The typological and historical variation of punctuation systems

Comma constraints

Beatrice Primus
University of Cologne, Germany

In the literature on punctuation we find a broad typological and historical distinction between prosodically and grammatically determined punctuation. The mainstream historical assumption is that the prosodic system changed into a grammatical system in some languages. We will show that this view is confronted with serious empirical and conceptual problems. Our assumption is that the typological and historical variation at issue is motivated syntactically in all punctuation systems. The different punctuation systems are mainly distinguished by the comma, which is, therefore, the main topic of the present paper. The major use of the comma will be explained by four constraints, whose interaction may be congenially formulated in optimality-theoretic terms. The close relationship of the comma to prosody arises indirectly from the fact that syntactic structures are marked prosodically in many instances. The stylistic freedom of the comma, that is traditionally assumed for some languages and contexts of use, is a reflex of syntactic optionality.

1. Different views on punctuation

We shall explore the linguistic system of punctuation and not the collection of prescriptive norms that regulate its use. The comma constraints that we shall put forward are assumed to capture the implicit competence of skilled writers and readers. Normative rules describe this implicit competence for practical purposes and are hence less systematic and general than our constraints. Despite these differences, our constraints capture all the uses of the comma that form the core of the respective norm systems. In other words, we shall not propose another use of the comma for a better orthography but rather uncover the simplicity, systematicity, and generality of the existing punctuation systems.

Our present punctuation systems have evolved from the punctuation practice of the Ancient Greeks and Romans, which is assumed to have been governed by
the prosodic properties of oral speech such as shorter or longer pauses and a falling or rising pitch (cf. Parkes 1993). These properties are crucial for a rhetorically adequate oral presentation of a written text. Prosodic punctuation is therefore also called rhetorical. The standard diachronic assumption is that prosodic punctuation evolved into a grammatical system (cf. Besch 1981 for German, Todd 1997 for English, and Bartsch 1998 across languages). Synchronously, prosodic punctuation is claimed to characterize, among others, the Romance languages, English, and Dutch; the grammatical type is assumed, for instance, for German, Hungarian, Finnish, Russian, and Polish.

Two properties are traditionally claimed to characterize prosodic punctuation: its close connection to prosody and intonation, as already mentioned, and its stylistically free use. Stylistic freedom of use is still assumed, among others, by Meisenburg (2002: 174) for French and by Nunberg and Briscoe (2002) for English. Nunberg and Briscoe (2002: 1727) illustrate the distinction between a light and a heavy punctuation style by the examples (1a) and (1b) respectively:

(1)  a. On Sundays they like to have a picnic lunch in the park if it's fine.
    b. Sundays, they like to have a picnic lunch in the park, if it's fine.

In contrast to prosodic punctuation, grammatical punctuation is claimed to be tied to syntactic and semantic distinctions and to be strictly conventionalized in its use. In earlier research, only the punctuation systems of Modern German (cf. Besch 1981) and a few other languages were assumed to belong to this type, but more recently, punctuation systems that were previously viewed as prosodic are seen as grammatical. This grammatical turn in punctuation research is documented for English, for instance, by Quirk (1972: 1055) as follows:

Punctuation practice is governed primarily by grammatical considerations and is related to grammatical distinctions. Sometimes it is linked to intonation, stress, rhythm, pause, or any other of the prosodic features which convey distinctions in speech, but this is neither simple nor systematic, and traditional attempts to relate punctuation directly to (in particular) pauses are misguided.

Despite this general grammatical claim, the use of the comma is still considered to be stylistically motivated, as mentioned and illustrated above in (1a, b). In sum, recent approaches take a pluralistic view on the functions of the comma in punctuation systems that were considered to be purely prosodic in earlier research.¹

As to Modern German, which has always been treated as having grammatical punctuation, the main line of research evolved from a pluralistic stand (cf. Baudusch 1981, 1987, Nerius 1987) towards an exclusively syntactic perspective (cf. Eisenberg 1979, Behrens 1989, Maas 1992, Primus 1993). The syntactic view defended in this paper is more general than in the previous approaches by claiming
that all comma systems serve an exclusively syntactic function (cf. also Primus 1996, Bredel & Primus 2007).

The above-mentioned pluralistic view is obsolete in a syntax-centered conception of grammar, which is graphically illustrated in (2):

(2)  \[ \begin{array}{c}
\text{semantics} \\
\text{syntax} \\
\text{prosody-intonation} \end{array} \]

prosody-intonation  punctuation

In our view, there is a close correspondence between syntax and semantics, which is captured by the principle of compositionality: the meaning of a complex linguistic unit is determined by the meaning of its parts and the way they are formally connected to each other. This means that each syntactic distinction marked by a comma is mapped onto a semantic distinction in most of the cases. The relationship between comma and semantics is indirect. As a consequence of this, semantic distinctions are less systematically signalled by the comma than syntactic ones, as will be shown in the sections to follow. As to prosody and intonation, they share with the comma the function of coding syntactic distinctions. This explains why prosody and comma are closely connected to each other in some domains of use. But in our view, the comma is only indirectly linked to prosody and intonation.

The remainder of this section presents a brief overview of the syntactic comma constraints. A more detailed discussion will follow in the next sections. According to standard assumptions in Optimality Theory, we claim that linguistic systems are shaped by the competition between output-oriented markedness constraints, which ensure formal economy, and input-oriented constraints, which preserve functional distinctions. The former type of constraint may be seen as speaker- or writer-oriented optimization, the latter type as hearer- or reader-oriented optimization. Grammatical systems and subsystems may vary according to the rank of competing constraints. If a constraint is dominated by a competing constraint, it is violable, otherwise inviolable, i.e. strict.

With respect to punctuation, the input is assumed to be a syntactically structured string, which need not be realized prosodically in order to be punctuated. A generator assigns punctuation marks freely, i.e. commas for our purposes. The punctuated strings are possible outputs of a given input, i.e. competing candidates in optimality-theoretic terms. Only structures that emerge from the same input are possible candidates. The competing candidates are evaluated by ranked constraints. The winner of the competition is the output that best satisfies the highest constraints no matter how many lower constraints it violates.
A general economy constraint NoPunctuation bans punctuation marks altogether. This accounts for the plausible assumption that it is more economical for the writer not to use punctuation marks. A more specific economy constraint NoComma prohibits the use of the comma. Writing systems without a comma (e.g. all ancient writing systems) are defined by an undominated NoComma (or NoPunctuation) constraint.

In writing systems with commas, NoComma competes with and is dominated by functional constraints requiring the comma in order to mark functional distinctions in the input. We claim that the major use of the comma is syntactically licensed in all comma systems by a functional constraint, the Non-Subordination constraint, which dominates NoComma. It is formulated in (3):

(3) **Non-Subordination (Non-Sub):** If two syntactic units are not syntactically connected to each other by subordination, there is a comma between them.

From a punctuation-based perspective Non-Sub can be formulated as follows: If two syntactic units A and B are separated by a comma, A is not subordinated to B and B is not subordinated to A. The notion of syntactic unit includes words and phrases, which can be clausal or non-clausal. Clause will be used as a cover term for any sentential unit, be it a main or subordinate clause, a finite or non-finite clause.

Syntactic units are normally related to each other by subordination, i.e. hypothetaxis, in a hierarchical way: one element is the head of the phrase and the other elements (arguments or modifiers) are dependent upon the head or its phrasal projection. The head of main clauses is the finite predicate, that of infinitival or participial constructions the non-finite predicate. Phrasal projections of a verbal predicate are verb phrases (V' or VP in x-bar-theoretic terms). All modern syntactic theories capture subordination. Within generative grammar, x-bar-principles are primarily designed for subordination.

Units separated by a comma must be syntactically connected to each other. Three types of syntactic concatenation exist: subordination, coordination (or parataxis) and dislocation. In order to capture syntactic concatenation, a clause-mate condition may be imposed on the comma (cf. Primus 1993, Bredel & Primus 2007). The problem with the clause notion that is needed for the comma and the terminal punctuation marks (full stop, question mark, and exclamation mark) is that it must be broad enough to include cases such as *What, John?* (cf. Bredel 2005). We shall pursue here an alternative approach that is based on the more straightforward and general notion of sisterhood. Cf. (4):

(4) **Syntactic Sisterhood (Sisters):** There is no comma between units that are not sisters at the syntactic level.
This alternative formulation has the additional appeal that it is more restrictive than a clause-mate condition. It blocks the commas inside a clause that are superfluously licensed by NON-SUBORDINATION. Thus, for instance, NON-SUBORDINATION and a clause-mate condition would license a comma between after and the in [after, the] dinner. These units are clause-mates and after is not subordinated to the, and the not subordinated to after. SISTERS prohibits a comma for the simple reason that after and the are not directly related syntactically, i.e. they are not sisters. In more general terms, SISTERS regulates the phrasal level of the units that are relevant for the comma inside a clause. In order to achieve this result SISTERS has to dominate NON-SUBORDINATION. This ranking takes care that the comma is only licensed for non-subordinated sisters.

SISTERS also explains cases such as the following: *Peter came, And Mary left. In this example, the capitalization of And signals the beginning of a syntactically independent unit. For this reason, the comma is ungrammatical. The following alternatives demonstrate the syntactic optionality of main clause coordination but not that of the comma: Peter came. And Mary left vs. Peter came, and Mary left.

The constraints discussed so far hold universally, but some writing systems may include additional minor constraints which define more superficial typological differences. Such a minor constraint regulates the co-occurrence of a comma and a genuine coordinator such as and and or. In English, comma and coordinator are tolerated for three or more conjuncts, e.g. *Peter, and Mary went home vs. Peter, Paul, and Mary went home. In German, the comma is not tolerated before a coordinator unless the conjuncts are main clauses, cf. the translation of the last example *Peter, Paul, und Maria gingen heim.

In languages including German, Hungarian, Finnish, Russian, and Polish NO-COMMA is dominated by a further constraint: the CLAUSAL constraint. Cf. (5):

(5) **CLAUSAL:** If a clause boundary occurs between two syntactic units, there is a comma between them.

A minor typological variation occurs among the languages with CLAUSAL above NO-COMMA due to the fact that different clause notions are relevant for the CLAUSAL constraint (cf. Section 4 below, which also demonstrates that these different clausal notions can be defined in straightforward terms).

In English, Dutch, and the Romance languages, which have been described as having prosodic punctuation, the CLAUSAL constraint is dominated by NO-COMMA.

To sum up, the two major comma systems are defined by the following two rankings:

(6) The major use of the comma in English, Dutch, and the Romance languages: SISTERS >> NON-SUB >> NO-COMMA >> CLAUSAL
(7) The major use of the comma in German, Hungarian, Finnish, Russian, and Polish:
Sisters >> Non-Sub >> Clausal >> NoComma

Leaving minor differences aside, the two rankings in (6) and (7) are the only plausible ranking options for the comma. This explains the fact that they define the only attested major comma typology. The high rank of Sisters has been motivated above. At least one of the functional constraints licensing a comma, Non-Sub or Clausal, has to dominate NoComma, in order to establish a comma system. Non-Sub invariantly dominates Clausal on functional grounds: the primary function of the comma is to code a non-canonical syntactic relation between sisters. Non-subordination is clearly less canonical than clausal subordination. This functional prediction is borne out: There seems to be no writing system that licenses the comma for subordinate clauses and excludes it from non-clausal coordination. Such a system would have the ranking Clausal >> NoComma >> Non-Sub.

To sum up the discussion so far, we can discern three main views on punctuation. The older tradition ties punctuation, the comma in particular, exclusively to prosody and intonation. A more modern pluralistic view admits several comma functions centered around syntax and semantics. Finally, there is an exclusively syntactic view, which is defended in this paper for all comma systems. In this kind of approach, the comma does not signal a prosodic-intonatoric or a semantic distinction that is not also a syntactic one. Three functional constraints — Sisters, Non-Subordination, and Clausal — motivate the syntactic use of the comma, which is otherwise generally banned by NoComma for reasons of economy. The different major comma systems arise by different rankings of Clausal and NoComma.

The remainder of this paper is devoted to the historical and ontogenetic origins of the comma (Section 2) and to a more detailed discussion of dislocations (Section 3) and clausal notions (Section 4).

2. Historical and ontogenetic origins of the comma

The standard view regarding the historical change of the comma seems to be plausible prima facie: a prosodically determined, stylistically free system has turned into a grammaticalized rigid system in some languages. Grammaticalization is a plausible explanation for this shift. Under closer inspection however, the traditional interpretation fails on empirical grounds and for general reasons, which will be uncovered in this and the next sections.

A general objection is that under the standard view, the two comma systems have functions which are too wide apart to allow for the attested historical
evolution and variation. The first regularly used commas that had a form and a function that is comparable to the modern comma are found in the early prints from around 1450 (cf. Parkes 1993). In the centuries to follow, the process of evolution went on very rapidly and was virtually complete by the end of the 18th century. A striking fact is that in some languages, including English and Dutch, a clausal comma evolved and was abandoned later. Let us look at the following English examples with commas that were legitimate in the late 19th century (cf. Skelton 1949: 161–162):

(8) The man, who witnessed the accident, has disappeared.
He declared, that he was innocent.

In some languages including Danish, Icelandic, and Swedish, the process of abandoning the clausal comma is going on. A more conservative system with a clausal comma is gradually giving way to a more liberal system without it. In the intermediate stage, the two systems co-exist side by side. Under the standard analysis, these historical changes would be erratic: first the comma became grammaticalized and then de-grammaticalized. The historical facts suggest that ‘prosodic’ and ‘grammatical’ punctuation are closer to each other than traditionally assumed.

Our approach explains the historical and typological variation by reranking two general syntactically motivated constraints, NoComma and Clausal. The intermediate historical stage with an optional clausal comma is explicable by the co-existence of the two rankings mentioned in (6) and (7) above (cf. Section 4 below for details).

Another general objection against the traditional view is that the historically early uses of the comma are better explained by our syntactic constraints and their interaction. For Besch (1981), a prominent representative of the traditional view, the commas in Luther’s bible of 1522 demonstrate the ideal of a prosodically motivated system. This ideal is illustrated, in his opinion, by examples such as (9) from Matthew 25, 35 (Besch 1981: 194):

(9) denn ich byn hungerig gewesen/vnd yhr habt mich gespeyset/ich byn durstig gewesen/vn yhr habt mich getrenckt/ich byn eyn gast gewesen/vnnd yhr habt mich beherberget/
‘For I was hungry and you gave me something to eat, I was thirsty and you gave me something to drink, I was a stranger and you invited me in.’

Another early use of the comma, barely mentioned by Besch, is in dislocations. A frequent example in the early bible prints is the invocation Herr ‘Lord’, which is regularly set off by one or two commas, depending on the context, in the subsequent bible prints.
Besch’s prosodic analysis is confronted with empirical problems. There are commas where a prosodic break is unnecessary, as in (9) before *and*, and no commas where prosodic marking is due, as in the example (10) in the same bible print (Matthew 1, 20):

(10) Joseph du son Dauid furcht dich nit …
   ‘Joseph, you son of David, do not be afraid …’

Günther (2000) re-analyzed Besch’s corpus and offered an alternative interpretation of the diachronic data. In his opinion, punctuation in the 16th century resembles the punctuation of today’s unskilled writers. For him, the historical evolution parallels the ontogenetical evolution of the comma.

As to the ontogenesis of the comma, Afflerbach’s (1997) developmental study corroborates Günther’s conclusion. Children start using commas before explicit tuition in clausal coordination and less frequently in non-clausal coordination and in dislocation. Interestingly, the comma is preferred in constructions which are visibly marked as coordination by *and* and as dislocation by a pronominal copy (e.g. *der* ‘that’). We interpret Afflerbach’s findings as follows: unskilled writers need a visible marker of the syntactic construction as a ‘bootstrapper’ for the comma. In contrast, prosody seems to be a less reliable cue in the ontogenesis of punctuation (cf. Maas (1992: 67f.) and Afflerbach (1997: 72f.) for German, and Hall (1999) for English). The presence of a visible cue also characterizes the historically early uses, as shown in (9) above by the co-occurrence of an overt coordinator and the comma (cf. Besch 1981 for further examples). As shown by the punctuation of the English translation of (9), such commas are illicit in the modern systems.

Another similarity between the historical and ontogenetical evolution of punctuation is that the regular use of the comma presupposes that of the full stop, i.e. the simple dot.

Our explanation for the historically and ontogenetically early comma uses is based on the syntactic constraints introduced above. The development of the full stop before that of the comma is necessary because the full stop is the overt cue for *SISTERS*, which is a major constraint of the comma. Leaving noun capitalization aside, only units occurring between a capitalized word and a full stop may be sisters in a syntactic sense.

Our explanation for the fact that clausal coordination and dislocation are the earliest application domains of the comma is based on constraint interaction. In these cases, the comma is licensed irrespective of the relative rank of the relevant constraints. Unskilled writers can safely use the comma in these cases before they have acquired the ranking that defines the full comma system. In more general terms, a less comprehensive but still appealing explanation is that the typological comma distinction is neutralized in coordination and dislocation.
The irrelevance of constraint ranking is shown for clausal coordination in Table 1–Table 3 below. The constraint Sisters, which blocks the comma if two units are not sisters, is omitted in the optimality-theoretic evaluations in this and the following sections because we shall focus on candidates that are sisters.

Table 1. Clausal coordination in a system with Non-Sub >> NoComma >> Clausal (e.g. English)

<table>
<thead>
<tr>
<th>Input</th>
<th>Non-Sub</th>
<th>NoComma</th>
<th>Clausal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cl[Peter came] Cl[Mary went]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peter came, Mary went</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Peter came Mary went</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Clausal coordination in a system with Non-Sub >> Clausal >> NoComma (e.g. German)

<table>
<thead>
<tr>
<th>Input</th>
<th>Non-Sub</th>
<th>Clausal</th>
<th>NoComma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cl[Peter kam] Cl[Maria ging]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peter kam, Maria ging</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Peter kam Maria ging</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Clausal coordination in a system with Clausal >> NoComma >> Non-Sub

<table>
<thead>
<tr>
<th>Input</th>
<th>Clausal</th>
<th>NoComma</th>
<th>Non-Sub</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cl[subject predicate] Cl[subject predicate]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>subject predicate, subject predicate</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>subject predicate subject predicate</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In each tableau the input is a coordination (or parataxis) of two main clauses yielding a complex main clause. The input occupies the first cell in the first row. The clauses have been uniformly categorized as CL (clause) for convenience only; other more specific clausal categories would have yielded the same result. The candidates are aligned in the first row below the input. The constraints are arranged according to their relative rank from left to right. The evaluations deal only with the comma and ignore other punctuation marks.

The three tableaus show three rankings of Clausal, Non-Sub, and NoComma. The first two rankings are attested in English and German respectively. The ranking in Table 3 does not seem to exist, as mentioned above. Because Clausal and Non-Sub do not compete with each other in clausal coordination, the first candidate wins irrespective of the relative rank of these constraints (cf. ⇑ for the winner).

A uniform result is also obtained for dislocations. Our analysis of dislocations is uncontroversial (cf. Altmann 1981, Espinal 1991, Peterson 1999, Lambrecht 2001): a dislocated unit (also called disjunct or parenthetical) is not connected with the host clause by proper subordination but nevertheless syntactically attached to it in a loose way (cf. Section 3 for details). This means that a dislocated unit has to be set off by a comma due to both constraints, Non-Sub as well as...
Clausal. The former constraint licenses the comma because a dislocated unit is not subordinated in the strict sense; the latter constraint triggers the comma because the host of the dislocated unit is clausal. Cf. Table 4 — Table 6:

Table 4. Dislocation in a system with Non-Sub >> NoComma >> Clausal (e.g. English)

<table>
<thead>
<tr>
<th>CL[NP[my neighbour] CL[she’s won the lottery]]</th>
<th>Non-Sub</th>
<th>NoComma</th>
<th>Clausal</th>
</tr>
</thead>
<tbody>
<tr>
<td>my neighbour, she’s won the lottery</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>my neighbour she’s won the lottery</td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

Table 5. Dislocation in a system with Non-Sub >> Clausal >> NoComma (e.g. German)

<table>
<thead>
<tr>
<th>CL[NP[meine Nachbarin] CL[die hat im Lotto gewonnen]]</th>
<th>Non-Sub</th>
<th>Clausal</th>
<th>NoComma</th>
</tr>
</thead>
<tbody>
<tr>
<td>meine Nachbarin, die hat im Lotto gewonnen</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>meine Nachbarin die hat im Lotto gewonnen</td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Table 6. Dislocation in a system with Clausal >> NoComma >> Non-Sub

<table>
<thead>
<tr>
<th>CL[NP[…] CL[…]</th>
<th>Clausal</th>
<th>NoComma</th>
<th>Non-Sub</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL[NP[…] CL[…]</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL[NP[…] CL[…]</td>
<td>*</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

Let us sum up this section. The similar historical and ontogenetical evolution of the comma is explained in our approach as follows. The comma originates in constructions which neutralize constraint ranking. Such constructions are clausal coordination and dislocation. In these constructions, unskilled writers can safely use the comma before they have acquired the ranking that defines the full comma system. In its historically and ontogenetically early use, the comma needs a ‘bootstrapper’, an overt cue of the syntactic relation that licenses it. This cue need not be prosodic. In coordination, it is most often the coordinator and, in dislocations it may be a pronominal copy (my neighbour, she) or some other element. The alternative traditional assumption that a prosodic system changed into a grammatical system is confronted with empirical and conceptual problems: commas without prosodic boundaries and prosodic boundaries without commas, grammaticalization followed by de-grammaticalization, and an abrupt fundamental change.

3. Dislocations

In this section, we shall offer an overview of dislocations. All examples are taken from languages with a low Clausal constraint. Thus, the clausal realization of the dislocated units does not matter. As mentioned above, a dislocated unit is not
connected with the host clause by proper subordination but nevertheless syntactically attached to it in a loose way which is called ‘juxtaposition’ by Peterson (1999). This means that the dislocated phrase and its host clause are non-subordinated sisters. Nearly all units that may be dislocated may also occur in isolation. In this case, the comma is blocked by SISTERS and a terminal punctuation mark is needed. Compare *Hey, what are you doing?* with *Hey! What are you doing?* The following survey of dislocations uses the criteria, terminology, and some of the examples in Espinal (1991) and Peterson (1999). Other comma examples are taken from the literature on punctuation or from descriptive grammars, as explicitly mentioned below.

Interjections, used here as a cover term for items such as *hey, oh, yes, no, well,* and *here* as well as vocatives (or address terms) are clear examples of non-subordinated elements. They may occur in isolation, in which case terminal punctuation is in order, cf. *You people over there! Please sit down.* If they are juxtaposed to a host sentence, they have to be set off by non-terminal punctuation, usually the comma, as shown in (11), cf. Peterson (1999: 231):

(11)  
You people over there, please sit down.
  It’s time, Ted, that you and I had a chat.
  It’s good to see you again, old friend.
  Here, I know how to fix that.

The non-subordinating character of this type of constructions is evident since the dislocated element cannot be fully integrated into the host clause.

Units that are duplicated by a pronoun or some other element in the host clause are also easy to identify as dislocations, particularly if the analogous subordinative constructions do not tolerate doubling. Pronominal copies characterize left and right dislocation. (12) illustrates the left and right dislocation of a noun phrase (cf. Nunberg & Briscoe 2002: 325):

(12)  
My neighbour, she’s just won the lottery.  (see also Table 4)
  I don’t think a lot of him, the new manager.

The next examples show the left dislocation of a subject clause in French (cf. Cat-ach 1996: 67) and that of an object clause in Italian (cf. Schwarze 1988: 380):

(13)  
Que la tendance soit à la baisse, c’est une évidence.
  ‘That the tendency is declining, this is evident.’
  Che questa sia la soluzione migliore, ne sono convinto.
  ‘That this is the better solution, I’m convinced of it.’

The examples discussed so far illustrate obligatory dislocations, which have to be marked by a comma. In contrast, constructions that cannot be interpreted as
dislocations do not tolerate a comma. Cleft and pseudo-cleft constructions are particularly revealing because they involve a discourse-semantic separation but are not dislocations in syntactic terms (cf. Espinal 1991). Hence they are not acceptable with a comma in languages with a low Clausal constraint (cf. Hannay 1986). This is shown in (14):

(14) * What you need most, is a good rest.
   * It is deliberately, that John committed suicide.

Phrases in valency-bound argument function, i.e. subjects and objects without a pronominal copy, are always subordinated, never juxtaposed. Compare the examples in (15) below with those in (12) and (13) above:

(15) * My neighbour, has just won the lottery.
   * I don’t think a lot, of the new manager.
   * Que la tendance soit à la baisse, est une évidence.
   * ‘That the tendency is declining, is evident.’
   * Che questa sia la soluzione migliore, sono convinto.
   * ‘I’m convinced, that this is the better solution.’

The constructions discussed so far in this section involve a comma that is used or omitted mandatorily. Such comma uses refute the traditional assumption that the comma is a stylistic matter in the languages under discussion.

The stylistic freedom of the comma has not been called into doubt for a long time because many dislocations are optional, leave no pronominal copy or another overt syntactic trace behind, and have subtle discourse-semantic functions which are hard to grasp. The dislocation of modifiers is of this kind. Nominal modifiers, including relative clauses, may be appositive and hence dislocated like any apposition (cf. Espinal 1991, Peterson 1999), or they may be restrictive, in which event they are subordinated. (16) offers a minimal pair (cf. Todd 1997: 59–60):

(16) The passengers who wore seatbelts escaped unhurt.
    The passengers, who wore seatbelts, escaped unhurt.

In the first example in (16), the relative clause is obligatory as it restricts the set of passengers who escaped unhurt to those wearing seat belts. In contrast, the relative clause of the second example adds optional, non-defining information. Appositive nominal modifiers are separated by punctuation in all languages. With restrictive, i.e. subordinated, modifiers the use of the comma depends on their clausal or non-clausal realization. If subordinated modifiers are non-clausal, the comma is universally prohibited. If they are clausal, the comma is banned only in languages with a low Clausal constraint. English belongs to this type of language, as shown in (16).
Examples of dislocated sentential modifiers are offered in (17), cf. Espinal (1991: 726–727):

(17) Frankly, I don't know how to handle that.
    Your brother behaved, of course, like a gentleman.

We offer an explicit analysis of the relevant portion of the last example for readers interested in matters of technical execution in order to show that dislocations, particularly those in clause-medial position, are challenging for current syntactic theories. Cf. (17'):

(17')

\[
\begin{array}{c}
V' \\
\mid \\
behaved \\
\end{array}
\]

\[
\begin{array}{c}
V \\
\mid \\
behaved \\
\end{array}
\]

AdvP PP

of course like a gentleman

Leaving details that are irrelevant for the comma aside, the crucial point is that the syntactic units separated by a comma are non-subordinated sisters. The unspecified node is not the proper complement of its sister, i.e. of the verb behave, which is subcategorized for a manner role. This licenses the comma between behave and of course, like a gentleman. The adverb phrase of course fails to be a properly subordinated adjunct or modifier of its sister, i.e. the prepositional phrase like a gentleman. This licenses the comma between these units. The non-subordinative relation that characterizes dislocations cannot be properly represented by the x-bar-principles of generative grammar. As shown in (17’), the unspecified node cannot be a proper projection of AdvP or PP. Nevertheless, some researchers still treat dislocations with these means (cf. references and a critique of such approaches in Haegeman 1991, Espinal 1991, Peterson 1999, Bredel & Primus 2007).

Given the fact that most nominal, verbal, and sentential modifiers are optionally dislocated, the distinction between the light and heavy punctuation style illustrated in (1a, b) above turns out to be a grammatical matter: Sundays(,) they like to have a picnic lunch in the park(,) if it's fine. (18)–(20) offer more minimal pairs contrasting dislocation with subordination in French (cf. Catach 1996: 68), Dutch (Daniëls 1994: 10), and English (cf. Meyer (1987: 8) and also the English translations of the French and Dutch examples):

(18) Elle marche naturellement.
    ‘She is marching naturally.’
Elle marche, naturellement.
‘She is marching, naturally / of course.’

(19) Hij gaat niet vissen, omdat het regent.
‘He doesn’t go fishing, because it is raining.’ (incompatible with he goes fishing)
Hij gaat niet vissen omdat het regnet.
‘He doesn’t go fishing because it is raining.’ (compatible with he goes fishing)

(20) Earlier, negotiations were planned.
Earlier negotiations were planned.

To conclude, appositive, i.e. dislocated, modifiers are set off by a comma while subordinated modifiers cannot be separated by a comma.

Interestingly, there is an asymmetry in the ratio of comma mistakes registered for appositive and restrictive modifiers (cf. Meyer 1987 for American English and Daniëls & Auwera 1989 for Dutch). The comma is significantly more often omitted for appositive modifiers than superfluously used for restrictive modifiers (10% vs. 1% in Meyer’s corpus). A general explanation for this asymmetry can be derived from Afflerbach’s (1997) ontogenetic study. In her corpus, the majority of mistakes are omitted commas rather than superfluous commas. If commas are used, about 80% of them are correct from the start, i.e. in the 2nd and 3rd grade. So in her view, the developmental process is mainly concerned with reducing the ratio of comma omissions. This means that adults and skilled writers are also expected to make performance-driven mistakes in which omissions outnumber superfluous uses. There is also a functional factor that may corroborate this explanation: in case of doubt, it is safer to present a construction as subordination, which is the unmarked type of syntactic concatenation, and to avoid its interpretation as a dislocation, which needs a specific discourse-semantic motivation.

With this overview in mind, it is easy to realize that punctuation norms and alternative approaches to punctuation pick epiphenomena of dislocations in their treatment of the comma. The prohibition of the comma in argument-predicate relations, which include cleft and pseudo-cleft constructions, is a consequence of the fact that these constructions are subordinative.

Event-related modifiers, such as time, local and manner adjuncts, are less frequently dislocated than discourse-related adverbials and discourse conjuncts (e.g. furthermore, so, therefore). This explains why the former are less frequently set off by a comma than the latter (cf. Meyer 1987: 48).

Discourse-related adverbials and discourse conjuncts are preferably preposed (cf. Chafe 1984, Thompson 1985, Maienborn 2001). This is a plausible explanation
for the punctuation guideline, for instance in Spanish, French, and English, to separate preposed adjuncts and conjuncts by a comma.

Dislocated constituents are usually, but not necessarily set off by prosody and intonation (cf. Espinal 1991, Peters 2006). This accounts for the prosodic comma of traditional approaches.

Dislocations are an overt means to signal discourse functions that can be described in terms of discourse topic, frame of reference, propositional attitudes, and the like. This explains why some researchers view the comma in dislocations as semantically motivated (cf. Meyer 1987, Daniëls 1994, Catach 1996, and Ferrari 2003). However, the discourse functions of dislocations are too disparate to supply a uniform semantic motivation for the comma. The prohibition of the comma in cleft and pseudo-cleft constructions is even harder to explain from a discourse-semantic perspective.

Some approaches deal with the grammatical function of punctuation in terms that reflect some superficial properties of dislocations but are far from defining the phenomenon properly. Thus, for instance, Quirk (1972: 1061) paraphrases the grammatical function of punctuation in English as follows: “the closer the relation between the parts of the sentence, the less need there is for punctuation”. A similar global characterization of the comma is offered by Holmes & Hinchliffe for Swedish (2003: 573): “The comma is used between words that are relatively independent from each other”. The ‘separation’ and ‘delimiting’ function of the comma is another loose term for its function in dislocations (cf. Hannay 1986, Nunberg 1990, Nunberg & Briscoe 2002 for English). Such global functional descriptions are too broad to be used in punctuation practice and yet too narrow to capture the comma in coordination, which cannot be characterized adequately as a ‘loose relation’ between ‘relatively independent’ words or phrases.

In sum, all these alternative approaches are confronted with serious problems. They capture a less reliable epiphenomenon instead of the real motivation, they use terms which are too vague to pin it down, and they fail to assess the common denominator of coordination and dislocation. Our alternative approach explains the comma in coordination and dislocation by the interaction of SISTERS and NON-SUBORDINATION. These constraints express the syntactic commonality of coordination and dislocation in precise and simple terms: these constructions contain non-subordinated sisters.

4. Subordinated clauses

The difference between the two punctuation systems under discussion is clearly manifest when non-dislocated subject and object clauses, which are clearly
subordinated to the verbal head, are taken into consideration. They cannot be separated by a comma in a system with NoComma above Clausal, but they have to be marked by a comma in a system where Clausal dominates NoComma. (21)–(23) illustrate the contrast between the comma for subordinated clausal objects in Modern German, Russian (cf. Bendixen & Voigt 1999: 193), and Hungarian (cf. Ginter & Tárnoi 1986: 333) and its absence in the respective English translations:

(21) Der Junge sagte, dass er müde sei.
    ‘The boy said that he was tired.’

(22) Мы не знаем, кто это сказал.
    ‘We don’t know who said this.’

(23) Kérlek, hogy gyere el hozzánk.
    ‘I ask you to come to us.’

The illustrated object clauses are headed by a finite predicate and introduced by a complementizer, e.g. dass and hogy ‘that’, or a relative pronoun, e.g. kto ‘who’.

Table 7 and Table 8 illustrate our optimality-theoretic explanation of the typological distinction at issue. The constraint Non-Sub is omitted in this section because it cannot be violated by candidates that are specified as subordinated clauses. Sisters is also neglected because it is satisfied by all candidates under discussion.

Table 7. Subordinated clauses in a system with NoComma >> Clausal (e.g. English)

<table>
<thead>
<tr>
<th>Sentence</th>
<th>NoComma</th>
<th>Clausal</th>
</tr>
</thead>
<tbody>
<tr>
<td>[said] that he was tired</td>
<td></td>
<td>*!</td>
</tr>
<tr>
<td>* The boy said that he was tired</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

Table 8. Subordinated clauses in a system with Clausal >> NoComma (e.g. German)

<table>
<thead>
<tr>
<th>Sentence</th>
<th>Clausal</th>
<th>NoComma</th>
</tr>
</thead>
<tbody>
<tr>
<td>[sagte] dass er müde sei</td>
<td>*</td>
<td>*!</td>
</tr>
<tr>
<td>* Der Junge sagte dass er müde sei</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

The typological variation under discussion is also manifest in restrictive relative clauses. The proverb in (24) has been chosen for illustration because it has only a restrictive interpretation:

(24) Hunde, die bellen, beißen nicht. (German)
    Собаки, которые лают, не кусаются. (Russian)
    Dogs that bark don’t bite. (English)
    Cîinele care latră nu mușcă. (Rumanian)
We omit the optimality-theoretic evaluation of the comma variation in (24) because it runs parallel to that offered in Table 7 and Table 8 above.

In some languages including Danish, Icelandic, and Swedish, a more conservative system with a clausal comma has gradually changed into a more liberal system lacking a clausal comma. In the intermediate stage, the two systems co-exist side by side. This development is well documented for Swedish, for instance, in various descriptive grammars and punctuation works. In Dokumente (1939) and Hammar (1967), the Swedish comma system is characterized as resembling that of Modern German. Viberg et al. (1993) already note that the clausal comma may be omitted, particularly with short subordinated clauses. Finally, Holmes & Hinchliffe (2003) restrict the use of the comma in clausal contexts to appositive (non-restrictive) clauses, a clear indicator that only dislocated clauses license the comma (cf. also Svenska Skrivregler 1991). This is also the current punctuation practice of leading Swedish newspapers (e.g. “Dagens Nyheter” and “Svenska Dagbladet”). A Swedish example with an optional comma is offered in (25), cf. Viberg et al. (1993: 48):

(25) Mannen sa(,) att han var trött.
'The man said that he was tired.'

Optional choices of this kind are treated in Optimality Theory by considering two ranking options, each yielding its own winner. The variant of (25) lacking a comma wins when NoComma is above Clausal, as shown in Table 7 above. The variant with a comma wins when Clausal dominates NoComma, as demonstrated in Table 8 above.

In the final part of this section we shall deal with the typological variation arising from different clausal concepts. The different clause types yield different clausal constraints (abbreviated as Cl). These specific constraints substitute the general clausal constraint in (5) above according to the following schema: If the boundary of a clause of type X occurs between two syntactic units, there is a comma between them. The types of clauses defined in (26) are relevant for our discussion:

(26) Fin-Cl: a clause having a finite predicate (Fin) and optionally a complementizer as hierarchically stacked heads.
NonFin-Mod-Cl: a modifier clause (Mod-Cl) headed by a non-finite predicate.
NonFin-Cm-Cl: a complement clause (Cm-Cl) headed by a non-finite predicate, i.e. a non-finite subject or object clause.

Functional heads, i.e. auxiliary and modal verbs as well as complementizers, form a clause union with the deeper embedded verbal head. This means that there is no clause boundary and hence no clausal comma between a complementizer or an auxiliary verb and its sister.
We shall present evidence that the clausal constraints are intrinsically ranked: The use of the comma in non-finite complement clauses unilaterally implies the use of the comma in all other clause types. This situation is found in German. Thus, German offers preliminary evidence that NonFin-Cm-Cl is the lowest constraint. The comma in clauses headed by a finite predicate and a complementizer allows no implication. This suggests that Fin-Cl is the highest constraint. Russian offers evidence that the constraint for non-finite adverbial clauses, NonFin-Mod-Cl, outranks the constraint for non-finite complement clauses, NonFin-Cm-Cl. With this preliminary empirical evidence at hand, we propose the following invariant ranking:

(27) Fin-Cl >> NonFin-Mod-Cl >> NonFin-Cm-Cl

This ranking can also be motivated on conceptual grounds by a combination of two correlating factors: the overt structural complexity of the clause and the tightness of the relation between matrix and subordinate clause. As to the latter factor, complement clauses, which characterize the lowest constraint, are closer connected to the matrix predicate, while modifier clauses, which are part of the higher constraint, are more independent of it. Finite clauses, which are found in the highest constraint, have an independent tense or mood and are therefore more independent than both types of non-finite clauses. As to the complexity factor, the clause type in the highest constraint has the most fully fledged structure: A verb phrase (VP) is embedded into an inflection or tense phrase (IP or TP) and a complementizer phrase (CP). The complexity hierarchy underlying (27) is corroborated by language acquisition facts (cf. Clahsen 1982): children start with rudimentary argument structures headed by non-finite predicates, acquire the role of verbal inflection for clause structure in the next step and use complementizers in the last step.

The ranking in (27) is vacuous without the economy constraint NoComma, because candidates must have the same clause type as an input in order to compete with each other. However, the ranking is needed because the economy constraint NoComma may kick in at any point in the hierarchy (27), yielding different comma systems. Cf. (28):

(28) Non-sub >> Fin-Cl >> NonFin-Mod-Cl >> NonFin-Cm-Cl >>

↑ ↑ ↑ ↑
NoComma NoComma NoComma NoComma

Writing systems with Non-sub >> NoComma >> Fin-Cl do not have a clausal comma because Fin-Cl dominates all clausal constraints. Such systems belong to English, Dutch, and the Romance languages, as shown above.
Writing systems with Fin-Cl >> NoComma >> NonFin-Mod-Cl have a clausal comma only for clauses headed by a finite predicate. The comma is prohibited in all non-finite clauses because NonFin-Mod-Cl invariantly dominates NonFin-Cm-Cl. This situation characterizes Finnish and Hungarian. Compare the Hungarian examples in (23) above with those in (29)–(30) below (cf. Ginter & Tornái 1986: 328, 397):

(29) Nem szabad balra fordulni.  
     ‘It is not allowed to turn left.’

(30) Péter egy vidám dalt énekelve megy az utcán.  
     ‘Peter is walking in the street singing a merry song.’

Table 9 and Table 10 offer an optimality-theoretic evaluation of the examples (23) and (29) respectively:

Table 9. Subordinated finite clauses in a system with Fin-Cl >> NoComma (e.g. Hungarian)

<table>
<thead>
<tr>
<th>Kérlek <em>FIN-CL</em> [hogy gyere el hozzánk]</th>
<th>FIN-CL</th>
<th>NoComma</th>
<th>other clausal constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Kérlek, hogy gyere el hozzánk</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Kérlek hogy gyere el hozzánk</td>
<td></td>
<td>!</td>
<td></td>
</tr>
</tbody>
</table>

Table 10. Subordinated non-finite clauses in a system with Fin-Cl >> NoComma >> (e.g. Hungarian)

<table>
<thead>
<tr>
<th>Nem szabad <em>NONFIN-CL</em> [balra fordulni]</th>
<th>FIN-CL</th>
<th>NoComma</th>
<th>other clausal constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nem szabad, balra fordulni</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>* Nem szabad balra fordulni</td>
<td></td>
<td>!</td>
<td></td>
</tr>
</tbody>
</table>

The evaluation of other types of clausal commas in other languages can be derived by analogy and is therefore omitted in the remainder of this section.

Another type of clausal comma is found in Russian. It is characterized by the ranking NonFin-Mod-Cl >> NoComma >> NonFin-Cm-Cl. This means that the clausal comma is banned from non-finite complement clauses only and licensed in all other clause types, i.e. non-finite adverbial clauses including participial constructions, and all finite clauses (cf. Kirschbaum 2001: 363, Löwen 2006: 47). Consider (22) above and (31)–(32):

(31) Я вышел на крыльца, чтобы освежиться.  
     ‘I went out on the outside staircase in order to refresh myself.’

(32) Мы надеялись застать его дома.  
     ‘We hoped to find him at home.’
Finally, **NonFin-Cm-Cl >> NoComma** is the ranking characterizing the comma system of Modern German before the orthographic reform of 1996 and after its revision in 2006. In this system, all clause types trigger a comma so that the distinction between a clausal and a non-clausal non-finite construction is crucial. Infinitive constructions without *zu* ‘to’, which are selected by auxiliary, modal, and a few similar verbs, are not clausal since they form a clause union with the matrix verb. But infinitive constructions with *zu* may be clausal or non-clausal. Non-clausal constructions contain a ‘coherent’, i.e. ‘incorporated’, infinitive verb which is in clause union with the superordinate main verb (cf. Primus 1993, Gallmann 1997). These constructions are illustrated in (33)–(35):

(33) Das Auto scheint schnell zu fahren.  
‘The car seems to run fast.’

(34) Das Auto verspricht schnell zu fahren.  
‘The car is bound to run fast.’

(35) Schnell scheint das Auto nicht zu fahren.  
‘The car does not seem to run fast.’

These constructions contain a chain of main verbs behaving like one complex predicate. As a result, the dependents (arguments and modifiers) of the two main verbs can be placed within the whole clause and need not stay close to their head (dependent ‘scrambling’). This is shown in (35) for *schnell* ‘fast’, which occurs before the matrix verb *scheint* ‘seems’ although it modifies the meaning of the infinitive *fahren* ‘run, drive’. Only infinitive constructions in complement function, to the exclusion of those in modifier function, may be ‘coherent’ or ‘incorporated’. All these properties seem to hold cross-linguistically for clause union phenomena of this kind (cf. Harbert 1977, Alsina et al. 1997).

Instead of addressing the basic distinction between coherent and incoherent infinitive constructions, the German comma norms before 1996 and after 2006 pick up epiphenomena. Thus, for instance, the normative rules require an obligatory comma for adverbial infinitives and prohibit the comma whenever a dependent of the embedded verb occurs before the superordinate verb (dependent ‘scrambling’). Due to these and other flaws — for instance, the fact that dislocations are not captured as a unitary phenomenon —, the older norms (cf. Duden 1991) were unnecessarily complex and functionally opaque. The comma reform of 1996 was an attempt to simplify the norm system by turning the comma in non-finite constructions from a strictly regulated sign into an indiscriminately optional one (cf. Duden 1996). This means that commas may be used or omitted in all types of non-finite clauses. In order to assess whether this orthographic change was viable, we need to take a closer look at the factors that motivate a clausal comma.
The empirically and conceptually well-motivated hierarchy of clausal constraints suggests that the comma is more readily used if clauses are clearly marked by a complementizer and verbal finiteness and that it is more readily omitted if clauses lack a complementizer and verbal finiteness. This is in line with our earlier assumption that the comma is preferred in addition to an overt cue of the syntactic construction (the ‘bootsraper’ effect). These results cast a doubt on the global assumption that the clausal comma serves a purely disambiguating function (cf. Schmidt 1994). Nevertheless, the need for disambiguation seems to play a certain role for some uses of the clausal comma.

Let us look at embedded complementizer clauses first. In all languages under discussion, the complementizer is in initial position. So, it fails to mark the clause boundary if the embedded clause is preposed. The clause boundary is even more difficult to recognize if two finite verbs occur next to each other. This situation is bound to occur if the verb in embedded clauses has an obligatory final position and if preposing triggers subject-verb inversion, as in German and Dutch. This might be a factor that stimulated the rise of the clausal comma in these languages. (36)–(37) offer relevant examples in Dutch (cf. Donaldson 1981: 18). The adjacent verbs are set off in italics for convenience.

(36) Als je het morgen doet, krijg je iets van me.
    ‘If you do it tomorrow, you get something from me.’

(37) De man die in dat huis woont, is mijn zoon.
    ‘The man who lives in that house is my son.’

Dutch is particularly revealing because, as shown in (36)–(37), the clausal comma is only licensed when verbs belonging to different clauses occur next to each other (cf. Daniëls 1994). Similar guidelines are found for English (cf. Todd 1997, Nunberg & Briscoe 2002) and Swedish (Holmes & Hinchliffe 2003).

Another processing factor that may have enhanced the rise of a clausal comma concerns non-finite complement clauses in German. In German, non-finite complement clauses lack a complementizer and non-finite predicates always follow their dependents. In this situation, the boundary of the non-finite clause is opaque. The disambiguating role of the comma in such instances is shown in (38):

(38) Er versprach mir, das zu sagen.
    Er versprach, mir das zu sagen.

In English and the Romance languages, which lack a clausal comma, such an ambiguity does not arise. (39)–(40) illustrate translations of the German examples (38) into English and French respectively:
(39) He promised to me to say that.
He promised to say that to me.

(40) Il m’a promis de le dire.
Il a promis de me le dire.

It seems then that the comma separating non-finite complement clauses in German is well motivated by the word order type of the language, which is responsible for a recurrent processing difficulty in these constructions. This casts a doubt on the viability of the German comma reform, which made the comma in non-finite constructions indiscriminately optional. Even worse, the reformed system is not simpler than the older one because the clausal comma was abolished only optionally and only for non-finite clauses. Recall that optionality means that two systems co-exist side by side. Unsurprisingly, the German comma reform of 1996 has not been accepted by leading cultural institutions and prominent individuals. As a consequence, the old norm has been implicitly reintroduced in form of guidelines in the past ten years, as documented by the different editions of Duden — Rechtschreibung. Finally, in 2006, the comma reform has been partially withdrawn by the normative institutions (cf. www.rechtschreibrat.de).

5. Conclusion

In this paper, we explained the typological and historical variation of the comma in purely syntactic terms and refuted the traditional treatment based on the distinction between a prosodically and a grammatically motivated comma. The general objection against the standard view is that the two motivations of the comma are too wide apart to explain the rather fast historical changes leading to the modern systems. Another major objection is the unnecessary complexity and vagueness of the postulated rule system.

The syntactic view presented in this paper reconstructs the major comma types by three functional, i.e. input-oriented constraints that license the comma for non-subordinated, i.e. coordinated or dislocated, sisters and for sisters that are separated by a clause boundary. An economy constraint that bans the use of the comma competes with these functional constraints. The comma constraints and their interaction are formulated in optimality-theoretic terms. The major typological parameter and the historical changes at issue arise due to the two ranking options of the clausal constraint and the economy constraint. Historically and ontogenetically early uses of the comma occur in constructions that neutralize this ranking. Clausal coordination is such a construction. Minor typological differences regard the different clause types that are relevant for the clausal constraint.
These differences are captured by splitting the clausal constraint into three more specific, intrinsically ranked constraints.

We also showed that the orthographic changes stipulated by the German reform of 1996 are unmotivated: the resulting system is neither simpler nor better motivated than the older one.

In sum, the different comma systems have a very systematic and simple syntactic motivation. This functional thread should not be taken as an argument against the relative autonomy of writing systems in general and that of punctuation in particular. The comma signals that two syntactic sisters are not subordinated or that they are separated by a clause boundary. However, these functions do not form a natural class in the syntax of oral languages. As to coordination and dislocation, they do not constitute a uniform type of syntactic relation or construction, and the different types of dislocations are also syntactically too disparate to be definable in a uniform way. What they share in common can be defined only negatively in syntactic terms: coordination and dislocation involve a syntactic concatenation that is not proper subordination. Subordination is the unmarked type of syntactic concatenation which is systematically coded by word order and inflection. From this perspective, it makes sense to use a punctuation mark when two sisters are not connected by proper subordination. As to the clausal comma, the relevant clause types — finite clauses, non-finite modifier and complement clauses — are well motivated syntactically. However, the use of the comma cuts across the hierarchy of clause types. It lumps some clause types together and separates others with no obvious syntactic motivation. In other words, the orthographic clause notions do not seem to match the syntactic clause concepts in a perfect way.

Notes

* The present paper is dedicated to Theo Vennemann on the occasion of his 70th birthday. It has benefited from the suggestions of Patrick Brandt, Anneke Neijt, and Silvia Kutscher.

1. Dokumente (1939) offer a relatively recent defence of prosodic punctuation for the European languages, while Robertson (1785) deserves to be mentioned as an early grammatical interpretation of English punctuation. A grammatical pluralistic view is more recently defended for French by Catach (1996), for Dutch by Daniëls (1994), and for Italian by Ferrari (2003), just to name a few influential works.

2. Optimality-theoretic formulations are more precise and easier to verify than informal ones. The theoretical apparatus is congenial, but not essential for the empirical results of the present paper. The constraints may be interpreted informally by the readers who are not interested in Optimality Theory.
3. The direction of fit exemplified in this paper is from syntax to punctuation. Every constraint is formulated as an implication with a syntactic information in the premise and a statement about the comma in the consequence. The direction of fit may be reversed due to the logical law of contraposition: \( A \rightarrow B \) is equivalent with \( \text{Non-}B \rightarrow \text{Non-}A \). Additional constraints that are intrinsic to the writing system take care that the comma is attached to the last letter of the first unit (cf. Bredel 2005 for such constraints).

4. The relation between performance, i.e. syntactic and punctuation processing, and grammar is discussed in Bredel & Primus (2007).


6. In pro-drop languages, e.g. the Romance languages, the pronominal copy of the argument may be covert and hence less reliable as an indicator of dislocation. It also may be the case that elements that resemble pronouns serve as agreement markers for verbal arguments. This also blurs the overt distinction between dislocated and subordinated arguments.

7. Commas surrounding units, as in some of the examples presented in this section, have been classified as a double comma by Baudusch (1981), Maas (1992), and Todd (1997) among others. In our analysis, these are individually licensed commas that render an additional comma type superfluous (cf. (17')).

References


Author’s address

Beatrice Primus
Institute of German language and literature
University of Cologne
Albertus-Magnus-Platz
D-50923 Köln
Germany
primus@uni-koeln.de

All rights reserved