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Processing Interclausal Relationships
Studies in the Production and Comprehension of Text

Edited by Jean Costermans Michel Fayol
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Chapter 12

Textual Organizers and Text Types: Ontogenetic Aspects in Writing

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This chapter reviews those units of language that function as textual organizers and the psychological operations underlying their production. The experimental studies that are reported on are characterized by an interactionist and differential approach that reveals the relationships of interdependence between certain configurations of linguistic units and certain configurations of contextual parameters. Such an approach implies the description of types of texts, including specific linguistic characteristics, and the formulation of linguistic operations that represent the different forms of interdependence between text and context.

THE PLACE OF TEXTUAL ORGANIZERS IN A LANGUAGE PRODUCTION MODEL

Our general point of view can be stated as follows (see also Bronckart, Bain, Schneuwly, Davaud, & Pasquier, 1985; Schneuwly, 1988a; Bronckart 1994): the aim of the psychology of language is to place the speech action in a social context that is always its origin and its endpoint. The speech action is materialized in texts, sets of strongly organized linguistic units that are the traces of linguistic operations realizing the action. This general definition has important theoretical and methodological implications.

From a theoretical point of view, three areas have to be incorporated into the theory: the extralinguistic area or the context of the speech action; the mechanisms that treat the extralinguistic areas and whose traces are the linguistic units; and the linguistic units that constitute the text.
Every human action takes place in a space of cooperation that takes the form of a social place in which specific forms of social practices function; they determine what can be said, by whom, how, and by what means. Every actor is defined as enunciator by the role he or she takes and the specific nature of the relationship with the addressee. In acting, he or she pursues aims in relation to the role the social place in which he or she is acting. At the same time, every speech action is also a physical act defining a material situation with, on the one hand, an emitter and a receiver, and, on the other, a physical space and a moment in which language is produced. These parameters function as points of reference on which to anchor texts from an enunciative point of view.

Three levels of linguistic operations can be distinguished. The first is the elaboration of an orientation base for the speech action by the representation of the social interaction (social place, enunciator, addressee, goal) and of the material situation. On each of these parameters of the extralinguistic context, choices have to be made that define the mode of the speech action, that is, the text type (or genre) most efficient to act in the situation given. The second is the discursive planning of the text that includes two main dimensions: the planning of the text on the basis of more or less stereotypical models (genres) related to the context and the anchoring of the text, that is, archetypical ways of language functioning that determine, to a certain degree, the envelope of certain linguistic units. The third is the linearization process with, on the one hand, the propositional structuration resulting in predicative units and, on the other, the processes of textualization that integrate these predicative units into a web of relations. Two main aspects can be distinguished in the process of textualization: operations of cohesion that guarantee the progression of the text on the level of the noun phrase (anaphora, phenomena of topicalization; De Weck, 1991) or of the verb phrase (continuity and change of tenses; Bronckart & Fayol, 1988) and operations of connection that act on the level of clauses, and structure them into hierarchically organized units. Textual organizers are the most important traces of the operations of connecting.

**TEXTUAL ORGANIZERS: A DEFINITION**

Except for Antoine’s monograph devoted to La Coordination en Français (Antonie, 1958/1962), very few linguists belonging to the structuralist school studied textual organizers. Indeed, Brunot (1926), Sechehaye (1950), and Bally (1932) investigated textual organizers, but their main concern was to introduce some order and consistency into a rather vague classification of this unit category. On the other hand, for the proponents of generative grammar,
connectives were used mainly as preferred criteria for validating some hypotheses on syntactic description (see, in particular, the synthesis proposed by Grunig, 1977).

For the last 20 years, however, as an extension of the studies performed by logicians and philosophers, connectives and organizers have been analyzed in numerous, often stimulating, studies. Dealing with the logic of language from a pragmatic perspective, Ducrot and his collaborators (Ducrot, 1980) analyzed the conditions of use in French of such units as mais (‘but’), eh bien (‘well’), décidément (‘indeed’), d’ailleurs (‘moreover’), etc. They demonstrated that the functioning of these units was highly dependent on the characteristics of the situation in which they were used. Within the framework of textual linguistics, Van Dijk (1979) and, above all, Biasci (1982) proposed a distinction between the semantic functioning (chaining of clauses) and the pragmatic functioning (chaining of speech acts) of various connectives in English, German, and Italian. A more exhaustive study of textual organizers was proposed by Güllich (1970), who demonstrated that the distribution of units is dependent on the type of text and what it contributes to the structuration of episodic units in narratives. Quasthoff (1979) expanded this idea for narratives by distinguishing marks of segmentation (metanarrative sentences, abstraction, orientation) that indicate primarily macroscopic cesuras and connection marks that have a two-fold status: They can be the trace of general planning as well as the trace of means used for connecting events within a temporal or causal sequence to orient the addressee’s attention. Both authors also analyzed a number of units that seem to be involuntary traces of an intense activity of cognitive planning and that signal that one is going to continue to speak. These functional analyses led to a definition of a class of linguistic units that expands the traditional class of connectors or conjunctions to what the authors call Verknüpfungs- und Gliederungssignale, or signals of connection and segmenting. They include certain adverbs, some prepositional phrases, and other expressions like “well,” “so,” ad so forth.

The functions of textual organizers are analyzed in the same vein in the research of Adam (1990) and Adam and Revaz (1989) who studied a corpus of descriptive texts. More precisely, they showed that these units mark, on the local level, the intra- and interpropositional chaining and, on the global level, the structure of textual sequences. In descriptive texts, three categories of textual organizers are used: enumerative units, which give no other information than the fact that the discursive segment which they introduce has to be integrated in a linear fashion into a series (Coltier & Turco, 1988); temporal units, which orient the addressee toward a chronological interpretation of the elements, as the description of a series of actions; and spatial units, which also
segment and organize the text into different parts. These studies lead to the conclusion that to study the problem of connecting in text, it is necessary to define a relatively large class of linguistic units, that is, textual organizers including conjunctions, prepositional phrases, adverbs, and so forth. These units constitute configurations whose form depends on the type of text analyzed. These results lead to a definition of a class of linguistic units in the framework just defined.

What are Textual Organizers?

As stated earlier, the operations of connecting act on the level of clauses and structure them into hierarchically organized units. The formal characteristic of these operations is to act on the clauses. The linguistic units that are the main traces of these operations are distributed on the interpropositionnel level or, in some cases, on the predicative level between utterances (Bronckart, et al., 1985). In French, three classes of linguistic units perform the connecting and segmenting function in the text:

1. Coordinate conjunctions (for instance: et ('and'), mais ('but'), car ('for'), and subordinate conjunctions (lorsque ('when'), parce que ('because')).

2. A subset of adverbs or adverbial locutions that function independently of the syntax of sentences, that do not have any clear grammatical function in the utterance in which they appear, for example, tout à coup ('at once'), soudain ('suddenly'), premièrement ('first'), finalement ('finally'), plus tard ('later on'), d'une part ('on the one hand'), c'est pourquoi ('that is why'). Often, these units appear at the beginning of utterances. 3. A subset of prepositional phrases that can be simple; for example, à sept heures ('at 7 o'clock), pendant huit jours ('for a week'), au sud ('in the south'), or more complex structures such as après la tombée de la nuit ('after nightfall'), lors du passage de Luc à Berlin ('during Luc's stay in Berlin'), etc. The subset also includes nominal groups that function as prepositional phrases, such as un jour ('one day'), le lendemain ('the next day'), and so forth.

These units may be called textual organizers.

The Functions of Textual Organizers

On the basis of the existing literature, it seems possible to distinguish three groups of operations of connecting and segmenting:
1. Beaconing operations mark the different structural levels of a text, be they the semantic macrostructure or the conventional superstructure of a text type. They create the origin of a text and relay it through the text by temporal, spatial, or logicoargumentative expressions; they specify also the transitions between the different phases of a conventional text plan. In French, a set of entities seems to constitute more specifically the traces of these processes: nominal groups, prepositional groups, and some adverbs such as premierement (‘firstly’), deuxieme (‘secondly’), tout d’abord (‘first of all’).

2. Packaging operations create strongly connected textual entities by forming packages of clauses (as defined by Adam, 1984) and, where necessary, by defining the type of linkage between the different components of the entities created. According to Smith and Frawley (1983), who analyzed the influence of situation and type of text on the use of organizers, it is possible to distinguish integrative packaging (one clause is embedded in another, essentially, by procedures of subordination) and additive packaging (one clause is added to another by procedures of coordination). 3. Linking operations, as, Quasthoff (1979), Gulich (1970), and others have shown, guarantee the material continuity of the language production process. They are important in oral production, but only rarely leave traces in written texts. In an ontogenetic perspective, they also seem, nonetheless, to be important in writing.

How Can Textual Organizers Be Studied?

On the basis of these theoretical proposals, an experimental method was derived that aimed to bring out the relationships of dependence existing between certain types of contexts and certain configurations of surface units in a corpus. More precisely, the types of text production conditions that constitute the independent variables in the experiments are defined by controlling the parameters of social interaction and by their relations with the parameters of the act of production (Bronckart & Schneuwly, 1991). This chapter demonstrates the crucial importance of considering text types in describing the deep restructuring of the configuration of textual organizers during the ontogenesis of writing. This is done by presenting the main results of several studies with a common methodology.

1. Types of text production conditions are defined by controlling the main parameters of social interaction (enunciator, addressee, goal, social place) that result, generally, in a given text type. The referential content is the same for the text produced in the same conditions.
2. Texts collected were produced in these conditions by children of different age groups.

3. The textual organizers are categorized in accordance with the main categories introduced previously: formal (coordinate vs. subordinate), functional (beaconing, packaging, linking) or lexical (mainly temporal vs. nontemporal organizers). The categorization depends largely on the specific text type analyzed. 4. The configurations of textual organizers are analyzed as a function of the text types and of the age groups.

THE USE OF TEXTUAL ORGANIZERS:
AN ONTOGENETIC VIEW
AND SOME GENERAL HYPOTHESES

There have been many studies on the use of connectives at different ages. Kail and Weissenborn (1991) gave a critical overview, which shows that in these studies, connectors are never analyzed as a system of oppositions. Moreover, the studies are generally devoted to the comprehension or the production of connectors by very young children in situations of communication that are very different from the production of more complex, monologic texts. Fayol's pioneering studies (Fayol, 1981, 1986; see also Mouchon, Fayol, & Gombert, 1991) on written narratives describe three systems of textual organizers in children ages 7 to 10: connection versus absence of connection marked by the presence or absence of et ('and'); strong versus weak connections marked by a system of opposing units like puis ('then') to et ('and'); and, finally, a more complex system where the degree of connexion, the antecedent/consequence relation, and other chronological relationships are marked. Chanquoy (1991) varied the types of written text (descriptive vs. narrative) and observed the connectors used at different ages (children in second and third grade of primary school). The results of her study demonstrate that the use of these units is not defined by the level of the sentence, but depends on, besides the age of the subjects, the type of texts and the topic of the texts (for similar results, see Rosat, 1989a).

These studies on the development of some textual organizers in written texts show two essential aspects that are in accordance with the general framework developed so far. First, textual organizers have to be analyzed as wholes functioning together, as configurations marking essential aspects of a text or, to put it in another way, as traces of operations on different levels of the production of a text. Second, these configurations differ strongly across different text types; this also means that their acquisition can only be studied by taking into account the dimensions of communication situation and text type. What a student masters is not the use of a particular textual organizer, but a certain way of acting
verbally, of using a text type that is likely to be efficient in certain communication situations. In this way, the student acquires the subsystems of linguistic units that function in these text types. This theoretical position is illustrated by analysis of the use of textual organizers at different ages in different types of written texts. Aspects to be discussed include how, at the early stages of learning to write texts, textual organizers and, more particularly, the unit et, play an important role in the external control of the ongoing activity of writing (linking operations). Further, the learning of writing can be described as a process of differentiation of text types. This includes the building of different configurations of textual organizers in accordance with different text types. But, this process of differentiation cannot be conceived of as a homogeneous process, rather it is a process of unequal development of different units and configurations. In addition, one path across which development takes place can be described as new functions enacted by old forms before the functions are stabilized by new and differentiated forms.

**EMPIRICAL ILLUSTRATIONS**

The Tendency for Textual Organizers to be Used with Decreasing Frequency

To acquire a first general idea about the use of textual organizers in different text types produced by students of different age groups, it is interesting to know the overall frequencies of these linguistic units. Two hypotheses are plausible regarding these frequencies. First, because mastery of organizers and of texts increases with age, one might suppose that the frequency of organizers increases in all text types. Second, because the mastery of organizers and of texts is incomplete in younger students, they tend to use the units very frequently and in an undifferentiated way to compensate for a less-than-perfect internal structure of the texts.

Observation of the overall frequencies of textual organizers in different text types produces a very regular pattern. Although they may vary from one type to another, there is one clear ontogenetic tendency: textual organizers, as defined by the ratio between these linguistic units and finite verbs, are used with

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1. The same observation has not been made for oral texts; see Rosat 1969b and 1991 for a comparison between oral and written texts in the same conditions of production (explanation and argumentation). It is interesting to note here that in two studies, the observation has been made that there is an inverse relationship between the density of textual organizers and anaphora (Schneuwly, & Bronckart, 1986; De Weeck, 1991). Fairy tales for instance, where textual organizers are not very frequent, are quite dense in anaphora.
TABLE 12.1
The Global Decrease of the Rate of Textual Organizers Defined by the Ratio Between Number of Organizers and 100 Finite Verbs in Texts

<table>
<thead>
<tr>
<th>Text Types</th>
<th>Age 8</th>
<th>Age 10</th>
<th>Age 12</th>
<th>Age 14</th>
<th>Age AD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter to the editor(^a)</td>
<td>73</td>
<td>64</td>
<td>58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rules of a game(^b)</td>
<td>52</td>
<td>53</td>
<td>47</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Construction of an object(^b)</td>
<td>65</td>
<td>60</td>
<td>59</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Report of a museum visit(^c)</td>
<td>72</td>
<td>44</td>
<td>42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairy tale(^d)</td>
<td>54</td>
<td>49</td>
<td>41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short news item(^d)</td>
<td>58</td>
<td>49</td>
<td>43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation(^d)</td>
<td>47</td>
<td>45</td>
<td>41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter relating story(^d)</td>
<td>52</td>
<td>47</td>
<td>43</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes. \(^a\)Schneuwly, 1988; \(^b\)Schneuwly, & Rosat, 1986; \(^c\)Schwinn Lang, & Rieben, 1992; \(^d\)Dolz, 1990.

decreasing frequency, as demonstrated in Table 12.1.

This decrease is due to two main factors. First, there is a decline in the use of units like *et* (‘and’) or *puis* (‘and then’), but also of *puis* (‘then’), *après* (‘after’), and *aussi* (‘also’) for enumeration of arguments. Second, this tendency is only partly compensated for by the use of other organizers that can take the place of the units no longer used. The second hypothesis mentioned before is thus confirmed. To understand more exactly what is the function of the high frequency of units *et* (‘and’), *puis* (‘then’), *après* (‘after’), it is necessary to proceed to a more qualitative analysis of the functions of *et*.

The unit *et* (‘and’), although becoming less frequent, does not disappear, but rather, changes its function. This can be demonstrated, for instance, in informative texts (for explanations of the rules of a game, see Schneuwly, 1988a; for similar results on narrations and reports, see also Schwinn Lang & Rieben, 1992; and, on argumentative and injunctive texts, Rosat, 1991 and 1989b). From a formal and functional point of view, three ways of using the unit *et* can be distinguished.

1. *Et* can be used between clauses referring to actions or events that are necessarily related. In particular, this strong relationship concerns the case where the same person executes several related actions. Syntactically, the grammatical subject can be mentioned only once. For example, *He runs to the tree, claps and calls out the name of the hidden person.*
12. Textual Organizers and Text Types

2. Et can also be used between clauses that refer to actions or events that happen together (with the possible substitution by pendant que ['while']) or where the one is the consequence of the other (with the possible addition of par conséquent ['consequently']). For example, He calls out and (consequently) is set free. 3. Et between clauses without apparent relationship or accompanying other textual organizers. For example, He has to look for them and the others have to set themselves free and the last one can set all others free. And if he has not been set free.

Use of et of the first category corresponds to an integrative; use of the second to an additive packaging. The et of the third category has, essentially, the function of ensuring the material continuity of the production of the text (linking operation). Table 12.2 provides the results of the use of et in 120 texts written by 30 students in 4 age groups.

This table reveals a clear decline in the percentage of the et of the third category in favor of the first one, with the second category being more or less stable across the age groups. In other words, whereas in the younger students' texts the et functions as a way of linking superficially, in a undifferentiated way, the utterances of a text, it specializes more and more in the function of creating packages of utterances, forming clearly marked textual units. The following examples illustrate the results (Schneuwly, 1988a, p. 130):

1. Il faut coller et compter jusqu'à 100 et les autres doivent se cacher. Après il doit aller les chercher et les autres doivent se délivrer et le dernier a le droit de délivrer tous les autres. Et s'il n'a pas attrapé personne, il doit recompter. (Fabien, age 10)

Table 12.2
Three Types of AND in Explanatory Texts

<table>
<thead>
<tr>
<th>Types of AND</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 years</td>
<td>12 years</td>
<td>14 years</td>
<td>Adults</td>
</tr>
<tr>
<td>Strong relationship</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Concomitance</td>
<td>19</td>
<td>25</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>No relationship</td>
<td>51</td>
<td>68</td>
<td>38</td>
<td>40</td>
</tr>
<tr>
<td>Not categorized</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>100</td>
<td>94</td>
<td>100</td>
</tr>
</tbody>
</table>
set themselves free and the last one has the right to set all the others free. And if he has not caught anybody, he has to count again.'

...A la fin du jeu, quand chacun est soit délivré ou attrapé et qu'il ne reste qu'une personne cachée, celle-ci peut délivrer tout le monde. Dans ce cas, le jeu recommence et la personne collée reste la même. Si ce n'est pas le cas, la première personne attrapée doit coller au tour suivant. Et le jeu recommence. (Xavier, adult)

...At the end of the game, when everybody is set free or captured and there is only one person still hiding, this one can set everybody free. If this happens, the game begins again and the person covering his eyes is still the same one. If not, the first person captured has to cover his eyes the next time. And the game begins again.

For the 10-year-olds, most ets are units that ensure the continuity of the activity of text production. As can be seen in the example, the ets do not so much connect the clauses of the text as guarantee the continuation of the process of enunciation itself. This is what it means to be the trace of operations of linking. The high proportion of ets of the first category (50 and 67%, respectively) in the 14-year-olds' and adults' texts is the result of a more and more precise definition of the function of et as a means of creating strongly homogeneous units in the text, that is, integrative and additive packaging.

The Increasing Differentiation of Text Types by Textual Organizers

As stated above, the fundamental assumption about development underlying these studies is that this development must be conceived of as a progressive mastery of text types (or genres) adapted to different communication situations; a process of increasing differentiation. This viewpoint has two consequences for the analysis of textual organizers. First, the increasing mastery of text types or genres appears, when one observes textual organizers, as a change of the global configurations of these units or, more accurately, as an ongoing process of the restructuring of configurations of textual organizers corresponding to text types. Second, one and the same textual organizer in different text types, and, consequently, in different configurations, is unequally mastered. In other words, the development of textual organizers has necessarily to be analyzed as part of the ongoing mastery of text types in given communication situations.

The decreasing rate of poorly differentiated textual organizers like et ('and'), puis ('then'), and après ('after') allows specification of text types more and more
by characteristic configurations of textual organizers. This ontogenetic tendency is well documented in most of the studies on the relationship between text types and textual organizers, and can be illustrated by three text types (for other text types, see Schneuwly & Rosat, 1986, 1995). In the first text type, 28 students ages 10, 12, and 14 see contradictory points of view on the ecological problems of car use in a video film. They discuss this as a group, analyze the different arguments, and watch the film again. Afterward, they write a short text on the topic for the school magazine giving arguments for and against (Rosat, 1990, 1991). The categories of textual organizers in Table 12.3 show a clear change in the configuration.

A more qualitative analysis reveals the underlying reasons for the change. In the texts of the youngest students, the ets (‘ands’), but also the other organizers (mainly expressions like puis [‘then’]), mark the material continuity of the text in juxtaposing different arguments. The nontemporal subordinates are essentially parce que (‘because’), which introduces a justification. The few other nontemporal organizers are mainly mais (‘but’), which locally contrasts two opposite utterances. The texts of the 12-year-olds, although still containing a large number of ets simply juxtaposing utterances, also exhibit organizers with more specific semantic values. Among them, the nontemporal subordinate parce que is still frequent, but other units appear to be marking an opposition (tandis que [‘whereas’]) or a possibility (si [‘if’]). The other nontemporal organizers are still mainly mais, but units of enumeration (soit ... soit [‘either ... or’]), opposition (par contre [‘on the other hand’]) and illustration (par exemple [‘for instance’]) appear. The system changes much more radically in the texts of the 14-year-olds. Generally, organizers become relatively rare and mainly specific units are used with the following functions: many non-temporal organizers have a clear beaconing function (marking the different arguments and counterarguments like en outre [‘furthermore’], en revanche [‘on the other hand’]; they are

| Table 12.3 |

<table>
<thead>
<tr>
<th>Textual Organizers in Argumentative Texts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categories of textual organizers</td>
</tr>
<tr>
<td>AND</td>
</tr>
<tr>
<td>Subordinate nontemporal</td>
</tr>
<tr>
<td>Other nontemporal organizers</td>
</tr>
<tr>
<td>Other organizers</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

12. Textual Organizers and Text Types

A French cooking show. Le chef is cooking. Il ne reste plus que le dessert. En effet, après l'assiette de la première journée, la deuxième journée est la plus difficile. (Xavier, post-

structured and free. If this phrase is true for old eyes it is still more true for young eyes the young child.

To present the activity in a way that is so much more accurate, the process of structuring becomes that of linking. Now, we will see the precise and homogeneous way

That underlying viewpoint has evolved to a viewpoint has

increasingly increased the textual organizers to a viewpoint has

more accurate. The small number of textual organizers was the same textual organizers to a viewpoint has

configuration of textual organizers to a viewpoint has

the mastery of textual organizers to a viewpoint has

and et (‘and’),

more and more...
introducing reformulations in the text like *en fait* ['in fact'], and *en bref* ['in brief']). The subordinate nontemporal units, and also most of the remaining *ets*, create integrated packages of utterances in the different parts of the text. Textual organizers thus serve the hierarchizing of the text in specifying, at the same time, the relationships between the arguments in the different parts and subparts of the text.

In the second text type, 30 Catalan students ages 10, 12, and 14 produce a short news item for a newspaper (Dolz, 1990) after observation of the following event: a car driver without number plate is stopped by a policeman who wants to check his driving license; the car driver escapes and he is arrested later despite resistance, by a group of policemen.

The text to be produced can be broken down in three main parts. The first part, an introductory paragraph in the form of a preliminary abstract of the events and situation, is typical for short news items. The event itself is composed of two clearly distinct parts: the check by the policeman and the arrest. For the analysis of organizers, the following categories are distinguished: *et* as a form of archiconnector; *mais*, which often marks a change of perspective in stories written by young students; temporal expressions, which essentially mark the chronological dimensions; deictic expressions, which play a particular role for situating events; and nontemporal expressions, namely, spatial expressions situating the events.

In the texts of the 10-year-olds, there is the usual high frequency of *et* that guarantees the continuity of the text. In the texts of the 12-year-olds, the frequency of *et* diminishes sharply, and there is a large increase of organizers that mark the two parts of the text corresponding to the two parts of the event. *Pero* ('but') appears particularly often in this position, but also *llavors* ('then') and some temporal subordinates. *Pero* almost disappears in the texts of the 14-year-olds where the parts are marked mainly by spatial organizers (*en uns carrers* ['in a street']) and temporal subordinates. The texts generally contain an introductory paragraph where the events are precisely located by temporal deictics and spatial expressions. Many temporal expressions like *a cap d'uns minuts* ('one minute later') and temporal subordinates (*com que* ['while']) locating events at a precise moment, on an absolute scale, or in relation to other events become frequent. In accordance with the general aim of this text type, the older children no longer interpret it as narrating events, but mainly as informing or relating that and how things happened and how they happened in a quite straightforward way.

Three aspects of the system of textual organizers thus seem to appear: units specifically situating the events in the present time (deictic expressions); precise temporal units describing events as accurately as possible on a chronological axis; in this way, these units demonstrate the essentially informative value of
the text. The communicative aim influences the construction of an efficient configuration of textual organizers.

The third text type was obtained from explanations of how a canal lock functions as produced by students ages 10, 12, and 14 in French (Schneuwly, Rosat, & Dolz, 1989), German (Schneuwly, 1988b), and Catalan (Dolz, 1990). The content of the text was constant because it was elaborated through a teaching sequence including silent video film, diagrams, discussion, and a summary using key words.

The analysis of the texts of all the students shows that there is no difficulty concerning the understanding of the functioning of a canal lock. Important differences appear, however, in the structure of the text. An explanatory text of the type intended is generally made up of two parts: an introduction that situates the problem and an explanation; it can be followed by a conclusion that generalizes the explanation. This structure is normally marked by a particular configuration of textual organizers.

In the younger students' texts (the 10-year-olds), a very different structure of the text appears with a completely different system of organizers. The explanations are organized as a script or as a list of events. The addition of events is mainly marked by et, by puis, and by marks like temporal subordinate clauses introduced by quand (when'). The 12-year-olds' texts generally contain a short introduction where the general function of the canal lock is described by expressions like car (for), parce que (because), and si (if). The list of actions is less cleargut. In the older students' texts, a large number of nontemporal textual organizers appear, that give the chronological, step-by-step explanation a new perspective. Whereas the explanation, generally given in the second part of the text, continues to be mainly segmented by temporal organizers marking important phases of the process (beaconing function) and by et (packaging function), nontemporal organizers appear in the introduction and the conclusion, namely, final expressions (pour que [so that'), pour + inf. [in order to' + inf.]), causal expressions (c'est pourquoi [that is why'], car [for']) and expressions like par exemple (for instance), and c'est-à-dire (in other words') that mark the explanatory intervention of the enunciator in his own text. The conclusion is clearly introduced by specific expressions like finalement (finally), and en conclusion (in conclusion).

It is as if the simple chronological content is articulated to the specific goal that text type is aimed at, namely, the explanation. The text becomes more interactive, the structure of the text is clearly marked by textual organizers, and metalinguistic expressions are introduced that allow the enunciator to comment on its own text. Again, the textual organizers form a particular configuration in accordance with the specific structure of the particular genre.
The Unequal Development of Textual Organizers as a Function of Text Types

We have seen that textual organizers can be looked upon as configurations that function in accordance with the overall structure of a text and that the mastery of such a text type implies a complete restructuring of the configuration of textual organizers in a text. This point of view, which considers the functioning of textual organizers as configurations, has an important implication. Even if a particular textual organizer is used in a certain function in a given text type, this does not mean that it can automatically be used in the same way in another text type whose system of textual organizers is not yet established and mastered by the student. In other words, development is unequal. What is already mature in some contexts must still mature in others. This observation can be illustrated by two studies.

Schwinn Lang, and Rieben (1992) compared two text types; an invented story of a child meeting an extraterrestrial and a report on a museum visit made the day before. These texts are produced by the same children who are about 8, 10, and 12 years old (2nd, 4th, and 6th grades of primary school). The main results are presented in condensed form in Table 12.4.

The total density of textual organizers shows a very different pattern between the report and the short story. Whereas in the former, the density declines sharply only in the text produced by the 12-year-olds; in the latter, this is already happening at the age of 10 with no significant change observed between ages 10 and 12. This difference is due to two factors. In the case of the report, the density of et decreases less than in the short story and the density of temporal organizers remains roughly the same; a strong decrease takes place for both categories in the case of the short story. Obviously, ontogenetic change does not take place in the same way and at the same time in both text types.

A more qualitative analysis allows a more precise understanding of the observed phenomena. In the report, the temporal organizers are predominantly après (‘after’), ensuite (‘then’), and puis (‘then’), which essentially mark the chronology of events. Generally, only one of these organizers appears in one text, which means that there is no real hierarchy between linguistic units that could be used to mark different levels of the texts. The texts are thus organized as a simple concatenation of events, almost every one being linked to the preceding one in the same way as the others; these events are not structured into more coherent phases with packages of clauses. Packaging appears only in the texts of the 12-year-olds, where the lower density and the simultaneous presence of different temporal organizers, marking different levels in the text,
make it possible to structure the text according to these levels. In the short stories, this is already happening in the texts produced by the 10-year-olds. These students leave behind a stereotypical marking of the chronology of all (or most) events and mark, by differentiated temporal organizers, the main parts of the text, such as the complicating event or the resolution, using organizers like un jour ('one day'), and tout à coup ('suddenly') or by using nontemporal coordinating organizers like mais ('but') or alors ('so'). The change that is observable between the texts of the 10- and 12-year-olds consists exclusively in a larger variety of temporal organizers that have the same kind of Beaconing function as those used by the 10-year-olds. The textual organizers are thus not acquired all at once and used in different text types, rather they are acquired more specifically for a given text type.

Another example illustrates this phenomenon, namely, the comparison of the uses of et ('and') in explanatory texts (see Table 12.2) and in argumentative texts (see Table 12.5), namely, a letter to the editor written by the same pupils.

The differences noted are striking. In the argumentative texts, the majority of the uses of et, at the age of 14, are still of the type "without relationship" (41% compared to 33% for the first category), whereas in explaining the game most

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**TABLE 12.4**

Number and Density (in % of Number of Verbs) of Textual Organizers in Reports and Short Stories

<table>
<thead>
<tr>
<th></th>
<th>Report</th>
<th></th>
<th>Short Story</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Age</td>
<td>8 years</td>
<td>10 years</td>
<td>12 years</td>
<td>8 years</td>
</tr>
<tr>
<td>ET</td>
<td>113</td>
<td>40</td>
<td>149</td>
<td>26</td>
</tr>
<tr>
<td>Temporal organizers</td>
<td>74</td>
<td>28</td>
<td>153</td>
<td>29</td>
</tr>
<tr>
<td>Nontemporal organizers</td>
<td>3</td>
<td>0</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>190</td>
<td>68</td>
<td>330</td>
<td>60</td>
</tr>
<tr>
<td>ET</td>
<td>100</td>
<td>35</td>
<td>99</td>
<td>19</td>
</tr>
<tr>
<td>Temporal Organizers</td>
<td>60</td>
<td>27</td>
<td>64</td>
<td>15</td>
</tr>
<tr>
<td>Nontemporal organizers</td>
<td>27</td>
<td>9</td>
<td>59</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>187</td>
<td>72</td>
<td>222</td>
<td>45</td>
</tr>
</tbody>
</table>
ets are clearly of Category 1 (49% compared to 18%). These results seem to indicate that producing texts by writing is not a skill acquired all at once, in a homogeneous way, but that it follows very different paths depending on the text type concerned. Textual patterns, in this case the textual organizers, that are abandoned in a given text type by children of a specific age are still in use at the same time in other text types.

How Do New Textual Organizers Appear in a Text Type?

From an ontogenetic perspective, it is most interesting to observe precisely how new textual organizers appear in a text type. One way of answering this question is to analyze, very closely, for which textual functions the same textual organizer is used at different ages in the same text type and to compare by which means the textual parts it marks at a certain age are marked at other stages. By observing the use of *mais* ('but') in explanatory texts, this analysis can be demonstrated.

In texts explaining games, *mais* ('but') is used essentially in two different ways (Schneuwly, 1988a). It introduces a new situation. The intervention of a player can change the whole direction of the game or the writer can explain the game from the point of view of one player and then from the point of view of the others, for example, *The one looking finds somebody, runs over and says: 1, 2, 3 and the name. But the others...*

It also has a more local use; it limits the expectation that a word, expression, or clause creates on the part of the reader (*exterior, but also interior; he looks, but remains close to the tree; do the same, but by calling out*). The distribution of the use of *mais* as a function of these two categories is given in Table 12.6.

An important tendency appears at the age of 14, which is confirmed in adult texts. *Mai*s, which has an important function of changing perspective in the texts of the younger students (100% of the occurrences), is used increasingly in

<table>
<thead>
<tr>
<th>Types of AND</th>
<th>Age</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 years</td>
<td>12 years</td>
<td>14 years</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Strong relationship</td>
<td>7</td>
<td>15%</td>
<td>16</td>
</tr>
<tr>
<td>Concomitance</td>
<td>10</td>
<td>21%</td>
<td>10</td>
</tr>
<tr>
<td>No relationship</td>
<td>31</td>
<td>65%</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100%</td>
<td>60</td>
</tr>
</tbody>
</table>
TABLE 12.6
Number and percentage of Two Categories of BUT in Explanatory Texts

<table>
<thead>
<tr>
<th>Types of BUT</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 years</td>
</tr>
<tr>
<td>Change of perspective</td>
<td>N</td>
</tr>
<tr>
<td>Local use</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
</tr>
</tbody>
</table>

a more local context (31% of the occurrences in the 14-year-olds’ texts and 67% in the adults’ texts). This change of perspective is marked, by other means, which can also be combined with rhetorical questions (What do the others have to do?); exclamations (Watch out!); paragraphs and numbers; thematization (The role of the others is to ...); and other nontemporal organizers (par contre ['on the other hand'], and toutefois ['however']).

In the texts of the adults, almost all important changes of perspective are marked by one or another of these means, although generally not by mais. In the texts of the 14-year-olds, this is the case for a majority of texts and passages.

The change observable in the texts seems to indicate that mais plays an important role in the acquisition of textual competence in this text type. It signals, for the writer and the reader, an important change of perspective in the text, change which, on a higher level of mastery, can be indicated by other means. Mais is a first, primitive means that children use to structure their texts. A new function—the structuring of a text—is first expressed by a former means. In the course of development, this new function, that has been stabilized by the former means, will find new, more adequate forms of expression.

CONCLUSIONS

The studies presented here yield the following conclusions for further ontogenetic research on textual organizers: (a) Certain aspects of their functioning can only be understood from a textual point of view (b) Their functions can change profoundly with age (c) They form configurations that function as systems in text types, and (d) These systems are acquired at different rates in the different text types.

These findings indicate that the careful interpretation of any single textual organizer has to take into account its textual use, that is, the system it forms with others in a text as well as the text type in which it is used.
REFERENCES

12. Textual Organizers and Text Types


