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On the use of subjunctive and indicative verb-forms in adverbial clauses[1]

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1. Introduction

Since the publication of Greenberg (1978), there has been a growing interest in the hypothesis that there is a systematic relationship between typological variation and diachronic change (see, for instance, Falk 1979; Moreno 1985; Croft 1990; Hengeveld 1991, 1992). The general idea behind Greenberg's (1978) hypothesis is that an implicational hierarchy in language typology exhaustively defines the configurations that are crosslinguistically permitted within a certain domain of grammar and that, consequently, within the history of a language, no configurations should arise that do not conform to this hierarchy. Since an implicational hierarchy defines contiguous sets of features, the stages through which a language may pass during its history may be expected to follow the direction defined by the hierarchy. Language variation, particularly within one and the same genetic stock, may then be defined as resulting from differences in the time rate taken by similar diachronic changes obtaining within different languages.

By way of illustration, consider the following hierarchy:

(1)   A > B > C > D

This hierarchy says that a language with feature C also has features A and B; a language with feature B also has feature A; a language which does not have feature B neither has features C and D; etc. The relationship between synchronic and diachronic variation may now be seen as related in the way indicated in Table 1.

In Table 1 synchronic variation is shown horizontally, diachronic variation vertically. Languages 1–6 start out using the same configuration (A), and implement the various configurations permitted by the hierarchy in (1) at different time rates, language 1 showing the lowest, language 6 the highest time rate. The result in this idealized represen-

Table 1. Synchronic and diachronic variation

Language	1	2	3	4	5	6
Diachrony	A	A	A	A	A	A
	A	A	A	A	A	A/B
	A	A	A	A	A/B	A/B
	A	A	A	A/B	A/B	A/B/C
	A	A	A/B	A/B	A/B/C	A/B/C
	A	A/B	A/B	A/B/C	A/B/C	A/B/C/D
			Synchrony			

tation is a perfect match between the vertical and horizontal dimension. For a more concrete example, see Hengeveld (1991).

The aim of this paper is to put Greenberg's hypothesis to the test by investigating the ways in which adverbial clauses are expressed from both a typological and a diachronic perspective, thereby concentrating on the use of subjunctive and indicative verb-forms. For the typological part of this paper we make use of the results of a research project on the expression of adverbial clauses carried out within the context of EUROTYP (see Hengeveld 1993, fc.; Hengeveld ed. 1993). For the diachronic part of this paper we will concentrate on the history of the use of the Subjunctive and the Indicative in a well-delimited set of adverbial clauses in Spanish.

A central idea behind this paper is that there is a systematic correlation between the semantic type of an adverbial on the one hand, and its expression on the other. In section 2 semantic types of adverbials are defined in terms of semantic primitives which allow for generalization across specific adverbial relations. Expression formats of adverbial clauses concern, at the highest level, the selection of non-finite versus finite verb-forms and, at more specific levels, the selection of specific non-finite forms (infinitives, converbs, etc.) within the non-finite domain, and the selection of specific mood-forms (indicative, subjunctive, etc.) within the finite domain. It is the distribution of the latter type of forms in a subset of adverbial clauses that we study from a typological perspective in section 3. In section 4 we then look at the development of the use of Subjunctive and Indicative in Spanish, where we will show that the parameters responsible for the typological variation

in this domain of grammar are the same as those operative along the diachronic axis. Section 5 presents our conclusions.

2. Semantic types of adverbial clauses

With respect to the semantic type of adverbials, four classifying parameters are relevant. A full motivation for the classification of adverbial clauses resulting from these parameters cannot be given here for reasons of space. Evidence for this classification can, however, be found in Hengeveld (1993, fc.).

2.1. Entity types

The main classifying parameter concerns the entity types that adverbial clauses designate. This classification of entity types is a direct reflection of the various layers distinguished within the hierarchical structure of the clause in Functional Grammar (Dik 1989, Hengeveld 1989). Extending the analysis proposed in Lyons (1977: 442–447), linguistic units may be said to refer to entities of four different types, as listed in Table 2.

An individual is a first-order entity. It can be located in space and can be evaluated in terms of its existence. A state of affairs, or event, is a second-order entity. It can be located in space and time and can be evaluated in terms of its reality. A propositional content is a third-order entity. It can be located neither in space nor in time and can be evaluated in terms of its truth. A speech act is a fourth-order entity. It locates itself in space and time and can be evaluated in terms of its felicity.[2]

Table 2. Entity types

Entity type	Description	Evaluation
First order	Individual	Existence
Second order	State of affairs	Reality
Third order	Propositional Content	Truth
Fourth order	Speech Act	Felicity

Within the context of adverbial subordination first-order entities do not play a part, since they can only be expressed by means of noun phrases, not by means of clauses. The remaining three types do show up, however, in the form of adverbial clauses. Consider examples (2)–(4):

(2)   The fuse blew *because of our overloading the circuit* (Cause – second order)

(3)   Jenny went home *because her sister would visit her* (Reason – third order)

(4)   Jenny isn't here, *for I don't see her* (Evidence – fourth order)

Examples (2)–(4) are all of a causal nature, yet they are all of different types. The difference between Cause and Reason is one that Lyons (1977) adduces to substantiate the distinction he makes between second- and third-order entities, that is, between states of affairs and propositional contents. In (2) the subordinate clause describes the event causing the main-clause event, without there being any intentional involvement on the part of an agent. In (3) the Reason adverbial does not cause the main-clause event in any litteral sense, but represents the consideration, idea, i.e., the propositional content that led a participant in the main-clause event to engage in the main-clause event.

There are a number of differences in the behavior of (2) and (3) that reflect the differences between the entity types they designate. To give one example, Reason clauses being propositional, they admit the expression of a propositional attitude, whereas Cause clauses do not:

(5)   Jenny went home *because her sister might visit her*

(6)   * The fuse blew *because we might have overloaded the circuit*

There are many differences between Reason (3) and Evidence (4) clauses as well. Several of these are discussed in Bolkestein (1991). Whereas the source of the reason in (3) is the main-clause participant *Jenny*, the source of the evidence in (4) is the speaker. Consequently, the adverbial clause cannot be interpreted as the reason for which the main-clause event took place. Rather, it presents the considerations that led the speaker to arrive at the conclusion contained in the main clause, and can thus be seen as constituting a separate speech act.

Evidence clauses having an illocutionary component, illocutionary modifications may be expressed within them, whereas this is not the case with Reason clauses:

(7)   Jenny isn't here, *for, honestly, I don't see her*

(8)   *Jenny went home *because, honestly, her sister would visit her*

The classification of entity types given above forms the basis for the implicational hierarchy predicating the distribution of expression formats given in (9):

(9)   *Entity-Type Hierarchy*
       Second order   >   Third Order   >   Fourth order

This hierarchy interacts crucially with the ones to be described below.

2.2. Time dependency

Within the class of second-order adverbials a further subdistinction can be made as to their time dependency (see Noonan 1985). Consider the following examples:

(10)   The streets are wet *because it is raining* (Cause – second order)

(11)   He cut himself *while shaving* (Simultaneity – second order)

The adverbials in (10) and (11) both describe events taking place simultaneously with the main-clause event. They differ in the fact that this simultaneity of main and subordinate event is obligatory in (11) whereas it is not in (10), witness the following examples:

(12)   The streets are wet because it has been raining

(13)   * He cut himself while having shaved

Thus, Simultaneity clauses have dependent time reference (DTR), whereas Cause clauses have independent time reference (ITR).

We may now formulate a second hierarchy describing the distribution of expression formats in adverbial clauses, which is given in (14):

(14)   *Time-Dependency Hierarchy*
       Dependent Time Reference (DTR)   >
                           Independent Time Reference (ITR)

Note that even in cases of independent time reference there may be logical restrictions on the possible combinations of temporal specifications in the main clause and the adverbial clause.

2.3. Factuality

A third parameter along which adverbial clauses may be compared concerns their factuality. Those that have been presented so far are all factual, i.e., they present pieces of information that are presented by the speaker as real (second order), true (third order), or asserted (fourth order). Apart from these factual clauses there is a class of adverbials which may be characterized as non-factual. These present pieces of information presented by the speaker as unreal (second order) or with respect to which he expresses no truth commitment (third order). The following examples illustrate:

(15)   He won't get the job *if he has no qualifications* (Potential Condition – third order)
(16)   I'll come tomorrow *in case Ann wants me* (Potential Circumstance – second order)

The difference between these two sentences is that, whereas in (15) the adverbial clause describes a condition on the validity of the main clause, the one in (16) describes an event potentially accompanying the main-clause event. One of the effects of this difference is that the event described in the main clause in (16) occurs independently of whether or not the potential circumstance occurs, whereas in (15) the main clause is only valid if the condition is valid as well.

Within the class of non-factual adverbial clauses designating second-order entities a further subdistinction can again be made between those with independent time reference, such as Potential Circumstance adverbial clauses, illustrated in (17) and (18), and those with dependent time reference, such as Purpose adverbial clauses, illustrated in (19) and (20):

(17)   I'm wearing my boots *in case it rains* (Potential Circumstance – second order ITR)
(18)   I'm wearing my boots *in case it has rained*

(19)   I left early *to catch the train* (Purpose – second order DTR)
(20)   *I left early to have caught the train

The differences as regards the expression of factual and non-factual adverbial clauses is captured by the Factuality Hierarchy given in (21):

(21)   *Factuality Hierarchy*
       Factual   >   Non-factual

2.4. Factuality dependency

A final parameter along which adverbial clauses can be classified concerns their factuality dependency (cf. Noonan's (1985: 92) "truth-value dependency"). A factual clause with a dependent factuality value is factive, i.e., describes a state of affairs presupposed by the speaker to be real or a propositional content presupposed by the speaker to be true. A non-factual clause with dependent factuality is contra-factive, i.e., presupposed by the speaker to describe an unreal state of affairs or a false proposition.

Examples of factive adverbial clauses are the following:

(22)   *After doing the cooking* I looked after the garden (Anteriority – second order DTR)
(23)   *Apart from doing the cooking* I look after the garden (Addition – second order ITR)
(24)   I looked after the garden *even though I had been doing the cooking* (Concession – third order)

The events described in the adverbial clauses in (22) and (23) are temporally and logically presupposed. The concessive adverbial clause in (24) describes a piece of information which the speaker presupposes to be true and in view of which the information contained in the main clause would not be expected.

The diffences between factual adverbial clauses with dependent and independent factuality values come out most clearly under modalization. Compare the examples in (25)–(27) of factual adverbial clauses with independent factuality value discussed above with the corresponding examples in (28)–(30) of factual adverbial clauses with dependent factuality value:

(25)   He probably cut himself *while shaving*
(26)   The fuse probably blew *because we had overloaded the circuit*
(27)   Jenny probably went home *because her sister would visit her*

(28)   He probably looked after the garden *after doing the cooking*
(29)   He probably looked after the garden *apart from doing the cooking*
(30)   He probably looked after the garden *even though he had been doing the cooking*

In (25)–(27) the adverbial clause may fall within the scope of the modal adverb *probably*. The content of the adverbial clause is part of the modalized information. In (28)–(30), on the other hand, it is just the content of the main clause that is modalized. This difference follows directly from the fact that these adverbial clauses have a predetermined factuality value which does not permit further modalization.

Examples of contra-factive adverbial clauses are the following:

(31)   She left *without saying goodbye* (Negative Circumstance – second order DTR)
(32)   She always greets me *as if I were her best friend* (Unreal Circumstance – second order ITR)
(33)   He wouldn't get the job *if he had no qualifications* (Unreal Condition – third order)

The events described in the adverbial clauses in (31) and (32) are presupposed not to be real. The Unreal Condition in (33) describes a proposition presupposed by the speaker to be false, and thus forms the opposite of the concessive clause in (24).

The differences between non-factual adverbial clauses with dependent and independent factuality values can be demonstrated more easily than those that obtain in the case of factual clauses. In (31)–(33) the reality or truth value assigned to the content of the adverbial clause is always the opposite of what the adverbial clause expresses. Thus, according to the speaker, in (31) it is not the case that *she says goodbye*, in (32) it is not the case that *I am her best friend*, and in (33) it is not true that *he has no qualifications*.

The differences as regards the expression of adverbial clauses with dependent and independent factuality is captured by the Factuality-Dependency Hierarchy given in (34):

(34)   *Factuality-Dependency Hierarchy*
Dependent factuality value   >   Independent factuality value

2.5. Integration

The various hierarchies distinguished in the previous sections may now be combined as in Table 3. Apart from summarizing what has been said above, Table 3 captures the various interactions between the hierarchies distinguished. The Entity-Type Hierarchy and the Factuality Hierarchy fully interact, and are given as the main horizontal and vertical parameters in Table 3. The Factuality-Dependency Hierarchy operates within each of the two domains defined by the Factuality Hierarchy. The Time-Dependency Hierarchy, finally, operates within each of the four domains defined by the Factuality Hierarchy and the Factuality-Dependency Hierarchy.

Table 3. Semantic classification of adverbial clauses

		Second order	Third order	Fourth order
Factual	Independent Factuality Value	ITR *Cause*	Reason	*Evidence*
		DTR *Simultaneity*		
	Dependent Factuality Value	ITR *Additon*	Concession	
		DTR *Anteriority*		
Non-Factual	Independent Factuality Value	ITR *Pot. circ.*	Pot. Cond.	
		DTR *Purpose*		
	Dependent Factuality Value	ITR *Unr. Circ.*	Unr. cond.	
		DTR *Neg. Circ.*		

3. Typology

The hierarchies constituting the grid in Table 3 define the crosslinguistic distribution of expression formats in adverbial clauses. We will here concentrate on the use of subjunctive and indicative verb-forms in a limited set of adverbial clauses, identified by double lines in Table 3. The adverbial clauses which form part of this set share two features: (i) they designate second-order entities, and (ii) they are factual. They differ from each other with respect to two other features: (i) time dependency, and (ii) factuality dependency. Thus, two of the four hierarchies distinguished earlier, the Entity-Type Hierarchy and the Factuality Hierarchy, are used here to delimit the set of adverbial clauses to be investigated, in order to allow for a detailed study of the effects of the remaining two hierarchies: the Time-Dependency Hierarchy and the Factuality-Dependency Hierarchy, as indicated in Table 4.

A study of the distribution of indicative and subjunctive verb-forms from a typological perspective shows that the hierarchies involved operate in the way indicated in (35) and (36):

(35)   Time-Dependency Hierarchy
Dependent Time Reference (DTR)   >
Independent Time Reference (ITR)
Subjunctive   >   Indicative

Table 4. Second order factual adverbial clauses

Independent Factuality Value (IFV)	Independent Time Reference (ITR)	*Cause*
	Dependent Time Reference (DTR)	*Simultaneity*
Dependent Factuality Value (DFV)	Independent Time Reference (ITR)	*Addition*
	Dependent Time Reference (DTR)	*Anteriority*

(36)   Factuality-Dependency Hierarchy
Dependent factuality value (DFV)   >
Independent factuality value (IFV)
Subjunctive   >   Indicative

Table 5 shows some of the possible outcomes of the combined operation of these two hierarchies in a number of European languages.

Modern Greek has subjunctive verb-forms but does not use them in the adverbial clauses under consideration. Albanian uses subjunctive verb-forms in both Simultaneity and Anteriority clauses, i.e., those clauses which have dependent time reference and are therefore most likely to be expressed by means of subjunctive verb-forms following the Time-Dependency Hierarchy. This language thus shows that the effects of the Time-Dependency Hierarchy are stronger than those of the Factuality-Dependency Hierarchy. Had the latter been stronger, then Addition clauses rather than Simultaneity clauses would have been selected for expression by means of subjunctive verb-forms. Spanish goes one step further in applying subjunctive verb-forms in Addition clauses as well as in clauses with dependent time reference, thus conforming to the Factuality-Dependency Hierarchy. In this language the use of the Subjunctive is furthermore predominant in Anteriority clauses, as will be shown below, which further confirms the effects of the Factuality-Dependency Hierarchy in this language.

Table 5. Indicative and subjunctive verb-forms in second order factual clauses: typology

			Greek	*Albanian*	*Spanish*
IFV	ITR	*Cause*	Ind	Ind	Ind
	DTR	*Simultaneity*	Ind	Ind/Sub	Ind/Sub
DFV	ITR	*Addition*	Ind	Ind	Ind/Sub
	DTR	*Anteriority*	Ind	Ind/Sub	Ind/Sub

4. Diachrony

We now turn to an investigation of the changes in the use of indicative and subjunctive verb-forms in the history of Spanish in the four types of adverbial clause singled out in section 3. Three time periods will be looked at: Classical Latin (4.1), Old Spanish (4.2), and Modern Spanish (4.3). A summary of the results will be given in section 4.4.

4.1. Classical Latin

Examples of the four types of adverbial clause are given in (37)–(40):[3]

Cause

(37) *Cetarius   ira   trepidat   quod*
      fishmonger.NOM anger.ABL tremble.3.S.PRES.IND because
      fur   se   effugit.
      thief.NOM REFL   escape.3.S.PRES.IND
      'The fishmonger trembles with anger because of the escaping of the thief.' (Terentius)

Simultaneity

(38) *Te   dum   vivebas   noveram.*
      you.ACC   while   live.2.S.IMPERF.IND
                                           know.1.S.PLUPERF.IND
      'I knew you while you were alive.'

Addition

(39) *At id praeterquam quod   fieri   non*
               apart   CMPLR   happen.PRES.INF not
      potuit,   potest   ne
      can.3.S.PERF.IND   can.3.S.PRES.IND not
      fingi   quidem.
      make_up.PRES.INF   even
      'But apart from the fact that this couldn't happen, it couldn't even be made up.'
      (Cicero, Div. 2.28)

Anteriority

(40) *Postquam aurum   abstulimus   in*
      after   gold.ACC   take_away.1.PL.PERF.IND PREP
      navem   conscendimus.
      ship.ACC   board.1.PL.PERF.IND
      'After we had taken away the gold, we boarded a ship.'
      (Plautus, Ba. 277)

These examples show that in Classical Latin only indicative verb-forms are attested in the four types of adverbial clause under consideration. At first sight an apparent counterexample to this claim would be the use of subjunctive verb-forms in adverbial clauses introduced by the conjunction *cum* (see, e.g., Troll 1971). However, the conjunction *cum* is to such a degree polyfunctional that the adverbial clause introduced by it can hardly be placed unambiguously in one of the semantic categories (cf. Kroon 1995: 72–73). Therefore it could be concluded that in this case the use of the subjunctive seems to be provoked by the conjunction rather than being the result of the semantic function of the adverbial clause.[4]

4.2. Old Spanish

In order to get a clear picture of the use of subjunctive verb-forms in Old Spanish at a particular point, we delimited the period of what we still will be calling "Old Spanish" to the 13th and 14th century. The different types of adverbial clause will be looked at in 4.2.1–4.2.4. For many of the examples given in these sections see Jensen and Lathrop (1973).

4.2.1. Cause

In adverbial clauses with the semantic function Cause the indicative is the only verb-form found.

(41) *Porque vyn'   sin   presente, la   vuestra*
      because come.3.S.PAST without gift   the   your
      saña   cresce.
      anger   grow.3.S.PRES.IND
      'Because I came without a gift, your anger grows.'
      (Lib.Buen Amor, 1367)

4.2.2. Simultaneity

In Simultaneity clauses indicative as well as subjunctive verb-forms are attested. The indicative is used when the state of affairs in the main clause is situated in the past or the present, as shown in (42)–(43):

(42)   *Fincó*   *el*   *omne*   *bueno*   *mientre*   *le*
    kneel.3.S.PAST.IND   the   man   good   while   him.DAT
    dió   *Dios*ˑ*uida.*
    give.3.S.PAST.IND   God   life
    'The good man kneeled while God gave him life.' (Apolonia)

(43)   *Mientra*   *que*   *son*   *pequennos*   *non*
    while   CMPLR   COP.3.PL.PRES.IND   young   not
    pueden   *defender*   *sus*   *cosas.*
    can.3.PL.PRES.IND   defend.INF   their   properties
    'While they are young they cannot defend their properties.'
    (Juzgo, 136)

Both indicative and subjunctive verb-forms are used when the state of affairs in the main clause is situated in the future, as shown in (44)–(45):

(44)   *Mientre*   *el*   *siglo*   *fuere*   *no*
    as_long_as   the   century   COP.3.S.FUT.SUBJ   not
    será   *oblidada.*
    COP.3.S.FUT.IND   forget.PART.F
    'As long as the century will be, she will not be forgotten.'
    (Milagros, 65)

(45)   *Mando...*   *que*   *ningún*   *heredero*   *o*   *fijo*
    require.1.S.PRES.IND   CMPLR   not_one   heir   or   child
    parta   *con*   *el*   *romanient*   *demientre*
    share.3.S.PRES.SUBJ   PREP   the   inheritance   while
    que   *biurá*   *en*   *esta*   *uida.*
    CMPLR   live.3.S.FUT.IND   PREP   this   live
    'I require that no heir or child shares out the inheritance while
    he (i.e. the longest living parent) is present in this life.'
    (Teruel, 450, 2)

The indicative verb-forms seem to be used predominantly in what Lyons (1977: 680) calls "omnitemporal propositions", i.e. those "... whose truth-value is constant for all values ... in a finite or infinite set of time-points or time-intervals ...". This would explain why the use of the indicative future instead of the subjunctive in temporal clauses is particularly frequent in the Medieval *fueros* (law texts), a fact noted by Jensen and Lathrop (1973).

4.2.3. Addition

In Addition clauses the indicative is the only verb-form attested. The earliest example of this type of adverbial clause that we found is from a 16th century text and is given below (see Keniston 1937: 353).

(46)   *Aliende*   *que*   *se*   *significa*   *claramente,*
    apart   CMPLR   REFL   manifest.3.S.PRES.IND   clearly
    lo   *dizen*   *muchos*   *autores.*
    it   say.3.PL.PRES.IND   many   authors
    'Apart from the fact that it manifests itself clearly, it is claimed
    by many authors.'

4.2.4. Anteriority

In Anteriority clauses both indicative and subjunctive verb-forms are attested. The indicative is used when reference is made to the past or the present:

(47)   *E despues que*   *Troya fue*   *destroyda*
    and after   CMPLR   Troy   COP.3.S.PAST.IND   destroy.PART.F
    salieron   *ende*   *dos*   *hermanos*
    leave.3.PL.PAST.IND   from.there   two   bothers
    'And after Troy had been destroyed two brothers left from
    there.'
    (Primera Crónica General de España)

Subjunctive and indicative verb-forms are used when reference is made to the future:

(48)   *Después   que   vos   ayades   fecho*
after   CMPLR   you   have.2.S.PRES.SUBJ   make.PART
este   sacrificio   ofrecer-vos   los   he
this   sacrifice   offer.INF-you   them   AUX.1.S.PRES.IND
yo   en gracias.
I   gratefully
'After you have made this sacrifice, I will gratefully offer them to you.' (Hita, 777a)

(49)   *Después   que   el   mes   passa,   non*
after   CMPLR   the   month   pass.3.S.PRES.IND   not
respondrá   el   daynnador   a-l
answer.3.S.FUT.IND   the   owner   PREP-the
messeguero.
messenger
'After a month has gone by, the owner will not need to answer the messenger.' (Noverena, 168)

The use of indicative verb-forms is again restricted to omnitemporal statements. Note further that there is a difference in the use of the subjunctive in Simultaneity clauses and in Anteriority clauses in that in the latter the present subjunctive is used whereas in the former the future subjunctive is attested as well.

4.3. Modern Spanish

4.3.1. Cause

In Cause clauses the situation is unchanged as compared to Classical Latin and Old Spanish: only indicative verb-forms are used.

(50)   *Las   calles   están   mojadas   porque*
the   streets   COP.3.PL.PRES.IND   wet   because
está   lloviendo.
COP.3.S.PRES.IND   rain.GER
'The streets are wet because it is raining.'

4.3.2. Simultaneity

In Simultaneity clauses subjunctive as well as indicative verb-forms are found, as shown in (51)–(53):

(51)   *Mientras   hay   vida   hay   esperanza.*
while   exist.PRES.IND   life   exist.PRES.IND   hope
'As long as there is life, there is hope.'

(52)   *Mientras   fue   niño   tuvo*
while   COP.3.S.PAST.IND   child   have.3.S.PAST.IND
muchos   problemas   de   salud.
many   problems   PREP   health
'When he was young he had many health-problems.'

(53)   *No   la   olvidaré   mientras   viva.*
not   her   forget.1.S.FUT.IND   as_long_as   live.1.S.PRES.SUBJ
'I will not forget her as long as I live.'

The use of the indicative and subjunctive is almost similar to the situation in Old Spanish: the indicative is used when reference is made to the past or the present, the subjunctive is used when reference is made to the future. In the latter case, omnitemporal propositions may still contain an indicative verb-form. A difference between Old and Modern Spanish is, however, that the future subjunctive has gone out of use, its role having been taken over by the present subjunctive.

4.3.3. Addition

In Addition clauses indicative as well as subjunctive verb-forms are used, as shown by examples (54), which is taken from the weekly *Tiempo*, and (55):

(54)   *Aparte   de   que   nos   hayamos*
apart   PREP   CMPLR   REFL   AUX.1.PL.PRES.SUBJ
hecho   mayores   yo   también   me
make.PART   older.PL   I   also   REFL
he   hecho   mayor.
AUX.1.S.PRES.IND   make.PART   older.S
'Apart from the fact that we became older, I also became mature.'

(55)   *No observé   en   la   casa   nada   anormal,*
       not notice.1.S.PAST PREP the house nothing abnormal
       aparte de   que   la   puerta del   jardín
       apart PREP CMPLR the door   PREP-the garden
       estaba   abierta.
       COP.3.S.PAST.IND   open
       'I didn't notice anything abnormal in the house, apart from the
       fact that the garden-door was open.'

The factors triggering the use of either of the two verb-forms are not entirely clear. Our impression is that the use of the subjunctive predominates when the speaker chooses to present the state of affairs described in the adverbial clause not as a fact not yet known but as a fact known to both speaker and hearer to be real. The use of the indicative would then predominate in cases in which this state of affairs is presented as a not yet known fact, as information new to the hearer.

4.3.4. Anteriority

Examples (56)–(58) show that subjunctive as well as indicative verb-forms are used in Anteriority clauses.

(56)   *Nada   cambiará   después de   que*
       nothing change-3.SG.FUT after   PREP   CMPLR
       salga   su   disco.
       come.out.3.SG.PRES.SUBJ his   record
       'Nothing will change after his record will come out.'

(57)   *Retornó   a   casa después de   que   su*
       return.3.SG.PAST to home after   PREP CMPLR his
       tía   se   fuese.
       aunt REFL go.3.SG.PAST.SUBJ
       'He returned home after his aunt had left.'

(58)   *Deja   el   programa después de   que*
       leave.3.SG.PRES the program   after   PREP CMPLR
       varios   personajes famosos se   le
       various persons   famous REFL she.DAT
       han   atragantado.
       AUX.3.PL.PRES.IND   choke.PART
       'She leaves the program after having developed a disliking for various famous persons.'

As in Old Spanish, the present subjunctive is used if the state of affairs in the main clause is situated in the future. However, if the state of affairs in the main clause is situated in the past or present both indicative and subjunctive are used, the use of the subjunctive even being predominant. The use of the subjunctive in Anteriority clauses seems similar to the use of the subjunctive in Addition clauses (see 4.3.3), that is, it seems to be the predetermined factuality value of such clauses that allows the use of the subjunctive.

4.4. Summary

As we have seen in the sections above, in the course of time many changes have taken place in the the use of indicative and subjunctive verb-forms in adverbial clauses in Spanish. Taking the situation in Latin, which used indicative verb-forms only, as our point of departure, the following observations can be made with respect to the development of the use of the subjunctive: (i) in Anteriority clauses, having both a dependent factuality value and dependent time reference, the use of the subjunctive has most strongly developed, with future-time reference being the prime motivating factor in Old Spanish, to which factuality dependency is added in Modern Spanish; (ii) in Simultaneity clauses, having an independent factuality value and dependent time reference, the situation is roughly the same as with Anteriority clauses in Old Spanish, but here factuality dependency cannot, and does not, come into play in Modern Spanish; (iii) in Addition clauses, having a dependent factuality value and independent time reference, the subjunctive is not used in Old Spanish but comes to be used in Modern Spanish, the motivating factor being, as in the case of Anteriority clauses, factuality

Table 6. Indicative and subjunctive verb-forms in second-order factual clauses: diachrony

			Latin	Old Spanish	Modern Spanish
IFV	ITR	*Cause*	Ind	Ind	Ind
	DTR	*Simultaneity*	Ind	Ind/Sub	Ind/Sub
DFV	ITR	*Addition*	Ind	Ind	Ind/Sub
	DTR	*Anteriority*	Ind	Ind/Sub	Ind/**Sub**

dependency; (iv) In Cause clauses, having an independent factuality value and independent time reference, the subjunctive is excluded. These facts are represented in Table 6.

It is significant that in the type of adverbial clause which has been categorized as having both independent time reference and independent factuality value, i.e., Cause clauses, the situation remained the same from Classical Latin up to Modern Spanish, and that in the type of clause which has been categorized as having both dependent time reference and a dependent factuality value the subjunctive has most strongly developed. Table 6 furthermore shows that, as in the case of the typological facts presented in section 3, the effects of the time-dependency hierarchy are prior to those of the factuality-dependency hierarchy.

5. Conclusion

The typological and diachronic facts presented in this paper lend further support to Greenberg's (1978) hypothesis that there is a systematic relationship between typological variation and diachronic change. Not only were the same hierarchies, the Time-Dependency Hierarchy and the Factuality-Dependency Hierarchy, shown to be relevant from both a synchronic and diachronic perspective, but also the ordering of the two with respect to each other was shown to be equally relevant to both perspectives.

Notes

1. We are grateful to Jadranka Gvozdanović and Harm Pinkster for their comments on an earlier version of this paper. Gerry Wanders' research for this paper has been made possible by the Netherlands Organization for Scientific Research (NWO).
2. Hengeveld (1992) and Keizer (1992) furthermore recognize a class of zero-order entities, designating properties and relations. This class of entities is irrelevant to the present discussion.
3. For (38) see Bolkestein (1992), for (40) see Lehmann (1988).
4. We believe that a full understanding of the use of the subjunctive in *cum*-clauses would require further study of the functions of these clauses in discourse. It is furthermore interesting to note that the causal uses of *cum*-clauses belong to the categories Reason or Evidence rather than to the category Cause.

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