

The development of ‘conditional’ *sollte* in German*

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1 Aims of this talk

- Background: All West Germanic (and some Romance) languages have ‘conditional’ uses of modal verbs such as (1), in which the modal verb does not express a ‘modal’ (root or epistemic) meaning, but acts more like a ‘conditionality’ marker (Nieuwint 1989, van der Auwera and Plungian 1998, Nuyts et al. 2005, Boogaart 2007, Haegeman 2010, Van Den Nest 2010).¹

(1) *German*

Sollte Griechenland den Euro verlassen, könnte dies zu einem
should Greece the Euro leave could this to a
Zusammenbruch der Währungsgemeinschaft führen.
break-up of.the monetary.union lead

‘Should Greece leave the Euro, this could lead to a break-up of the monetary union.’

(<http://www.dw.de/dw/article/0,,15985179,00.html>; 31/05/2012)

- Aim of the present paper: propose an account for the historical development of this kind of ‘conditional modal’ (CM) in German, based on a Middle High German (MHG) and a Modern and present-day German (ModG) corpus.²

* This work is made possible by FWO Odysseus grant G091409 funding the project “Layers of structure”. For helpful comments on and discussion of the material discussed in this paper, I am grateful to Liliane Haegeman and the members of the GIST team.

¹ The languages differ in point of detail, not just the question which modal verb they use (1). Cf. for instance Boogaart (2007) for differences between northern and southern Dutch.

(1)

‘shall’	‘may’	‘must’
English	(northern) Dutch	(southern) Dutch
German	Middle Low German	
Afrikaans	Middle English	
	Early Modern English	
	Middle High German	
	Frisian	

² The Middle High German data are based on all texts in the *Middle High German Conceptual Database*, <http://www.mhdbdb.sbg.ac.at>, 185,632 words in 595 texts. The Modern and present-day German numbers are based on a selection of texts from 1772-1995 from the COSMAS II corpus (<http://www.ids-mannheim.de/cosmas2/>, ca. 7.3 billion words in total), viz. a selection

• Although the meaning development of modal verbs is traditionally viewed as a purely semantic change (e.g. by van der Auwera and Plungian 1998), I propose to account for the diachronic development of ‘conditional’ *sollte* in German by means of a syntactic approach to grammaticalisation, following Roberts and Roussou’s (2003:36) contention that “much of the allegedly continuous or cline-like nature of grammaticalization is due to multiple ‘lexical splits’; [whereby] the different readings attributed to a single lexical item correspond to different positions in which it may be merged in the clause structure”.

2 Corpus study

2.1 MHG (c. 1050-1350)

① two modal verbs are found with a ‘conditional’ meaning (besides other modal meanings), *suln* ‘shall’ and *mugen* ‘may’:³

(i) *suln* is already the most frequent modal in conditional clauses expressing ‘conditional’ meaning, in particular in asyndetic protases.

(ii) *mugen* can also be used with this meaning, especially in asyndetic protases. In syndetic ones, the ‘modal’ meaning (‘ability’) prevails.

(iii) besides ‘conditional’, they can still have a variety of other modal meanings (2), which are especially strong in case of *mugen*.

(2)

<i>suln</i>				<i>mugen</i>			
	modal meaning	#	%		modal meaning	#	%
asyndetic	obligation	46	10.8	asyndetic	ability	132	38.4
	future in past	8	1.9		possibility/ permission	56	16.3
	conditional	372	87.3			volition	4
syndetic	obligation	11	19.3	conditional	152	44.2	
	future in past	6	10.5	syndetic	ability	84	59.2
	conditional	40	70.2		possibility	35	24.6
			permission				
			volition		1	0.7	
				conditional	22	1.5	

② In the conditional use, both *suln* and *mugen* can be either present or past tense (preferred), indicative or subjunctive.

of the historical archive (1772-1876, 4.16 million words), the *Bonner Zeitungskorpus* (1949-1974, 3.05 million words), the *Mannheimer Korpus 1+2* (1950-1973, 2.54 million words) and the months May-July 1995 of the *Mannheimer Morgen* newspaper corpus (ca. 2 million words).

³ For reasons of readability, examples for this are moved to the appendix.

(3)

<i>suln</i>			
	tense	#	%
asyndetic	present	124	29.1
	past	302	70.9
syndetic	present	7	12.3
	past	50	87.7

(4) a. *present indicative*

Dô sprach diu ellende: “wir solten waschen gân.
 then said the miserable we should wash go

ez ensî, daz ez got wende, daz weter ist sô getân,
 it NE.be that it God avert the weather is such made

sul wir hiute waschen, vor âbendes stunden,
 shall we today wash before evening hours

alsô barfüeze, wir werden gar lîhte tôte funden.”
 thus barefoot we will very easily dead found

‘Then said the miserable girl: ‘We were told to go wash. Unless God avert it, the weather is such that we will easily be found dead should we wash today before the evening, barefoot like this.’

(Kudrun, stanza 1197, l.1-4)

b. *past subjunctive*

ez waere ein michel wunder, **solte** er hie genesen.
 it were a great miracle should he here convalesce

‘It woule be a great miracle, should he convalesce here.’

(Alpharts Tod, stanza 163, l.2)

③ type of conditional: factual, non-factual (preferred) and counterfactual (rare) possible

(5)

<i>suln</i>			
	type of cond.	#	%
asyndetic	factual	115	27.0
	non-factual	282	66.2
	counterfactual	29	6.8
syndetic	factual	4	7.0
	non-factual	48	84.2
	counterfactual	5	8.8

(6) a. *factual*

wir soeln vns rechen | **sol**t vns der fuerst all boecke abstechen
 we shall REFL revenge should us the prince all bucks kill

‘We shall take revenge, should the prince kill all our bucks.’

(Neidhart Lieder ms. C, song 76, stanza 13, l.9-10)

b. *non-factual*: cf. (4b)

c. *counter-factual*

soltens alle ir richeit | han gelegt an ir wappenkleit, | so
should=they all their wealth have put in their armour so
möhten diu ors si niht getragen.
were.able the horses them NEG carry

‘If they had put all their wealth into their armour, the horses would not have been able to carry them.’

(Willehalm (Wolfram), p.377, 1.9-11)

2.2 ModG (corpus data from 1772-1995)

① the past subjunctive of *sollen* ‘shall’ is the only possible choice left. Modal meanings other than conditional are marginal, and only surface in syndetic conditionals. *Mögen* ‘may’ is no longer used in a ‘conditional’ meaning.⁴

(7)

<i>sollen</i>			
	modal meaning	#	%
asyndetic	conditional	198	100
syndetic	obligation	20	9.3
	(future in past)	2	0.9
	conditional	194	89.8

② type of conditional: factual (preferred) and non-factual are possible, counter-factual = exceptional (and only attested in 19th c. texts). No correlation with the tense of modal, as past subjunctive is the only form left

(8)

<i>sollen</i>			
	type of conditional	#	%
asyndetic	factual	123	62.1
	non-factual	73	36.7
	counterfactual	2	1.0
syndetic	factual	117	54.2
	non-factual	99	45.8

(9) a. *factual*

⁴ Again, examples are moved to the appendix to save space and preserve readability of the handout.

sollte er nicht dabeisein, stehen Nöldner oder Rainer Müller bereit
 should he NEG there=be stand Nöldner or Rainer Müller ready
 ‘If he does not participate, Nöldner or Rainer Müller are on call’
 (BZK/D64.00415 Neues Deutschland, 15.08.1964, S. 6, Ressort: VER-
 MISCHTES; Buskolonne nach Berlin)

b. *non-factual*

Und wenn die Mutter ihr nachrufen **sollte**, würde sie einfach
 and if the mother her after=call should would she simply
 weiterlaufen und nichts hören.
 further=run and nothing hear

‘And if her mother should call after her, she would simply carry on run-
 ning and not hear anything.’

(M95/506.00735 Mannheimer Morgen, 10.06.1995; Höchste Zeit fürs Strand-
 bad)

c. *counterfactual*

sollte aber auch der Herr Ober-Präsident die vorschriftsmäßige
 should but also the Mr. senior.president the canonical
 Anfrage unterlassen haben, die Unternehmer der Rheinischen
 request neglected have the entrepreneurs of.the Rheinische
 Zeitung mußten sie als erfolgt voraussetzen ...
 Zeitung must it as effected assume

‘But even if the senior president had not carried out the canonical re-
 quest, the entrepreneurs of the Rheinische Zeitung would have to con-
 sider it as carried out.’

(meg/GAF.00093 Bittschrift der Aktionäre der Rheinischen Zeitungsge-
 sellschaft um das Fortbestehen der “Rheinischen Zeitung” nebst Denkschrift,
 In: Marx-Engels-Gesamtausgabe, I. Abt., Bd. 1. - Berlin, 1975 [S. 427])

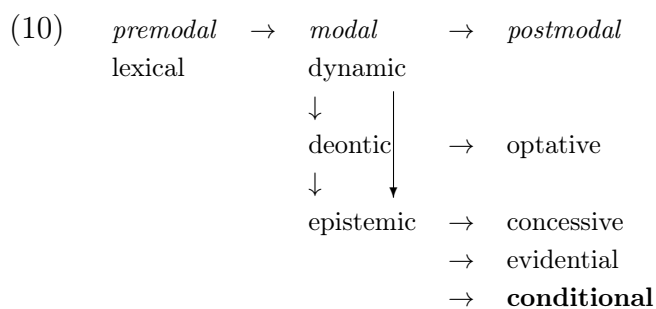
2.3 Summary

Development MHG > ModG:

- ① restriction to *sollen*
- ② restriction to past subjunctive *sollte*
- ③ increase in factual conditionals, i.e. de facto tense mismatch between protasis and apodosis
- ④ loss of other modal meanings in asyndetic protases, only ‘conditional’ remains

3 CM *sollte* as a result of grammaticalisation

- The meaning development of modal verbs is an instance of grammaticalisation (Hopper and Traugott 2003), i.e. a development from more lexical (premodal) to more functional (modal > postmodal).
- It has variously been argued that there is also a grammaticalisation cline within the modal meanings; epistemic meanings appear historically later than root meanings (Diewald 1999 for German, Roméro 2005 for English), while on the other hand, original lexical meanings ('know' for *can* or 'owe' for *shall*) are lost.



(adapted from Beijering 2011)

- Grammaticalisation goes together with loss of paradigmatic and syntagmatic freedom. Both are found in the development of CM *sollte*.

① loss of paradigmatic freedom:

- (a) tense of the modal verb – conditional meaning only with past tense
- (b) mood of the verb – restriction to subjunctive
- (c) choice of the modal verb with conditional meaning: restriction to *sollen*.⁵

② loss of syntagmatic freedom: diachronic increase of 'conditional' meaning of about 20%⁶, in asyndetic conditionals 100%

4 The syntax of CM *sollte*

- The 'stops' on the the grammaticalisation cline in (10) can be shown to correlate with different structural positions: co-occurrence patterns reflect the hierarchy, cf. (11).

(11) epistemic > obligation > ability

Der Kandidat **muss**_{epist} Auto fahren **können**_{abil} **müssen**_{oblig}.
 the candidate must car drive can must

'It is a necessary assumption that the candidate must be able to drive.'

⁵ The same restriction (*shulen, mouen > shall, *may*) happened in the history of English; cf. Van Den Van Den Nest (2010).

⁶ Asyndetic construal 87% to 100%; syndetic construal 70% to 90%.

• Under a cartographic approach such as taken by Cinque (1999), modal expressions are hierarchically ordered in the functional clause structure, and interact with other functional material in this hierarchy.

- (12) $\text{Mod}_{\text{epistemic}} > \text{Tense}_{\text{past}} > \text{Tense}_{\text{future}} > \text{Mood}_{\text{irrealis}} > \text{Mod}_{\text{necessity}} \text{ (alethic)}$
 $> \text{Mod}_{\text{possibility}} \text{ (alethic)} > \text{Mod}_{\text{volitional}} > \text{Mod}_{\text{obligation}} (>) \text{Mod}_{\text{ability/permission}}$

① CM *sollte* can co-occur with the dynamic and deontic meaning of *können* ‘can’

(13) \rightsquigarrow above Mod_{root} .

- (13) **Sollte** er um 6 schon zu Hause sein **können**, ...
 should he at 6 already at home be can
ability: ‘should he be able to be home at 6, ...’
permission: ‘should he be allowed to be home at 6, ...’

② Epistemic and alethic modals cannot be used to determine *sollte*’s position as they are independently unavailable in conditional clauses (perhaps for semantic reasons rather than intervention effects, cf. Nilsen 2004).⁷ But like epistemics, CM *sollte* can only be finite \rightsquigarrow above Tense (Erb 2001):

- (14) a. *non-finite epistemic modal
 *der sich jetzt sicher ärgern müssende Erwin
 the REFL now certainly annoy must Erwin
 ‘the certainly annoyed with himself must-be(ing) Erwin’
 (after Holl 2001:230)
- b. *non-finite ‘conditional’ modal
 (cf. (1)) *Wenn Griechenland den Euro verlassen **sollen würde**,
 if Greece the Euro leave shall.INF would
 könnte dies zu einem Zusammenbruch der Währungsgemeinschaft
 could this to a break-up of.the monetary.union
 führen.
 lead
 ‘If Greece would/should leave the EURO, this could lead to a break-up
 of the monetary union.’

③ Like epistemics, CM *sollte* does not express temporal information, as witnessed by its (historically increasingly) frequent combination with present tense apodoses (factual conditionals)⁸, even though it is (nowadays) formally invariably past subjunctive \rightsquigarrow above $\text{Tense}_{\text{past}}$

⁷ The following paraphrases of (13) are out:

**alethic*: Should he possibly/necessarily be home at 6, ...

**epistemic*: ‘should it be a possible/plausible assumption that he is home at 6, ...’

⁸ Cf. also Van Den Van Den Nest (2010).

- Haegeman (2010) proposes to analyse the CMs in Dutch and Flemish (*mocht* ‘may.PST.SBJN’ and *moest* ‘must.PST.SBJN’, respectively) as realising Cinque’s Mood_{irrealis} head, which in asyndetic conditionals move to the left periphery together with the conditional operator

- I agree with Haegeman, but propose that Mood_{irrealis} is *above* Tense_{past} because:
 - (i) Julien (2002:230) shows that in some languages, Mood_{irrealis} > Tense_{past}.⁹ Certainly in German, Mood_{irrealis} seems to select Tense_{past}, cf. the periphrastic conditional auxiliary *würde*, which is the past subjunctive of the future auxiliary, i.e., subjunctive > past > future
 - (ii) Cinque does not give direct evidence for his proposed order Tense_{future} > Mood_{irrealis} > Mod_{necessity/possibility} (alethic)¹⁰
 - (iii) CM *sollte* does not express a temporal distinction and can only be finite, hence *sollte* = Mood_{irrealis} > Tense_{past} > Tense_{future} > Mod_{root} > ...

5 A Minimalist approach to the grammaticalisation of *sollte*

- Roberts and Roussou (2003): grammaticalisation of English modals (and epistemic modals in Germanic more generally) is loss of movement to T, with direct merger in that position¹¹
- general pattern of change:

“In other words, the lexical item that formerly realized a lower head has

⁹ She quotes Yagua as one example, where the irrealis marker precedes the verb with the past tense marker. As the irrealis marker invariably precedes a clausemate verb in this language, it must in this case belong to the embedded clause and be located above tense.

(1) ray-niy jʉtay-siy-tya [rə jántyuy-siy yi-íva]
 1SG-MAL say-PAST-NEG IRR have.mercy-PAST 2SG-DAT
 ‘I didn’t intend to show you mercy.’

¹⁰ (i) Even though (Cinque 1999:78f) provides evidence for a distinction between ‘epistemic’ and ‘alethic’ modality, he does not give direct evidence for Mod_{epistemic} > Tense_{future} or Mod_{epistemic} > Mod_{necessity/possibility} (alethic). The examples he gives do not actually (directly) prove a distinction between Mod_{epistemic}, Tense_{future} and Mod_{necessity/possibility} (alethic). Cf. Erb (2001) for arguments that German ‘future’ *werden* is an epistemic modal (a similar case can be made for Dutch *zullen*, Broekhuis and Verkuyl 2012)

(ii) Cinque’s evidence for Tense_{future} > Mood_{irrealis} is weak: “Evidence for this order is *apparently* provided by the Creole language Ndyuka ...” (Cinque 1999:73) (emphasis mine)

(iii) Cinque does not give evidence for the order Mood_{irrealis} > Mod_{necessity/possibility} (alethic), only for Mood_{irrealis} > Mod_{root}

¹¹ Roberts and Roussou remain uncommittal about how to derive the different positions of (finite-only) epistemic modals in V2-languages, but mention affix-hopping as one possibility. I think right-headed functional projections are another – only C would be left-headed.

now become the realization of a higher functional head. This can be schematically represented as ...:

$[_{XP} Y + X [_{YP} \dots t_Y \dots]] > [_{XP} Y=X [_{YP} \dots Y \dots]]$

(Roberts and Roussou 2003:198)

- such reanalyses are conditioned by economy constraints like Longobardi's (2001) simplicity metric (15):

(15) A structural representation R for a substring of input text S is simpler than an alternative representation R' iff R contains fewer formal feature syncretisms than R'.

(Roberts and Roussou 2003:201)

→ In a structure with movement, the moving element is merged with two features, one allowing it to merge in the lower position and one triggering it to move to the higher position. After reanalysis, the formerly moving element has only the feature triggering merge in the higher position.

- Although Roberts and Roussou assume a more simplified functional hierarchy, their approach should in principle be able to account for the rise of different modal meanings if coupled with a more fine-grained hierarchy, viz. as lexical split resulting from upwards reanalysis and (potential) loss of movement.

▷ I argue that *sollte* grammaticalised out of lower modal meanings by upward reanalysis (Roberts and Roussou 2003) through the functional hierarchy.

⇒ important ingredient:

① *Sollen* can express future in older stages of German.¹² According to Fritz (1997), the conditional meaning arises from a combination of the futurity of *sollen* and the uncertainty of the past subjunctive.¹³

- assuming that subjunctive is encoded in Mood_{irrealis}, this confirms once more the order of functional heads assumed here (Mood_{irrealis} > Tense_{past} > Tense_{future})

⇒ further ingredients:

② Verb-first clauses could already early on be used as conditional protases (Van

¹² Throughout the history of German, the most common way to express future tense was by using verbs in the present tense. At the same time, modal periphrases were available already in OHG (Schrodt 2004:129f), among which OHG *sculan* > MHG *suln* > ENHG/ModG *sollen* was particularly frequent and consistent, especially in northern and north-western dialects (cf. also Schmid 2000). The periphrastic expression of future tense with *werden* only developed during the ENHG period, in the 14th through 16th centuries (Ebert et al. 1993:391f)

¹³ “Wir finden also durchweg den charakteristischen Zukunftsbezug von *sollen*, wobei der Konjunktiv das Element der Unsicherheit signalisiert” [thus we consistently find the characteristic future reference of *sollen*, with the subjunctive indicating the element uncertainty] (Fritz 1997:291).

Den Nest 2010)– the verb fronts to left periphery together with conditional operator (e.g. Haegeman 2010). That is, the development of *sollte* as a pure conditional marker can piggy-back on this general option.

③ *Sollen* already has a special role in conditionals in Old High German:

– In Notker’s Boethius-translation, the present indicative of *sol* ‘shall’ is used always against the Latin original, and replaces the Latin potential mood (\sim ‘in case ...’), while other modal verbs (*mag*, *uuile* ‘may, want’) used in conditionals largely follow the Latin original (Furrer 1971:56-7). (The past subjunctive seems to be a later development.)

– Also Wunder (1965:515; 525) mentions the relative frequency of ‘modal’ (in a wider sense) verbs, in particular such expressing futurity, in conditionals.

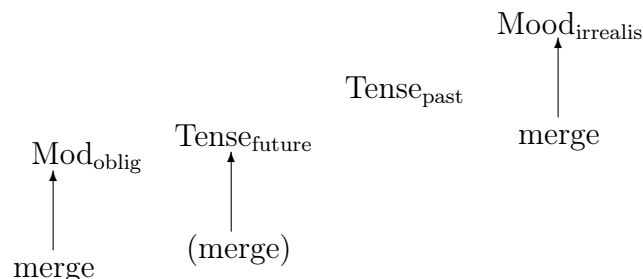
→ different modal meanings arise because deontic *sollen* could move directly to the left periphery in asyndetic conditionals, like other verbs, present or past tense, or *sollen* could also regularly move to $\text{Tense}_{\text{future}}$ and $\text{Mood}_{\text{irrealis}}$ first. Depending on the case, different modal and temporal interpretations of *sollen* in the conditional clause would arise, (16).¹⁴

→ loss of ‘lower’ movements/direct merger into higher positions would lead to reanalysis of *sollen* as an exponent of higher heads, in particular of ($\text{Tense}_{\text{future}}$ and) $\text{Mood}_{\text{irrealis}}$. Once this had happened, temporal distinctions were lost. This accounts for the increased frequency of factual conditionals with what is formally past subjunctive *sollte* in the protasis.

→ the movement of *sollte* to the left periphery is in the process of grammaticalising – in asyndetic conditionals it can now only have the ‘conditional’ meaning, while in syndetic ones, where there is a conditional complementiser, it can still be deontic.

(16)

C



▷ The relevant movement lost in the ‘upward reanalysis’ is probably short-distance rather than long-distance:

¹⁴ Irrelevant intermediate projections omitted, right-headed structure.

→ On a cartographic understanding of Fritz (1997), CM *sollte* develops out of future *sollen* – Tense_{future} is closer to Mood_{irrealis} (under our assumptions) than Mod_{root} .
 → Under our assumptions, Mood_{irrealis} is higher/closer to C than other positions *sollen* can occupy (Mood_{irrealis} > Tense_{past} > Tense_{future}), hence the past subjunctive form is the one that survives and develops into a conditional marker (=C).

6 Consequences

- ① *Sollte* survives as the CM in German because MHG *suln* was already more grammaticalised compared to competing MHG *mugen*.
- ② The restriction to past subjunctive is a consequence of a preference for short-step movements, and the loss of movement under grammaticalisation.
- ③ The loss of other modal meanings in asyndetic protases (only ‘conditional’ remains) may be attributed to the development (in progress) of *sollte* as a conditional marker: in clauses where the modal verb moves together with the conditional operator to the left periphery, it can undergo ‘upwards reanalysis’ (Mood_{irrealis} to C) à la Roberts and Roussou (2003). In clauses with a conditional complementiser, the modal is not as clearly/necessarily ‘conditional’, and may be merged (and stay) lower.
- ④ The diachronic increase in factual conditionals, i.e. de facto tense mismatch between protasis and apodosis follows from this reanalysis as a a conditonal marker

Appendix A: Modal meanings of MHG *suln* and *mugen* in conditional clauses

(17) *suln*

a. *obligation*

nu waer ze lanc, **solt** ich iu sagen, | waz diu vrowe het getân.
 now were too long should I you tell what the woman had done

‘It would take too long now if I had to tell you what the woman had done.’
 (Lanzelet, l.8016-8017)

b. *future in past*

daz waere ein missewende, | **solter** mit der sêle niht erstân
 that were a bad.turn should=he with the sould not resurrect

‘That would be a turn for the worse if he was not going to resurrect with the soul.’
 (Karl der Grosse, l.9080-9081)

c. *conditional*

solden si in iemer vinden, | daz heten sî ouch dô getân.
 should they him ever find that had they also then done

‘Should they ever find him, they would have done that then, too.’
(Iwein, l.1294-1295)

(18) *mugen*

a. *ability*

Und möge er die all überwinden, so wollent ir yn gern nemen
and may he them all overcome so will you him gladly take
‘And if he is able to overcome them all, you are gladly willing to take him.’
(Prosa-Lancelot, part 1, p.318, l.27)

b. *possibility*

Er wolt deu chueniginne gesehen, | Moechte ez mit urlaub geschehen.
he wanted the queen see might it with permission happen
‘He wanted to see the queen, if it was possible to happen with permission.’
(Garel von dem bluenden Tal, l.17013-17014)

c. *volition*

mehtes dû arbeiten, verlêh dir got ganze hende,
might you work granted you God whole hands
‘I you wanted to work, God would grant you whole hands.’
(Kaiserchronik, l.2640-2641)

d. *conditional*

moehte ich von leide han erkorn | den tot, ich waer lange tot.
might I of suffering have chosen the death I was long dead
‘If I had chosen death as my way of suffering, I would long be dead.’
(Rennewart, l.25758-25759)

Appendix B: Modal meanings of ModG *sollen* in conditional clauses

(19) a. *obligation*

Und wenn er die Passanten mit denen seines Landes vergleichen **sollte**, kamen
and if he the passers-by with those his.GEN country compare should came
sie ihm insgesamt überaltert vor: viel weniger junge Leute.
they him generally overaged PRT much fewer young people
‘And if he had to compare the passers-by with those of his country, they appeared
generally overaged to him: much fewer young people.’
(MK1/LJA.00000 Johnson, Uwe: Das dritte Buch über Achim, (Erstv. 1961). - Frankfurt a.M., 1962:126)

b. *future in past*

Wenn sie mit Züpfner Kinder haben **sollte**, könnte sie ihnen weder Anoraks
if she with Z. children have should could she them neither anoraks
anziehen noch flottgeschnittene, helle Regenmäntel
dress nor fashionably.cut light-coloured rain.coats
‘If she were (going to) to have children with Züpfner, she could not dress them in
anoraks, nor in fashionably cut, light-coloured rain coats.’
(MK1/LBC.00000 Böll, Heinrich: Ansichten eines Clowns. - Köln/Berlin, 1963:269)

c. *conditional*

Sollte es einem dennoch zufällig über den Weg laufen, kann man ganz
should it one still by.chance across the path run can one completely
spontan zugreifen.
spontaneously grab

‘Should it happen to cross one’s path, one can grab it completely spontaneously.’
(M95/507.10653 Mannheimer Morgen, 31.07.1995; Die Frösche flirten jetzt im Freien)

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