

## READING PROBLEMS: SHOULD THEY BE ATTRIBUTED TO SCHOOL?\*

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### I. INTRODUCTION

A child's access to the written language is obviously linked to the formal learning situation in school. Yet, in Brazil, many students spend twelve years at the elementary and secondary school and proceed to the university without having satisfactorily mastered reading and writing skills. It cannot be denied, however, that children who enroll in primary school have already developed their language capacity (at least with respect to oral performance within the limits of the dialect of their peer group), so that we can assume that such children have, at their disposal, the necessary linguistic/cognitive machinery in order to develop reading and writing abilities; in other words, children at the school age are 'mature', linguistically speaking. Thus, it is reasonable to assume that the problem cannot be ascribed to the children; we then have to shift our attention to the school system itself.

Concerning reading and writing skills, we can imagine that the failure of the children are related either to the method and methodology adopted for the teaching of the written language, or to the educational aims according to which school life goes, or to both. As far as method and methodology are concerned, inefficiencies arise mainly out of the inadequate choice of theoretical assumptions about the nature of language in general or about the acquisition of written language in particular. Educational aims, in their turn, tend to 'bias' the teaching of written language not only because it selects and over-estimates the dialect of the dominating strata as the *goal* of learning, but also because it 'produces' mainly passive readers. One could easily argue in relation to students from the lower strata, that passive readers are the outcome of some social mechanism aiming at keeping the social *statu quo*. Yet, the same kind of passive readers is also found to a surprisingly great extent among students from the upper strata. Could one argue then that passiveness (at least in reading) is part of the *statu quo*? This is certainly a question which cannot be approached here. It is worth the while, however, to bear such issues in mind because it is precisely the educational aims, in a strict sense, which determine the choice of methods and methodology which, in turn, embody assumptions about the nature of language and acquisition processes.

\*I wish to thank E. Francqzo for his assistance with the text, discussing it with me and reviewing the final version. Needless to say, the points-of-view, ideas and expression are mine alone.

Such a reflection necessarily leads one to postulate that profound changes in the educational system as a whole are necessary in order to alter the present situation. This notwithstanding, some limited portions of the problem can immediately and profitably be addressed as far as the present state of development of some scientific domains are taken into account. For example, the research about the linguistic and cognitive functioning of the subjects in the school situation may yield the means of criticizing the underlying assumptions about language and acquisition which, in a sort of roundabout way, may 'trigger' the badly needed alterations in the educational system.

Take reading for instance. Three kinds of variables interact in such a situation (and could thus be studied): cognitive variables (limitations or strategies of perception and retention), linguistic variables (structuring and organization of the text, type of information carried, linguistic resources employed, and so on), and, finally, social environment variables (the subject's reading aims in general, or the specifically educational setting to which the student is subject - i.e., the interaction patterns developed by the reader mainly from his educational experience). Naturally, due to the complexity of the problem to be studied, the researcher is faced with the task of selecting variables to control.

In the present case, the choice was the linguistic variables. On theoretical grounds, we can assume that language mirrors, so to say, the internal workings of the cognitive apparatus (see, e.g. Dascal 1983: 1), so the choice of the text as the variable to study is bound to yield information about the cognitive side of the question. Moreover, since one cannot assume that cognition is set apart from social determinants (see, e.g., De Lemos 1981), again the choice of linguistic variables may indirectly indicate the import and influence of the social environment (the school in the present case) in the ways children interact with written material. The choice of the linguistic side can also be justified on methodological grounds. On the one hand, the very inaccessibility of cognitive functions (as implied in the 'mirroring' metaphor) calls for some indirect means of analysis of cognition-language in the case. On the other hand, since the control of the school situation was beyond our concrete possibilities, the study of social variables could not be contemplated in full. Since 'socially-oriented' considerations, however, have not been evaded from in the present paper, they should definitely not be taken as conclusive, but as 'hints' towards future research.

A final choice to be made in the present study concerned the type of didactic text to be used. Written materials in school perform a number of different roles within the educational process, one of which is that of conveying knowledge. Some are specifically written in order to achieve such a purpose - for instance, history or science textbooks. Let us call them 'informative texts', and focus upon them in the present research. The reasons to do so stem primarily from acknowledging that most studies in the area of written discourse concern themselves with narratives; thus little is known about 'informative' texts - and this alone is justification enough for a research. However, the nature of an informative text itself provides an additional, and by no means a secondary, reason. Information, in school, is supposed to be memorized, and memory, after all, *is* a cognitive process. Hence, why not study the memorization and recall of written (informative) texts in a school situation?

## II. WHAT SCHOOL EXPECTS FROM THE READING OF INFORMATIVE TEXTS

Informative texts highlight certain pieces of information, such as definitions, factual evidences, general scientific laws and so on. Such information is usually taken as more important than examples, instances of occurrence or application of laws, etc. That is, the latter merely 'supports' the former, and, consequently there is an asymmetry among the several pieces of information present in such kind of texts. We can assume that, in the school situation, the 'higher ranking' information is expected to be more thoroughly memorized by the student than that whose role is merely supportive. The question is, thus, to find an explicit model to account for such a view.

According to Meyer (1975), information in texts is hierarchically structured in terms of two types of relations between lexical items and textual propositions: role relations and rhetorical relations. Semantic role relations (similar to the notion of 'case' proposed e.g. by Fillmore (1968) are established among lexical predicates and their arguments and compose one level of structural description, that is, the lexical ('case') structure. Rhetorical relations, on the other hand, on the basis of the notion of rhetorical relations proposed by Grimes (1972), relate lexical propositions (lexical predicates + lexical arguments) and rhetorical propositions (rhetorical predicates + rhetorical arguments). Such rhetorical relations make up the rhetorical structure of the text, and determine which information will be located in the higher ranking positions, and which will be ascribed to the lower positions. Thus, definitions will rank high in such structure, while examples of a definition will be assigned to a lower rank. As far as memory is concerned, such a model predicts that information high in the structure is more likely to be stored and recalled than information low in the structure. That is, text structuring purportedly has a determining role in cognitive processes, memory in the present case.

In a different sort of model, for instance that proposed by Kintsch & van Dijk (1975) and van Dijk (1977), the reader's process of selecting textual information on the basis of his previous knowledge (world or encyclopaedic, discourse and pragmatic knowledge) is also taken to contribute its share in cognitive processes. Accordingly, the comprehension of a text is directly related to memory factors. The limitation of short term memory (STM) is said to force the reader to employ some sort of strategy to reduce the input data, so that it can be processed and stored in long term memory (LTM). Such strategies depend on syntactic and semantic information present in the linguistic input data, as well as on previous linguistic and extra-linguistic knowledge, already stored in LTM. Among other things, linguistic knowledge encompasses data about different kinds of text structure, which van Dijk (1977) calls 'superstructure'. Now, comprehension strategies have the function of applying 'semantic reduction' rules (macro-rules) to the input, in order to reduce the long string of incoming propositions to a single (albeit complex) proposition, called a 'macro-proposition'. Such macro-proposition is initially stored in STM and then transferred to LTM where it is integrated into the macrostructure of the input discourse. According to the authors, such macrostructure contains the semantic 'core' of the whole text, and encompasses the propositions (macro-propositions) which are most relevant to the input text global meaning. Thus, definitions are most likely to be included within the macrostructure,

while examples of definitions are likely to be 'deleted', given a certain reading aim (such as the one usually found in school situation).

In sum, there are at least two theoretical approaches which seem to account for the intuitive proposition that some of the information in an 'informative' text is more likely to be recalled by proficient readers. Such theoretical consideration guided our previous research (Braga 1982), investigating whether linguistic variables (explicitation of rhetorical predicates and signalling) would facilitate the retention of hierarchically superior information by non-proficient readers<sup>1</sup>. The data obtained about rhetorical predicates, however, were inconclusive, so the present discussion will be limited to the role of signalling in retention and recall<sup>2</sup>.

### III. INFLUENCE OF SIGNALLING IN TEXT RETENTION

Meyer (1975) defined signalling as a non-content element of prose

"...which gives emphasis to certain aspects of the semantic content or points out aspects of the structure of the content. Words of signalling are not included in the content structure since they do not add new content and relations, but simply accent information already contained in the content structure. Signalling is used by an author to highlight the points in a text which he believes to be particularly important [...]. Four major types of signalling were identified; they include (1) the specification of the structure of relations in the content structure, (2) prematurely revealed information abstracted from content occurring later in the text, (3) summary statements, and (4) pointer words" (77).

The experimental results she obtained demonstrated that signalling has little effect on recall, although she suggested that such results were likely influenced by the experimental conditions and should not be generalized. In fact, a careful analysis of her work on the relation between signalling and memory reveals both methodological and theoretical problems. From a theoretical point-of-view it is questionable to consider signalling as a non-content part of the text, at least as far as 'pointer' words are concerned. It is hard to conceive that modals or adverbs such as *unfortunately* (Meyer 1975: 80) have nothing to do with the content carried by the text. In addition, one could imagine that the different kinds of signalling may have a different import on cognitive processes. For instance, in (3) above one could argue that signalling indeed affects

<sup>1</sup>The classification of readers as 'proficient' and 'non-proficient' was based on the results of two cloze tests. Only those subjects with results above 70% were considered proficient readers.

<sup>2</sup>To test the influence of explicitation of rhetorical predicates and signalling in retention of written material, three different texts were utilized: an informative text presented in the way it was originally written in a school book for 6th graders; a version of the same text in which the rhetorical predicates were made explicit; and finally, a second version that included not only the explicitation of rhetorical predicates but signalling as well. Comparing the results there was no significant difference between the data obtained from the subjects submitted to the reading of the first and second type of text. The signalling version, however, indicated a higher recall rate. Such a result induced us to postulate that signalling (and not the explicitation of rhetorical predicates) had a role in retention and recall. This explanation seems to be necessary for a better understanding of the versions ST and IST (see Appendix) that were maintained as they were originally presented to the subjects. It is necessary to make clear that we are not equating explicitation of rhetorical predicates and signalling.

*memory* and not attention, because a summary is nothing more than repetition of information and, repetition—or rehearsal—is a memory process. Meyer, however, acknowledges only a general influence of signalling on attention, and, thus, conflates the question. Hence, her results, insofar as she does not isolate the different kinds of signalling, are misleading.

Considering such a shortcoming, in an earlier work (Braga 1982) we restricted the analysis to Meyer's second type of signalling, namely anticipation of information to be presented later in the text. Our aim was to ascertain whether such maneuver would enhance retention of high level information, especially for non-proficient readers. The most general ideas in the chosen text were:

1. What culture is (in Appendix 1, text 1: "Cultura e um conjunto de coisas aprendidas");
2. How culture is acquired (in Appendix 1, text 1: "Cultura pode ser adquirida de duas maneiras"); and,
3. Culture as a dynamic entity (Appendix 1, text 1: "A cultura de un povo nao fica sempre igual. Ela vai mudando com o passar do tempo").

The results, shown in tables 1 and 2, indicate that signalling did increase the recall of these items, not only for the non-proficient readers, but for the proficient ones as well.

Table 1  
NON-PROFICIENT READERS

Item	Original text	Text with signalling
1	25 %	56.6%
2	35.7%	40 %
3	17.8%	33.3%

Table 2  
PROFICIENT READERS

Item	Original text	Text with signalling
1	66.6%	77.7%
2	58.3%	66.6%
3	8.3%	55.5%

Although the initial hypothesis was proved, it was surprising to notice that item 3 had low recall levels in both groups. This result contradicted the expectations based on Meyer's model, because item 3 is high in the content structure of the text. It also

contradicts Kintsch's and van Dijk's proposal because it should purportedly be included in the textual macro-structure. Thus, such a result seems to indicate that the subjects were not totally responsive to the 'definitions' in the text, as both models we were considering would have predicted. From the researcher's viewpoint, such results have an implication: namely, that an alternative explanation should be sought.

#### IV. A STRATEGY FOR READING COMPREHENSION AND RETENTION

An alternative explanatory hypothesis suggested itself from the results concerning item 3 and its sub-items (see Appendix 1 for the complete Portuguese version). Let us mention them:

- 3. Culture as a dynamic entity,
- 3a. Change in culture through growth of knowledge,
- Ex. 3a. Discovery of electricity,
- 3b. Change in culture through appearance of new habits and ways of thinking,
- Ex. 3b. Change in the social situation of women.

Our results demonstrated, for instance, that in reading the original text, only 8.3% of the proficient readers recalled item 3, and none of them recalled items 3a and 3b. Surprisingly enough, 66.6% of the same subjects recalled item Ex. 3a and 58.3% of them recalled item Ex. 3b. Now, most of the time, the 'example' items appeared without any evident connection with either item 3 or the remainder of the text (although, in some very limited instances, subjects tended to connect the examples for item 3 with either items 1 or 2). The same pattern was observed in relation to non-proficient readers.

In some sense, the hypotheses about the awareness of structural factors seem to fail in explaining such results in spite of what was predicted either by Meyer (1975) or van Dijk (1977); that is, the subjects apparently overlook structural indices in favor of some other organizing principle. Such a principle could be based upon 'world' or encyclopaedic knowledge, i.e., upon knowledge taking into account the previous conception of 'culture' eventually available to the subjects at the time of the reading and recall tasks. On the one hand, on a cognitive and linguistic account of the problem, it is tempting to adopt the concept of 'schemata', first studied by Bartlett (1932)<sup>3</sup>. Loosely speaking, then, we could imagine that the idea ('schema') of culture displayed by the subjects is strongly linked to notions of *education* and scholarly learning. A clue that such is possibly the case is that in Portuguese this is lexically marked, i.e., the word *cultura* can either mean *culture* as in English, or, in some contexts, 'erudition'. On the other hand, on a social and educational account of the problem, it seems to be a feature of the Brazilian school system, at least in recent times, that knowledge acquired in school (and which conceivably is part of a person's erudition) cannot be subject to criticism and change. Thus, it is possible to conceive that, for the subjects of our study, 'culture'

<sup>3</sup>A wealth of research departing from such a concept has developed in recent years, e.g. in the works by Adams & Collins (1979), Freedle & Hale (1979), Stein & Glenn (1979), Tannen (1979), Schank (1980), Rumelhart (1980), Spiro (1982), etc.

(=erudition) is something immutable. If we link the latter to the conception of schemata, we could hypothesize that the notion of culture change was in some sense contradictory within the schema of culture displayed by our subjects<sup>4</sup>. For this reason, items 1 and 2 could be easily accommodated, while item 3 (and its sub-parts) could not – in other words, item 3 tended to be ‘deleted’ in the recall. Thus, considering this hypothesis, we may postulate that our subjects’ strategy during the experimental procedure was that of instantiating one schema which selectively ‘evaluated’ the information carried by the text, so that memory and recall of such information was apparently determined by the schema activated.

The idea of problems of comprehension being the result of the use of inadequate strategies for specific types of reading has been explored by many authors, among them Spiro (1979) and McGinitie, Maria & Kimmel (1982). The former proposes that readers displaying deficient reading skills (i.e., poor readers) may develop a reading style that over-dependes upon the text or upon previous knowledge. Both reading styles are characteristically a way of avoiding decodification difficulties. Readers who over-depend upon previous knowledge tend to make a decision about the general theme of the text at the beginning of reading and to ignore all the text details contradicting their initial hypothesis. The latter authors also analyze such type of reader. According to them, children who over-depend on previous knowledge have problem in processing new or unknown knowledge when conveyed by written language. They are supposedly unable to accommodate text information to their already established schemata. We believe that the subjects in the present study adopted a strategy which is similar to the one described by the above mentioned authors.

If readers employ such an inadequate strategy, it seems reasonable to think that the problem of not storing new knowledge may be made even worse if the first pieces of information in the text, besides prompting a schema, simply reinforce it. In other words, if we take it for granted that the schema prompted by the text is describable by means of a pair or two of general propositions, and if we also accept that the initial pieces of information in the text closely resemble or approach the general propositions in the schema (or which, at least, do not contradict whatever propositions the subject’s previous schemata could be taken to encompass), then we could rephrase the strategy postulated by Spiro (1979) and McGinitie, Maria & Kimmel (1982). Hence, ‘over-dependency on previous knowledge’ or ‘non-accomodative strategies’ can be simply taken as a ‘strengthening’ of previous schemata, such that new information, which potentially could enrich or alter them, is very likely ignored. Thus, deletion of items 3 (dynamism in culture) in our study could be explained by the fact that it is a new piece of information preceded, in the text, by items 1 and 2, which seem to simply reinforce a previous schema in which culture is seen as immutable.

But, what if we highlight the potentially contradictory information? That is, what would the result be if we altered the order of presentation of information, taking item 3 as the first? Moreover, would signalling, a factor known to facilitate recall, in combination with the anteposition of item 3 add to such an effect? These are the issues we address in the next section.

<sup>4</sup>Such an explanation was given additional support in Braga (1982) by means of an analysis of recall deviation within the ‘recall texts’ written by the subjects.

## V. THE INFLUENCE OF ORDER OF PRESENTATION IN RECALL

### A *Testing Conditions*

The subjects participating in the present experiment were 140 6th. graders (age range: 12-15 years), all attending a private secondary school in Campinas (state of Sao Paulo). We could say that the subjects belong to middle and upper-middle class families.

Subjects were tested in groups of approximately forty students in their own classroom situation, in the presence of their geography teacher (the same for all subjects). It should also be noticed that the experimenter was not unknown to the students on the occasion of testing.

It was explained to the subjects that they would be submitted to a memory task, in which they should first read an unknown text carefully, and then, upon returning their copies of the text to the experimenter, they would receive a white sheet of paper on which to write all they could recall.

Four versions of the original text were randomly assigned to the children. The first group read the original version of text, henceforth called OT (see Appendix 1). The second group read a version with signalling, henceforth ST (see Appendix 2). The third group read the original text in an inverted form, i.e., a text in which item 3 preceded items 1 and 2, henceforth called IOT (see Appendix 3). And, finally, group four read an inverted version with signalling, henceforth IST (see Appendix 4). Notice that subjects were not classified as proficient or non-proficient readers, as we did in a previous study (Braga 1982) and as would be expected from the consideration of Spiro's (1979) and McGinitie's, Maria's & Kimmel's (1982) proposals. The reason for such a procedure is that deletion of item 3 was observed in the majority of the subjects (see Braga 1982), so that such a categorization seemed to be unnecessary.

### B *Results and Discussion*

The data obtained, shown in tables 3 and 4 partially prove the hypothesis, namely that signalling and anteposition of item 3 would favor its recall.

Table 3  
EXPERIMENTAL GROUP

Item	IOT	IST
1	31.4%	85.7%
2	34.2%	48.5%
3	51.4%	42.8%

Table 4  
CONTROL GROUP

Item	OT	ST
1	34.2%	65.7%
2	42.8%	48.5%
3	14.2%	42.8%

Recall that the hypothesis of the present research was based on the argument that schemata are activated during the initial phases of reading and tend not to be reformulated as reading progresses. The results obtained can be interpreted as showing that to start a text with a potentially new or contradictory information (with respect to a previously identified schema – compare the results for OT and IOT) does, indeed, influence the recall of such information. In using the phrase ‘previously identified schema’, we intend to refer the reader to the discussion above about the plausibility of interpreting the deletion of item 3 as a consequence of the notion of culture immutability. In a previous work (Braga 1983) we argued that, although the theory of schemata (Rumelhart 1980) provides for the possibility of changing the schemata, children in the school situation tended not to do so. The explanation proposed then invoked factors concerning the way the text was organized, i.e., it merely tended to ‘reinforce’ stereotyped knowledge. The present results can be taken to indicate that inversion of potentially misfitting information increases the probability of schemata change. Yet, one cannot indicate whether any change has effectively occurred, for no control aiming at such a question was provided within the experimental procedures. Although increased recall cannot be taken to entail schemata change, within the limits of the present work, the notion of schemata still seems to be the best way of accounting for the data.

In relation to signalling, the results are frankly negative. That is, signalling does not add up to inversion as a factor in recall improvement. One attempt can be made to reconcile such negative result, however. One could propose that, on a linguistic/cognitive level, inversion and signalling both are involved with the same process, namely, attention. The failure in adding up can thus be seen merely as the result of internal restrictions on the role of concurrent attentional resources on the process of memorization and recall of information from texts.

Although the results above, together with the conclusions about signalling discussed in III, do clarify the effect certain linguistic and structural resources have on the recall of textual information, it does not explain why item 3, as well as items 1 and 2, displayed recall levels mainly under 50% (see tables 3 and 4). That is, in spite of all the modifications of the original text suggested both by ‘structural’ hypotheses (such as those in Meyer (1975)) and more cognitively bent ones (our own assumptions in the latter part of the present paper), the majority of the subjects still failed to recall what was expected (by the experimenter) to be highly evoked. Such failure cannot be explained in terms of textual variables; neither can it be attributed to cognitive factors as implied

by Spiro (1979) in talking about poor readers compensating decoding (i.e., cognitive) troubles with a certain strategy. Recall that in section I we mentioned that three kinds of variables were involved in the memorization of textual material: linguistic, cognitive and social. It seems that linguistic and cognitive variables alone cannot explain the low levels of recall obtained. Let us then make some further comments taking into account the social dimension of the question.

## VI. INFLUENCE OF SCHOOL IN THE DEVELOPMENT OF INADEQUATE READING STRATEGIES

McGinitie, Maria & Kimmel (1982: 42-3), in discussing 'poor' readers, who tend to employ a non-accomodative reading strategy, notice that their problems are restricted to extracting new or unknown information from written material. These subjects, for instance, when submitted to IQ tests, are ranked within medium and above medium groups. Besides, they have no problem either in expressing themselves orally, in conversation, or in understanding the teacher's oral explanation in class. The authors attempt to explain such phenomenon in terms of the specific features differentiating written and oral language, and of the kind of information being carried by written material as well. One issue they do not contemplate, however, concerns the environment in which students acquire reading abilities, that is, the school itself. It is possible that, besides the specific features of oral and written language, method and methodology which 'shape' the teaching of reading skills have an influence on the matter. Although in the present paper no attempt has been made to control environmental factors (i.e., variables relating to the subject's reading aims in general or the specifically educational setting in which the experiment was conducted) informal observation of classroom activities and an equally informal analysis of textbooks induced us to think that the school environment cannot be ignored.

Textbooks, upon analysis, reveal that the text itself is always followed by questionnaires and exercises which 'organize' the student's reading around some pieces of information previously defined ('in vitro') as the most important ones. Pedagogical techniques, in their turn, were discovered to strongly guide the pupil according to the teacher's approach to the text. Personal observation of the classroom activity has shown that a common procedure is for the students to accompany the oral reading of the texts underlying specific portions of the written material which are indicated by the teacher during such activity. These are generally the answers to the questions and exercises of the textbook, and this is the information that will be included in the monthly or bimonthly achievement tests. Such procedures have conceivably the effect of nullifying the identity of the reader-student. He learns to link reading to an authoritarian addressee (either the question in the textbook or the teacher himself) who will determine what he should find in a text. Reading is thus controlled or mediated by the textbook or the teacher rather than being an event in which a reader interacts directly with a text. As far as the specific situation and type of text we are dealing with is concerned, it then seems that their educational aim is testing. The child does not read to learn, to acquire new information. Rather, he reads to be tested, and in this sense learning and comprehension are subsidiary to testing. In such a context, the student's performance is one in which no learning of how to select the relevant information from a text by oneself has occurred. For such a reason, the student fails to take notice of

structural features, and tries to map the text presented onto his previous world knowledge. Thus, we may conclude that it is precisely the methodological procedures that favor the development of inadequate reading strategies.

Certainly, as we have mentioned at the outset, socially oriented comments should not be taken as conclusive, but as 'hints' towards future research. Hence, we would like to end this discussion with a question. Reading problems: should they also be attributed to school, instead of exclusively to text structure and/or cognitive deficits?

## REFERENCES

- ADAMS, M.J. & COLLINS, A. 1979. A Schema-Theoretical View of Reading. In Freedle 1979, pp. 1-21.
- BARTTLET, F.I. 1932. *Remembering: A Study in Experimental Psychology*. Cambridge: Cambridge University Press.
- BRAGA, D.B. 1982. A Influencia da Explicitação de Predicados Retóricos e Saliência de Informação na Retenção do Texto Didático. M. Sc. dissertation - UNICAMP, unpublished.
- BRAGA, D.B. 1983. A Compreensão do Texto Didático: Um Assunto a Ser Pesquisado. *Trabalhos de Linguística Aplicada*, 2: 5-29.
- DE LEMOS, C. 1981. Interactional Processes in the Child's Construction of Language. In Deustch, W. (ed.), *The Child's Construction of Language*. London: Academic, pp. 57-76.
- VAN DIJK, T.A. 1977. *Text and Context Explorations in the Semantics and Pragmatics of Discourse*. London/New York: Longman.
- FREEDLE, R.O. (ed.) 1979. *New Directions in Discourse Processing*. Norwood, N.J.: Ablex Publishing Corp.
- FREEDLE, R.O. & HALLE, G. 1979. Acquisition of New Comprehension Schemata. In Freedle 1979, pp. 121-135.
- KINTSCH, W. & VAN DIJK, T.A. 1975. Comment on se rappelle et on resume des histoires. *Langage*, 40: 99-116.
- MCGINITIE, W.H., MARIA, K. & KIMMEL, S. 1982. El Papel de las Estrategias Cognitivas No-Acomodativas en Ciertas Dificultades de Comprensión de Lectura y Escritura. In Ferrero, E. & Palacio, M.G. (eds.), *Nuevas Perspectivas sobre los Procesos de Lectura y Escritura*. México/Argentina/España/Colombia: Siglo Veintiuno Eds., pp. 22-49.
- MEYER, B.J.F. 1975. *The Organization of Prose and its Effects on Memory*. Amsterdam: North Holland.
- RUMELHART, D.E. 1980. Schemata: The Building Blocks of Cognition. In Spiro, R. et al. 1980, pp. 33-58.
- SCHANK, R.C. 1980. Conceptual Dependency: a Theory of Natural Language Understanding. *Cognitive Science*, 4(3): 243-284.
- SPIRO, R.J. 1979. Etiology of Reading Comprehension Style. *Tech. Rep. # 124*, Urbana University of Illinois, Center for the Study of Reading.
- SPIRO, R.J. 1982. Long Term Comprehension: Schemata-based versus Experimental and Evaluative Understanding. *Poetics*, 11: 77-86.
- SPIRO, R.J., BRUCE, B.C. and BREWER, W.F. (eds.). 1980. *Theoretical Issues in Reading Comprehension*. Hillsdale, N.J.: Lawrence Erlbaum Associates.
- STEIN, N.L. & GLENN, C.G. 1979. An Analysis of Story Comprehension in Elementary-School Children. In Freedle 1979, pp. 53-119.
- TANNEN, D. 1979. What's in a Frame? Surface Evidence for Understanding Expectation. In Freedle 1979, pp. 137-179.

## APPENDIX

## OT

## COMO SE TRANSMITE A CULTURA

A cultura é um conjunto de coisas *aprendidas*. Ninguém nasceu sabendo falar português ou qualquer outra língua. As crianças *aprendem* a falar a língua de seus pais. Ninguém nasceu sabendo brincar de amarelinha, soltar papagaio, andar de bicicleta, cantar cantigas de roda. As pessoas aprendem tudo isso vendo os outros fazerem, prestando atenção e treinando. Também ninguém nasceu sabendo fazer cálculos, escrever romances, construir máquinas ou curar doenças. Para aprender essas coisas é necessário ir à escola, ler livros, etc.

Portanto, a cultura pode ser adquirida de duas maneiras:

1. Pela experiência, pela observação, pela tradição, enfim, pelo contato de uma pessoa com outras. Veja você mesmo: você está aprendendo desde que nasceu. Aprendeu a falar, a comer determinados alimentos, a gostar de certas histórias, a cantar várias músicas, a brincar de uma porção de maneiras. Você aprendeu tudo isso quase sem saber que estava aprendendo. Você aprendeu olhando, imitando os mais velhos, brincando com seus colegas, etc.

A cultura que você adquire com a experiência, vivendo junto com os outros, chama-se *cultura espontânea*.

2. Pela educação na escola, na igreja, pelo rádio, pela televisão, pelos livros e pelos jornais. Muitas coisas não são aprendidas só observando os outros e experimentando. Precisam ser ensinadas por pessoas especializadas. Por exemplo, ninguém aprende a ler só observando. Precisa ir à escola.

A cultura que você adquire na escola, nos livros, etc., chama-se *cultura erudita*.

Todos nós temos uma parte de cultura espontânea e outra de cultura erudita. Algumas pessoas, que não foram à escola, não vêem televisão e não ouvem muito rádio, têm pouca cultura erudita. Mas todos têm cultura espontânea.

A cultura de um povo não fica sempre igual. Ela vai mudando com o passar do tempo. Os novos conhecimentos vão-se juntando à cultura já existente, enriquecendo-a. Aparecem também novos costumes e novas maneiras de pensar. No século XVIII, por exemplo, não havia luz elétrica. Depois, o homem aprendeu a usar a eletricidade para iluminar casas e ruas e para movimentar máquinas. Esses conhecimentos modificaram bastante a vida das pessoas. A cultura tornou-se mais rica.

Veja outro exemplo. Nos séculos passados, quando o Brasil ainda era uma colônia de Portugal, só os homens iam à escola e aprendiam uma profissão. As mulheres ficavam em casa, bordando e cozinhando, só saíam para ir à igreja. Hoje não é mais assim. As mulheres vão à escola e trabalham fora de casa nas mais diversas profissões. Essa é uma importante mudança cultural da nossa época.

## ST

Tudo o que aprendemos em nossa vida pode ser considerado cultura. A cultura é um conjunto de coisas que se transmite pelo contato entre pessoas. Vivendo junto com as pessoas nós aprendemos e ensinamos muitas coisas. Como as pessoas, os conhecimentos e os costumes não são sempre iguais, é natural que a cultura também mude com o passar do tempo. Veja você mesmo como se transmite a cultura e como ela pode mudar através do tempo.

A primeira característica importante da cultura é que a cultura é um conjunto de coisas *aprendidas*. Vejamos alguns exemplos. Como ninguém nasceu sabendo falar português ou qualquer outra língua, as crianças *aprendem* a falar a língua de seus pais. Outro exemplo: como

ninguém nasceu sabendo brincar de amarelinha, soltar papagaio, andar de bicicleta, cantar cantigas de roda, as pessoas aprendem tudo isso vendo os outros fazerem, prestando atenção e treinando. Um outro exemplo diferente é que também ninguém nasceu sabendo fazer cálculos, escrever romances, construir máquinas ou curar doenças. Por isso para aprender essas coisas é necessário ir à escola, ler livros, etc.

Os dois tipos de exemplos mostram que a cultura pode ser adquirida de duas maneiras:

1. A primeira maneira de adquirir cultura é pela experiência, pela observação, pela tradição, enfim, pelo contato de uma pessoa com outras. Veja você mesmo: você está aprendendo desde que nasceu. Aprendeu a falar, a comer determinados alimentos, a gostar de certas estórias, a cantar várias músicas, a brincar de uma porção de maneiras.

Você aprendeu tudo isso quase sem saber que estava aprendendo porque você aprendeu olhando, imitando os mais velhos, brincando com seus colegas, etc.

A cultura que você adquire dessa maneira, com a experiência, vivendo junto com os outros, chama-se *cultura espontânea*.

2. A segunda maneira de adquirir cultura é pela educação na escola, na igreja, pelo rádio, pela televisão, pelos livros e pelos jornais. Ao contrário da cultura espontânea, muitas coisas não são aprendidas só observando os outros e experimentando e por isso precisam ser ensinadas por pessoas especializadas. Por exemplo, ninguém aprende a ler só observando, por isso precisa ir à escola.

Essa cultura que você adquire na escola, nos livros, etc., chama-se *cultura erudita*.

Todos nós temos uma parte de cultura espontânea e outra de cultura erudita. Mas algumas pessoas, que não foram à escola, não vêem televisão e não ouvem rádio, têm pouca cultura erudita.

A segunda característica importante da cultura é que a cultura de um povo não fica sempre igual. Ela vai mudando com o passar do tempo porque os novos conhecimentos vão-se juntando à cultura já existente, enriquecendo-a e porque aparecem também novos costumes e novas maneiras de pensar. Vejamos um exemplo de novos conhecimentos que se juntaram à cultura.

No século XVIII, não havia luz elétrica. Depois, o homem aprendeu a usar a eletricidade para iluminar casas e ruas e para movimentar máquinas. Esses conhecimentos modificaram bastante a vida das pessoas. A cultura tornou-se mais rica.

Agora veja outro exemplo de novos costumes e novas maneiras de pensar.

Nos séculos passados, quando o Brasil ainda era uma colônia de Portugal, só os homens iam à escola e aprendiam uma profissão. As mulheres ficavam em casa, bordando e cozinhando, só saíam para ir à igreja. Mas hoje não é mais assim, porque as mulheres vão à escola e trabalham fora de casa nas mais diversas profissões. Essa é uma importante mudança cultural da nossa época.

## IOT

A cultura de um povo não fica sempre igual. Ela vai mudando com o passar do tempo. Novos conhecimentos vão-se juntando à cultura já existente, enriquecendo-a. Aparecem também novos costumes e novas maneiras de pensar. No século XVIII, por exemplo, não havia luz elétrica. Depois, o homem aprendeu a usar a eletricidade para iluminar casas e ruas e para movimentar máquinas. Esses conhecimentos modificaram bastante a vida das pessoas. A cultura tornou-se mais rica.

Vejamos outro exemplo. Nos séculos passados, quando o Brasil ainda era uma colônia de Portugal, só os homens iam à escola e aprendiam uma profissão. As mulheres ficavam em casa, bordando e cozinhando, só saíam para ir à igreja. Hoje não é mais assim. As mulheres vão à escola e trabalham fora de casa nas mais diversas profissões. Essa é uma importante mudança cultural da nossa época.

A cultura é um conjunto de coisas *aprendidas*. Ninguém nasceu sabendo falar português ou qualquer outra língua. As crianças *aprendem* a falar a língua de seus pais. Ninguém nasceu sabendo brincar de amarelinha, soltar papagaio, andar de bicicleta, cantar cantigas de roda. As pessoas aprendem tudo isso vendo os outros fazerem, prestando atenção e treinando. Também ninguém nasceu sabendo fazer cálculos, escrever romances, construir máquinas ou curar doenças. Para aprender essas coisas é necessário ir à escola, ler livros, etc.

Portanto, a cultura pode ser adquirida de duas maneiras:

1. Pela experiência, pela observação, pela tradição, enfim, pelo contato de uma pessoa com outras. Veja você mesmo: você está aprendendo desde que nasceu. Aprendeu a falar, a comer determinados alimentos, a gostar de certas histórias, a cantar várias músicas, a brincar de uma porção de maneiras. Você aprendeu tudo isso quase sem saber que estava aprendendo. Você aprendeu olhando, imitando os mais velhos, brincando com seus colegas, etc.

A cultura que você adquire com a experiência, vivendo junto com os outros, chama-se *cultura espontânea*.

2. Pela educação na escola, na igreja, pelo rádio, pela televisão, pelos livros e pelos jornais. Muitas coisas não são aprendidas só observando os outros e experimentando. Precisam ser ensinadas por pessoas especializadas. Por exemplo, ninguém aprende a ler só observando. Precisa ir à escola.

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## IST

Tudo o que aprendemos em nossa vida pode ser considerado cultura. A cultura é um conjunto de coisas que se transmite pelo contato entre pessoas. Vivendo junto com as pessoas nós aprendemos e ensinamos muitas coisas. Como as pessoas, os conhecimentos e os costumes não são sempre iguais, é natural que a cultura também mude com o passar do tempo. Veja você mesmo como a cultura pode mudar através do tempo e como ela se transmite.

A primeira característica importante da cultura é que a cultura de um povo não fica sempre igual. Ela vai mudando com o passar do tempo porque os novos conhecimentos vão-se juntando à cultura já existente, enriquecendo-a e porque aparecem também novos costumes e novas maneiras de pensar. Vejamos um exemplo de novos conhecimentos que se juntaram à cultura.

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Agora veja outro exemplo de novos costumes e novas maneiras de pensar.

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A segunda característica importante da cultura é que a cultura é um conjunto de coisas *aprendidas*. Vejamos alguns exemplos. Como ninguém nasceu sabendo falar português ou qualquer outra língua, as crianças *aprendem* a falar a língua de seus pais. Outro exemplo: como ninguém nasceu sabendo brincar de amarelinha, soltar papagaio, andar de bicicleta, cantar cantigas de roda, as pessoas aprendem tudo isso vendo os outros fazerem, prestando atenção e treinando. Um outro exemplo diferente é que também ninguém nasceu sabendo fazer cálculos,

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A cultura que você adquire dessa maneira, com a experiência, vivendo junto com os outros, chama-se *cultura espontânea*.

2. A segunda maneira de adquirir cultura é pela educação na escola, na igreja, pelo rádio, pela televisão, pelos livros e pelos jornais. Ao contrário da cultura espontânea, muitas coisas não são aprendidas só observando os outros e experimentando e por isso precisam ser ensinadas por pessoas especializadas. Por exemplo, ninguém aprende a ler só observando, por isso precisa ir à escola.

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Todos nós temos uma parte de cultura espontânea e outra de cultura erudita. Mas algumas pessoas, que não foram à escola, não vêem televisão e não ouvem rádio, têm pouca cultura erudita.