actually the meaning "volition" over time was leached out of "would". Nowadays it is more or less just a counterfactual marker.

"will" = future
"would" = counterfactual (but various other uses also)
"would have" = counterfactual + past

2024 AD

Seemingly “will” started to denote future for first person agents only. As opposed to “shall” which denoted future for second and third person agents. An interesting development which I don’t know much about.

In the English that I speak this distinction has been lost. I guess the reason for this loss is that both future markers were reduced to “I” (stuck on to the end of the pronoun or noun (less commonly)) in normal speech. This “I” was in turn equated to “will” as it was more common than “shall”.

In the above chart, you will notice (but various other uses also). I am talking about two uses here. “would” indicates “past habitual aspect” in many situations. For example “He would blow up over any small setback”. Now obviously “volition” is not applicable to the above example (after all, who wants to explode). This usage does not go all the way back to “A long time ago”.

The other use I am talking about is reported speech ...

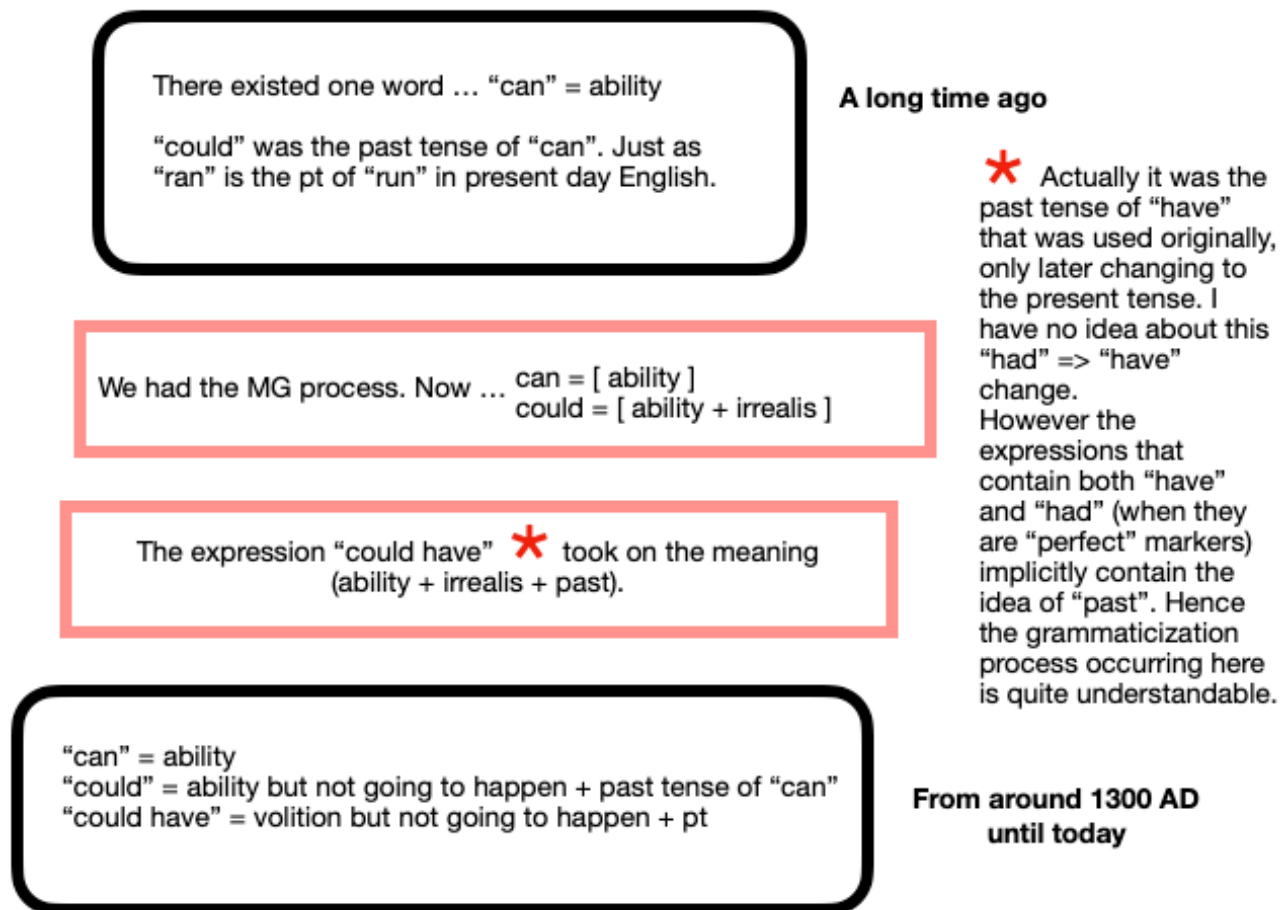
1) On Tuesday John said “I will go tomorrow”.

2) On Thursday Peter said “John said that he would go tomorrow”.

This usage does go all the way back to “A long time ago”.

This space left blank deliberately

Appendix C



The path that can/could takes is truncated with respect to shall/should and will/would.

Note that “could” even today, is used as past tense of can. For example “I could swim when I was younger”. (One must realize that “could” in reported speech is just a subset of the usage “could” = “past tense of can” ...

- 1) On Tuesday John said “I can go tomorrow”.
- 2) On Thursday Peter said “John said that he could go tomorrow”)

The abilitative component has not really been leached out of “could”.

And this feeds back to “would”. We can say ...

“would” = “general irrealis marker when root possibility is not in the picture” and
“could” = “irrealis marker when root possibility is being considered”

The above two sort of complement each other. By the way, the two above definitions should be more tightly defined by adding “ ... in most situations”.

Observation ... “could” is not so irrealis sometimes. For example, the “could” in “you could go if you want” hardly precludes “the going” ... maybe 70 % counterfactual ?